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Developing Outreach Materials for the London Project Center

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Developing Outreach Materials for the London Project Center

An Interactive Qualifying Project Report

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of the

WORCESTER POLYTECHNIC INSTITUTE

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Abstract

This project worked with the London Project Center Directors to survey former project sponsors, leadership, and students in order to develop a prototype Web site and print materials that: (1) promote the Project Center to potential sponsoring organizations in London, (2) serve as a resource for students considering attending the Project Center, and (3) form a living record of Project Center activities in London to help the Center Directors make decisions and further develop the Project Center.

Acknowledgments

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Executive Summary

Outreach materials, including Web sites and printed publications, are critical promotional tools used by many organizations to attract new clients. The London Project Center, an international academic project site run by Worcester Polytechnic Institute (WPI), currently lacks these tools. The mission of the London Project Center is to offer WPI students project opportunities in London by developing relationships with British organizations willing to sponsor some form of research activity, coordinating student housing and preparation for a term abroad, and overseeing the completion of projects so students can successfully earn academic credit for one of their three degree-requirement projects. In order to fulfill this mission, the Project Center must actively identify and engage British organizations that are willing to sponsor projects and maintain the support of existing sponsors.

In order to maintain the Project Center, the Center Directors must preserve contacts with London organizations and develop new relationships in order to maintain the current number of projects available to students each year. They must also communicate with students at WPI to encourage their participation and inform them about the Project Center. To address these needs, this project developed outreach materials that promote the Project Center to potential project sponsors and provide information to students who are either considering the Center or are already accepted and preparing for their projects. A prototype Web site and sample print materials were developed by:

1. Conducting a needs assessment to determine appropriate content and features
2. Reviewing best practices in Web site design, database development, and marketing
3. Developing materials that fulfill the determined needs and follow best practices
4. Testing and revising these materials

The needs assessment and review of best practices were completed using interviews with key personnel involved with the Project Center and with Web design and Computer Science professionals at WPI. The materials were then developed based on the results of this review and evaluated using the responses from the users who tested these materials. Following this evaluation, recommendations were made for further revision.

Through the needs assessment, it was determined a Web site for the London Project Center should be created with two major sections, one for Sponsors, and one for students. The necessary content for each of these sections was then determined and is displayed in Table 1.

Table 1: Overview of Web site Content

Sponsor Section	Student Section
About Overview of the program, background on WPI, explanation of IQP	**About London** An FAQ, guides to London transportation, packing, food, living, etc.
Projects Articles highlighting completed projects, searchable database of London projects	**Projects** Description of IQP requirements, articles highlighting completed projects
Credentials Testimonials from sponsors, overview of WPI's status, list of former sponsors	**Student Blog** Articles written by students about their trips to London
How to Get Involved Project development process, contact information	**How to Apply** Outline of the application process with LPC-specific advice

The content of the sponsor section of the Web site introduces potential sponsors to the London program, highlights the benefits derived from participating in the program, and encourages them to contact the Center Directors for further information. The student section contains information intended to provide more background about London and the IQP process. Based on a software evaluation, the content management system called Joomla! was chosen to build the Web site. This software facilitated rapid development and allows for easy modification in the future. A screenshot of the Web site's homepage created using Joomla! is shown in Figure 1.

Figure 1: Web site Landing Page
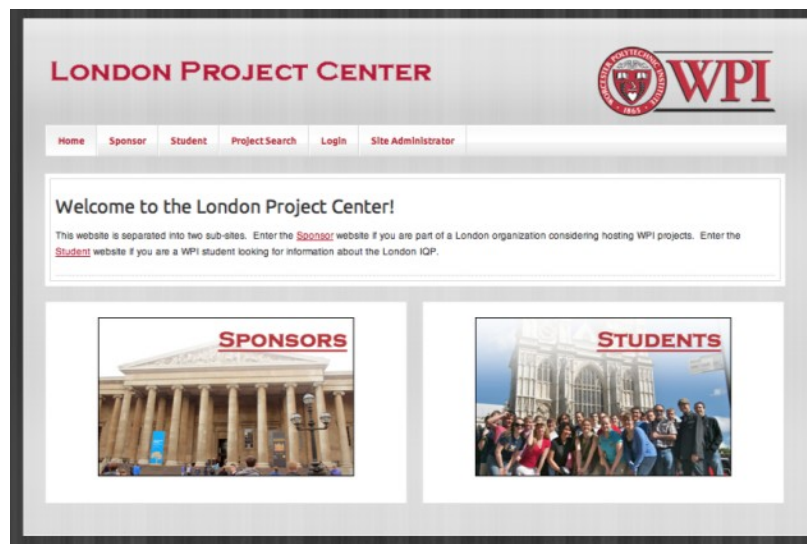
The requirements of the print materials were also determined by the needs assessment, specifically through interviews with former project sponsors. Sample materials were produced in both

an A4 and a 5x7 postcard format. Both are intended to briefly describe the Project Center, what WPI projects can accomplish, and prominently display a link to the Web site. One of the A4 flyers is displayed in Figure 2.

Figure 2: Sample A4 Flyer

The final component of the materials produced by this project is a database of previously completed LPC projects. This was created to serve as a record of the achievements of the project center and to make it possible for potential project sponsors and others to browse the completed projects. The project data was carefully compiled from WPI records. Projects completed between 1987 and 1999 were available only in print from WPI Gordon Library archives and were therefore manually entered into a spreadsheet. Post-1999 data was obtained from the WPI registrar and input into the spreadsheet as well. The project data was then exported into a Web-friendly format so it can be searched through and displayed using a Web browser. A search page, shown in Figure 3 on the following page, was created; it allows users to enter queries on various fields including title, author, and sponsor. Finally, a server-side script was used to format and displays the results.

Figure 3: Project Search Interface

Going forward, it is recommended that a thorough analysis of the content of the Web site and print materials be performed to determine how well they convey the needed information to their intended audiences. The WPI Marketing and Communications office could help to ensure the quality of the materials. In addition, refining the project search, adding advanced search features, and implementing reporting tools could better serve the needs of the Center Directors, who may want to search and display the project data in more advanced ways. Furthermore, to ensure the project database and Web site are always available, they should be backed up regularly, and steps should be taken to ensure the project data is not corrupted.

This project provides the London Project Center with complete versions of outreach materials that serve the current needs of the Project Center. These materials allow for continued development of relationships with British sponsoring organizations, maintaining the interest of students, documenting the accomplishments of the Center, and ultimately ensuring that the Project Center will continue to be successful in the future.

1.0 Introduction

Outreach materials, including Web sites and printed publications, are critical tools that organizations use to promote themselves and attract new clients. The London Project Center, an international academic project site run by Worcester Polytechnic Institute (WPI), lacked these tools. The mission of the London Project Center (LPC) is to offer WPI students project opportunities in London by developing relationships with British organizations willing to host projects, coordinating student housing and preparation for a term abroad, and overseeing the completion of projects so that students can complete one of their degree requirements. In order to fulfill this mission, the Project Center must actively identify and engage British organizations that are willing to sponsor projects and maintain the support of existing sponsors.

To assist the London Project Center in meeting its goals, this project developed outreach materials that promote the LPC to potential project sponsors and provide information about the Project Center for students who are looking to complete their Interactive Qualifying Projects in London. These materials are designed to demonstrate to potential sponsors the many benefits that hosting a WPI project can bring to their organization by showcasing the success of previously completed projects and by displaying the testimony of former project sponsors. Information about the London experience and the process that an IQP involves is also presented for the benefit of WPI students exploring their options and preparing for a trip to London.

The marketing materials consist of a prototype Web site with accompanying printed materials that provide a brief overview of the Center and direct the reader to the Web site. These materials were developed by: (1) conducting a needs assessment to determine appropriate content and features; (2) reviewing best practices in Web site design, database development, and marketing; (3) developing materials that fulfill the determined needs and follow best practices; (4) conducting tests of the materials to ensure they satisfy the needs of the users.

In order to create marketing materials that provide the relevant information in an engaging and useful way, a needs assessment was conducted. This assessment consisted of interviews with project sponsors, LPC Center Directors, and WPI students who were former, current, or potential participants of the Center. A review of best practices was also completed through interviews with Web design and marketing professionals as well as through research conducted in professional journals and other publications. The content for the materials was developed based on the results of the needs assessment and review of best practices. In addition to the marketing and informational content for students, a history of the London Project Center was developed. This history was compiled based on

interviews conducted with personnel involved with WPI's Interdisciplinary and Global Studies Division (IGSD) and the London Project Center. Writing this history not only gave the project team the opportunity to evaluate, adapt, and improve upon the marketing techniques of previous Project Center Directors, but also resulted in a documented record that describes the long-lasting reputation of the Center and its many successes.

A significant amount of time was also spent developing a database of projects completed in London. This database is a compilation of the project data from the WPI Registrar and the Gordon Library Special Archives. Users can search the database through the new LPC Web site. The project team anticipates that London project sponsors will use this database to learn what their colleagues are doing with WPI projects at other organizations. In addition, the Center Directors will use the database as a way to determine trends across projects and as an aid in maintaining the Project Center. The database is a record of the impact that the London Project Center has had on the museums, local government, and other non-profit organizations of London.

Throughout the development of the Web site, the print materials, and the database, evaluations were performed to determine how well the materials met the needs of the intended audience and fulfilled the purpose of promoting the Project Center. All of the materials were evaluated based on previously determined design and marketing best practices as well as user testing and feedback. The materials were modified where tests indicated insufficiencies to help improve the final product. The resulting materials should enable the current and future Directors of the London Project Center to continue to offer intriguing and fulfilling project opportunities to the students of WPI.

2.0 Literature Review

This chapter is divided into three major parts: the development of the WPI Plan, the history of the London Project Center, and guidelines for Web site design. The background information on Worcester Polytechnic Institute (WPI) and the Project Center is crucial in the development of the Web site content, particularly in writing the history of the Project Center that is displayed on the Web site. The guidelines for Web design are also critical to review during the development and evaluation of Web sites.

2.1 Development of the WPI Plan

The WPI Plan refers to the curriculum adopted at WPI in 1970 to address dwindling enrollment and decreased interest in traditional engineering programs. The plan created a project-based curriculum around the most important objective in educating students: teaching them "how to learn on their own" (Schachterle & Watkins, 1992). The projects were designed to help students learn how to work well in groups and develop their social skills, a requirement for many engineering positions (Schachterle & Watkins, 1992). WPI's transition from a theoretical to a more hands-on curriculum added to its popularity and earned the school a reputation as one of the best engineering institutions in the country. The founding father of this new system was Dean Emeritus Bill Grogan who was himself a graduate of WPI. He was responsible for implementing and institutionalizing the project-based approach, a new grading system, and a new seven-week term schedule. A year is separated into four "terms," denoted A, B, C, and D; students usually take three courses per term, the equivalent of 1 academic unit. For each course, a student can earn either an "A," a "B," a "C," or an "NR" (No Record). A course with a grade of NR will not appear on any transcripts produced by WPI. After gaining the vote of the faculty, this new system was implemented between 1971 and 1972 (Schachterle & Watkins, 1992).

In accordance with this new plan, every student must complete three projects: a Sufficiency Project, a Major Qualifying Project (MQP), and an Interactive Qualifying Project (IQP) (Tryggvason, Vaz, Davis, & Mello, 2006). Each of the three projects is unique and specially designed to demonstrate the student's mastery of various skills and the completeness of their knowledge. The Sufficiency Project is a humanities requirement, and is the last required humanities course students take after completing five other humanities courses. Humanities courses at WPI are grouped into three disciplines: art/art history, drama/theatre, and music; languages, literature, and writing/rhetoric; and history, philosophy, and religion. In order to prepare students for the Sufficiency Project, at least two of the five courses must be in the same discipline as the student's Inquiry Seminar; this is known as the "depth" requirement.

Additionally, at least one of the five courses must be in a different discipline, which provides the "breadth" requirement. (Worcester Polytechnic Institute, 2011d).

The Major Qualification Project (MQP) is the only project required to be in the students' major field of study. It is similar to the senior-thesis or final capstone that is required by many other institutions. Students apply the knowledge and skills of their major in order to solve a problem typical of the type they might encounter in their future careers (Worcester Polytechnic Institute, 2010b). MQPs can be done individually, but they are usually completed by groups of two to five students that have similar areas of focus. The MQP is the academic equivalent of at least one unit of credit, or three regular classes (Vaz, 2005). Students often complete their project in their senior year, and can either spread the three thirds of credit across multiple terms or complete their entire MQP in a single term. Students have the choice of finishing their MQP on-campus, or off-campus at one of many project centers (Worcester Polytechnic Institute, 2011d). Some of the well-known Project Centers near the WPI campus include the MIT Lincoln Laboratory, Sun Microsystems, Gillette Company, and UMass Memorial. MQPs have also been conducted in London, Japan, Shanghai, Panama, and France among others.

The Interactive Qualifying Project (IQP) is a program unique to WPI that brings together students from different disciplines in order to solve a real-world problem. It is similar to the MQP in that it is equivalent to the academic credit of three classes and it can be spread across multiple terms or completed in a single term. It is most often completed in the student's junior year in a group of two to four students. The purpose of the IQP is outlined in the undergraduate catalog through a list of learning outcomes (Table 2). As with the MQP, WPI students have the choice of finishing their work either on-campus or at an off-campus project center. Every year, about 60% of all IQPs are completed off-campus through the Interdisciplinary and Global Studies Division (IGSD) at one of WPI's off-campus project centers (Worcester Polytechnic Institute, 2011d). The first international project center was the London Project Center, created in 1987 to allow students to complete their IQPs with London organizations.

1. Demonstrate an understanding of the project's technical, social, and humanistic context.
2. Define clear, achievable goals and objectives for the project.
3. Critically identify, utilize, and properly cite information sources, and integrate information from multiple sources to identify appropriate approaches to addressing the project goals.
4. Select and implement a sound methodology for solving an interdisciplinary problem.
5. Analyze and synthesize results from social, ethical, humanistic, technical, or other perspectives, as appropriate.
6. Maintain effective working relationships within the project team and with the project advisor(s), recognizing and resolving problems that may arise.
7. Demonstrate the ability to write clearly, critically and persuasively.
8. Demonstrate strong oral communication skills, using appropriate, effective visual aids.
9. Demonstrate an awareness of the ethical dimensions of their project work. (WPI, 2011a)

2.2   The London Project Center

The following section outlines the formation of the London Project Center (LPC), the creation of the Interdisciplinary and Global Studies Division (IGSD) and its role at WPI, and the types of projects completed in London. The LPC has transformed in many ways since it was founded; the project topics have evolved, the leadership has changed, and the Center has grown to accommodate roughly fifty students each year. The LPC is part of the Global Perspective Program (GPP) at WPI that includes many other project centers around the world.

2.2.1   The Interdisciplinary & Global Studies Division and the Global Perspective Program

The IGSD administers and funds the Global Perspective Program (GPP) at WPI and operates with its own budget and staff (Tryggvason et al., 2006). The IGSD is responsible for overseeing all on and off-campus IQPs (Tryggvason et al., 2006) as well as off-campus Sufficiency Projects (Mello, 2001). Project groups include a variety of students of differing academic disciplines, bringing them together to confront problems that may not be closely associated with their major so they can develop skills not acquired in the student's regular course of study. The current leadership of the IGSD includes Dean Richard Vaz, Associate Dean Kent Rissmiller, Director of Global Operations Natalie Mello, and Assistant Director Leanne Johnson (Worcester Polytechnic Institute, 2010a).

The IGSD itself developed out of necessity after the introduction of the WPI Plan. It was initially called the Division of Interdisciplinary Affairs, before the global program was developed. According to

John Zeugner, the school needed a department or division to handle the administrative tasks that went along with requiring every student to complete an IQP. The global program was added later, after the risks posed to students by informal projects run independently by professors became apparent. Risk management became a key issue, an issue that is currently dealt with by the director of global operations and other IGSD staff members (J. Zeugner, personal communication, April 8, 2011).

The dean of the IGSD oversees the Global Perspective Program and is the person to whom the faculty directors of each project site report (Tryggvason et al., 2006). The faculty director, or center director, of each project site is a WPI professor responsible for "setting up projects, handling general academic issues, and overseeing center operation" (Mello, 2005). The faculty director works with sponsors at their project sites to generate new projects each term and actively recruits new sponsors when necessary. Center directors are also responsible for selecting the students who will participate in IQPs at their project site. Faculty members from different academic departments are also chosen to accompany students to project centers. They are called resident faculty advisors and are appointed on a term-by-term basis to assist students while they are at their project sites, as the center directors tend not to travel with students. Faculty members can apply each year to become resident faculty advisors (Mello, 2005). Advisors act as mentors to project participants by helping to ensure students both successfully complete their projects and represent WPI in a positive fashion. In addition to the center director and faculty advisors, some project centers also employ an on-site local coordinator to maintain contacts with local project sponsors and to represent WPI when the center directors cannot.

2.2.2   The Global Perspective Program

The division of the IGSD that oversees off-campus projects is the Global Perspective Program (GPP). The GPP is an influential part of many students' experience at WPI. About 60% of WPI students will have gone off campus before they graduate (Worcester Polytechnic Institute, 2011) and often it is one of the most "eye-opening, confidence-building and life-changing" experiences they take part in (Worcester Polytechnic Institute, 2006b). The Global Perspective Program currently "sends more engineering and science students abroad than any other US university. At more than 25 project centers located around the globe, WPI students address local issues, develop an understanding of other cultures, and see – firsthand – how their lives and work will play out on a global stage" (Worcester Polytechnic Institute, 2011c). WPI sponsors project sites located across the globe; a map of project sites that offered IQP opportunities for the 2011-2012 academic year can be found in Figure 4. As evident in the figure, the GPP not only offers project opportunities in London, but also in other countries in Europe, Africa,

Asia, Australia, and America. New sites are also added, including the two most recent: Cape Town and Santa Fe (Worcester Polytechnic Institute, 2011a).

Figure 4: IGSD Project Center Locations

(Worcester Polytechnic Institute, 2011a)

Although most WPI project centers share the same goal, they operate in slightly different ways. For example, unlike the LPC, the Cape Town Project Center usually runs projects that are more closely related and integrated; in fact the project groups often collaborate. Such differences are usually a result of the characteristics of the project sites rather than varying methods among those in charge of the project centers.

According to John Zeugner (personal communication, April 8, 2011), when the off-campus IQP's were first developed, there was no formal preparatory program or courses, resulting in students often being unprepared to work with their sponsors. Students were also prone to mistakes that could have been avoided with a few brief communications with their sponsors prior to the start of the project. To remedy this, there is now much more preparation involved when completing an IQP off-campus. The term before students travel to the project site, they conduct research in the social sciences through the Pre-IQP and ID 2050: Social Science Research for the IQP. As stated in the undergraduate catalog, ID 2050 "introduces students to research design, methods for social science research, and analysis. It also provides practice in specific research and field skills using the project topics students have selected in conjunction with sponsoring agencies" (WPI Undergraduate Catalog). The PQP is taken concurrently

with ID 2050 and helps students learn to work efficiently as a group and to become familiar with their advisors.

2.2.3   London Project Center

In 1974, WPI began an exchange program with The City University in London. This exchange program was transformed into the London Project Center in 1986. However, when the global program was first developing, center directors did not exist. The faculty advisors that traveled with the students each year and the local coordinator performed much of what is currently done by center directors. There have been two local coordinators; the first and most integral to the early success of the LPC was Professor Maria Watkins. The second was Jenny Hawkes, who built on the accomplishments of the Center and extended its scope and reach to new sponsors. The first advisor for the London Project Center was John Zeugner who was succeeded by Lance Schachterle, the first official Center Director. The leadership of the LPC up to the present is displayed in Table 3.

Table 3: LPC Leadership

Lance Schachterle	1987 - 1994
Paul Davis	1994 - 2009
Dominic Golding	2009 – Present
Robert Krueger	2009 - Present

The London Project Center provided the first residential location that WPI formally organized for students and faculty to live while working abroad. To develop the first round of projects, a group of three faculty members from WPI – Dean William R. Grogan, Associate Dean Frank Lutz, and Professor Lance Schachterle – traveled to London to meet Professor Maria Watkins and develop professional contacts with British organizations. The team met with fourteen British agencies that all indicated an interest in hosting WPI students and even proposed project ideas (Schachterle & Watkins, 1992).

2.2.4   Projects

The number of projects completed each year at the London Project Center has varied. The first group to go to London in 1987 consisted of only twelve students completing four projects (Zeugner, 1987). However, by 1988, interest had grown so rapidly that the capacity was increased to five projects per term (Schachterle & Watkins, 1992). Student participation data for the years 1996 through 2011 are shown in Figure 5, more than 800 participated during that period. The graph indicates that from 1997

through 2008 projects were offered at the LPC three terms per academic year and from 2008 up to the present projects were only offered two terms per year.

Figure 5: London IQP Participation 1996-2011
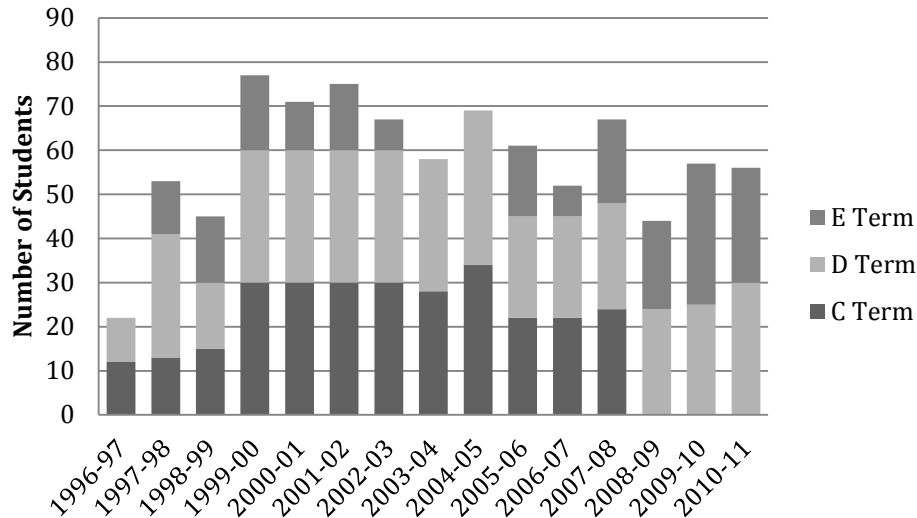
Project topics and sponsors (like the participation numbers in Figure 5) have also changed over time. Earlier projects, such as those completed in the late 1970's and early 1980's, were often centered on social service (Worcester Polytechnic Institute, 2006a). As the program evolved and the environment became a global issue, more projects tended to focus on recycling, renewable energy, and community development by forming strategies to support local government and non-governmental non-profit organizations (Worcester Polytechnic Institute, 2011b). According to John Zeugner, much of this shift can be attributed to not only changing societal concerns, but differing interests among those selecting project sponsors, specifically local coordinators and center directors (J. Zeugner, personal communication, April 8, 2011).

Because of the growth in the WPI student population and the high number of projects completed at the London Project Center in the past few years, there is a need for additional projects and sponsors. To facilitate the process of finding additional sponsors, outreach materials were deemed necessary by the current Project Center Directors, Dominic Golding and Robert Krueger. These outreach materials include a Web site, and the next section of this literature review discusses best practices in Web site design, the results of which were used to develop the final products.

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2.3   Web Site Design

After the development of the World Wide Web, Internet usage has continued to increase, and today, according to a study done by Pew Internet, 74% of American adults use the Internet. The study included a graph displaying an increase in the percent of adults who use the Internet in the United States, which can be seen in Figure 6 (Rainie, 2010).   This growth has led many companies and businesses to use the Internet as a marketing tool.   By utilizing the Internet, companies and organizations are able to market their products and services to their target audience and reach users on a global scale.   In terms of the Global Perspective Program at WPI, the need to appeal to a global audience is apparent; the London Project Center can make use of a dedicated Web site to market itself to potential sponsors and serve as a source of information for the other groups of people involved with the Center.

Figure 6: Internet Usage in the United States
(Rainie, 2010)
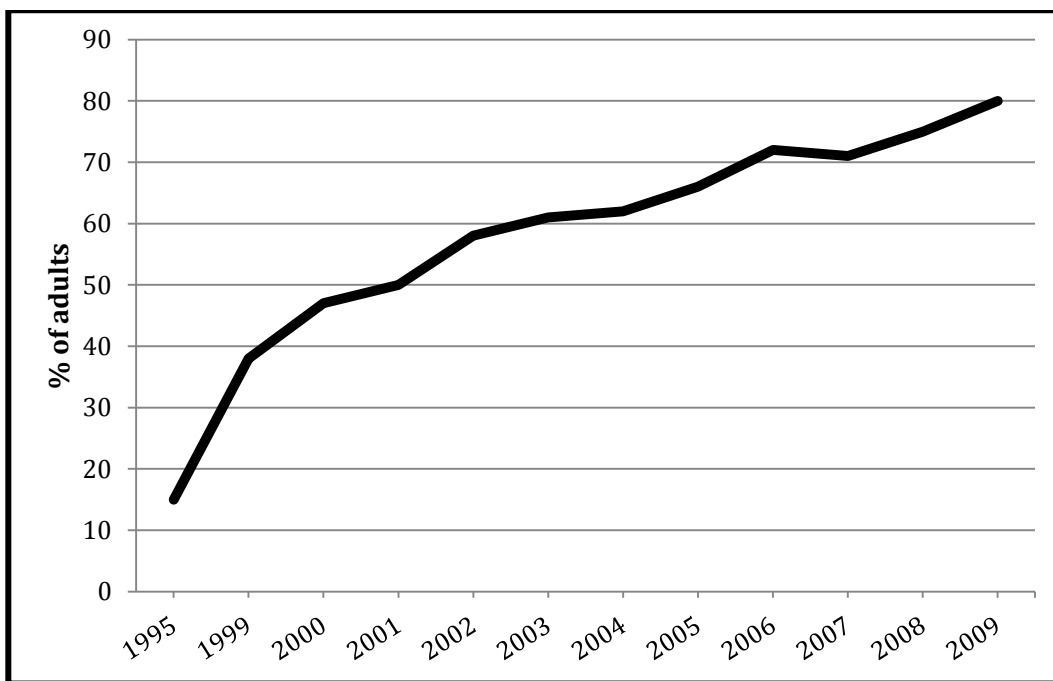
There are numerous (and sometimes conflicting) studies describing how to create successful Web sites. The next sections review best practices for Web design. The section on graphical design describes visual appeal and the aesthetics of a Web site, while the technical design section discusses the Web site's functionality and technical implementation.

2.3.1 Graphical Design: An Overview

With the recent trend from functional vision (Web sites that simply accomplish a task) to experiential vision (interactive Web sites that contain emotion, sociability, and pleasure), aesthetic design has become increasingly important to attract users (De Angeli, Sutcliffe, & Hartmann, 2006). Unfortunately, there appears to be little consistency in the design of modern-day Web sites. This could be in part because of new Web design tools, which allow inexperienced Web users to build Web sites without taking time to research best practices. This disregard for best practices is not limited to the inexperienced user; a study conducted in the United Kingdom in 2002 found that of 25 organizations, few Web design techniques were actually used, and the process was mostly ad-hoc (Taylor, McWilliam, Forsyth, & Wade, 2002). Though some Web developers do plan and detail their Web sites before the implementation phase, there is still much variation in their planning methods. The widespread popularity of the Internet has led to many unique philosophies on the ideal design of a Web site. In order for the London Project Center's Web site to satisfy its mission, the project team analyzed different design techniques and determined which should be used.

2.3.2 Graphical Design: Studies and Techniques

Although ideas on the ideal graphical interface vary, there are some common themes among them. Perhaps the most popular feeling is that complicated Web site designs tend to see less success than more simplistic themes. A study known as "Determinants of Successful Website Design: Relative Importance and Recommendations for Effectiveness" summarizes this concept quite well. According to this article, "The abundant literature on this subject indicates the trend in designing websites is toward simplicity. 'Cool stuff' is on its way out. Revolving wingdings, flashing banner ads, grotesque background colors and textures, and a meaningless multitude of multimedia effects that require endless plug-ins will be extinct as electronic commerce continues to advance" (Gehrke & Turban, 1999).

This study may have been performed over ten years ago, but it still applies to today's Internet and brings up some important points. Their idea of 'cool stuff' is clearly not extinct but their ideas remain valid. A successful Web site should allow users to view and understand any page quickly and without flooding the user with extraneous content. To help accomplish this, the developer must find a balance between text, graphics, and other media that works for the type of site they are designing. Icons, shortcuts, and other interactive elements can be helpful for navigation purposes. But they must be used with caution; the use of animation and media plugins should be minimized to avoid making the page visually confusing, and in extreme cases, increasing the Web site's load time to an intolerable level.

Users should simply find the Web site appealing and be able to easily find the information that they are looking for. (Tarafdar & Zhang, 2005).

To investigate the relationship between content, interface styles, and user preferences, De Angeli et al. built two Web sites in 2006 with identical information but two different interaction styles. One had a traditional menu layout, and the other had interactive metaphors and humorous content with animations (Figure 7). The menu-based style presented contents in a formal interaction style with pictures and menus, while the metaphor-based interface had engaging and attractive animated content (De Angeli et al., 2006). A follow-up questionnaire was designed to collect information on the aesthetics of Web sites. The first questionnaire mentioned general items including pleasant, clean, and symmetrical design. The second assessed the creativity, fascination, and sophistication of the Web site. The evaluation concluded that several important heuristics should be taken into account, including structural layout, information accessibility, consistent layout, style, images, color, and interactivity (De Angeli et al., 2006).

Figure 7: Web Site Interfaces

Menu-based   **Metaphor-based**

The structural layout and navigability of a Web site depends on how the information the Web site contains is organized and arranged. Features like a well-labeled navigation bar and an embedded search bar contribute greatly to navigability (Tarafdar & Zhang, 2005). According to research done by an IQP group in 2009, "Page layout is one of the top priorities in terms of creating a user-friendly design for a website." (Standring, Pimentel, Bisa, & Oshetsky, 2009) They go on to explain that a Web site's layout should be such that the navigation is on either the top or the left, and that there should be few changes in alignments. The easier a Web site is to navigate, the better; this emphasizes the concept of simplicity. If it is too difficult to find the material that the Web site is offering, then it will not be as successful as

one that makes its content simple to locate. Furthermore, "the most important information must be readily visible in the first screen the visitor sees upon loading the page, without scrolling" (Standring, Pimentel, Bisa, & Oshetsky, 2009).

The navigation of the Web site is another high priority in Web site design. Some more about navigation will be discussed in the next section, which analyzes the technical aspects of design, however, navigation is still a part of the user interface. Gehrke and Turban make numerous recommendations. One suggestion is that all hyperlinks are clearly labeled and work correctly; according to the study, "An ambiguously labeled link or a link that hits a dead end is one of the most annoying design faults in a website" (Gehrke & Turban, 1999). Another recommendation for all Web sites is that they contain a "sitemap." A sitemap, as seen on a Web site, is a single page that contains a hierarchy of the entire Web site, complete with links to each individual page. This map should be accessible from every page on the Web site so that a lost user can find the materials he or she was looking for. A sitemap is also used in the planning and design of the Web site and should not be confused with this one; this planning process will be discussed later. Other suggestions and ideas include the use of a search engine, a Frequently Asked Questions page, and consistent navigation methods throughout the Web site. They also recommend against "Under Construction" signs and visible hit counters. Although the general themes of simplicity and layout should remain a priority in design, each small mistake will detract from the overall quality of a Web site.

2.3.3 Technical Design: An Overview

The previous section, Graphical Design, was an overview of aesthetic design techniques. This section discusses techniques that pertain more to the technical design, or 'back-end,' of the Web site. Unlike the previous section, best practices in design functionality are changing as fast as the technology is changing. Any study on technical design must be examined carefully to ensure that the results still apply today. Nevertheless, techniques in functionality are as important to keep in mind as the aesthetic features.

2.3.4 Technical Design: Studies and Techniques

The previous section discussed the importance of keeping a Web site's appearance basic and easy to understand. Simplicity is still a major factor in the effectiveness of the back-end, but the methods of implementing it are different. For example, a developer should limit the use of plug-ins on his or her Web site, and avoid using frames to display material. Furthermore, Web sites should be easily navigable, containing no broken links; every navigation tool must function flawlessly, otherwise users of

the Web site will become frustrated and annoyed. A search function can also be an important aid to the navigation of the Web site. A good search function will enable users to find information should they have trouble using the navigation system or the sitemap (Gehrke & Turban, 1999).

An often overlooked design technique is to use a storyboard, flowchart, hierarchy chart, or other method of planning out the design of the Web site prior to the start of development. According to Professor Jenifer deWinter, the co-director of professional writing at WPI, the development of a Web site should start with a detailed and well-constructed sitemap. A sitemap makes the developer's job easier and prevents the pages from overlapping or terminating in a dead-end (a page that has no links to other places within the site). Based on research cited by Professor deWinter, dead-ends and broken links are the two errors most responsible for causing users to leave a Web site (J. deWinter, personal communication, May 3, 2011). Unfortunately, many modern Web sites forgo this planning. In the 2002 UK study mentioned earlier in the literature review, "The twenty five case studies appeared to indicate that few UK organizations have much in the way of formal frameworks/standards/best practice guides for assisting IT staff in Web development projects. Ad hoc approaches to Web site development appear to dominate" (Taylor et al., 2002).

As discussed earlier, best practices in functional design change over time. In the summer of 1998, a survey of e-commerce customers was conducted in Long Beach, California. The customers were asked to rate five items from 1 (least important) to 5 (most important), and the results are shown in Table 4 (Gehrke & Turban, 1999). This survey shows that the most important feature of a Web site was the speed at which it loaded.

Table 4: Importance of Web Site Features
(Gehrke & Turban, 1999)

Category	Average for Groups	%
Page Loading	2.37	21.9
Business Content	2.16	20.0
Navigation Efficiency	2.18	20.1
Security	1.96	18.1
Marketing/Consumer Focus	2.15	19.9

This result is common among older studies. However, newer studies seem to show the opposite, that the loading speed of a Web site is not one of the most important features. Zinno (2002) compared the most important features of a Web site, using ten different categories and found that 29% of users rated

the organization of the Web site's features as the most important element, followed by ease of use at 17%. These results are presented in Table 5. The least important feature, netting only 2%, was the time it takes for a Web site to load (Zinno, 2002).

Table 5: User Rankings of Website Qualities
(Zinno, 2002)

Quality	Importance
Features	29%
Ease of use	17%
Security	14%
Visual Appeal	9%
Spelling	8%
Use of graphics	6%
Simplicity of domain name	5%
Frequency of news updates	5%
Help offerings on the site	5%
Load time	2%

It is highly possible that this change in design is due to the fact that recently, access to the Internet has improved dramatically and Web sites that used to take almost a minute to load now load in only a few seconds. And because everything is so much faster, the difference in loading times is not as noticeable or important. However, this does not mean that this study should be ignored. According to Nielsen (2000), users have a low tolerance for slowness in general; a Web site should load quickly, but the Web site itself should be intuitive enough so that users can quickly understand how to navigate it. A Web site should load rapidly and be easy to understand immediately after the user visually scans the page (Nielsen, 2000).

2.3.5   Web Site Evaluation: An Overview

Web sites are rarely complete after their first design; it is important to test and evaluate the product until it has been perfected. According to Tarafdar, "Appropriate design characteristics are required to make a website effective" (Tarafdar & Zhang, 2005). There are several essential characteristics, including information quality, user experience, usability, and performance. By evaluating these design characteristics, a judgment can be made about the Web site and the

information it displays. In a Web site similar to the one developed for this project, which is being used as an outreach material, an analysis of the marketing and graphic content is also vital, in addition to any back-end components such as the database of IQPs.

2.3.6   Web Site Evaluation: Studies and Techniques

One method of evaluating the effectiveness of a Web site is to send out a survey to the intended audience requesting that they visit the Web site and comment on their experience. One method of surveying is to ask subjective questions such as: is the information relevant to the purpose of the Web site? Does the content satisfy the needs of the audiences? Is the information easy to read, comprehensible, and up-to-date? Furthermore, a Web site should allow for feedback and suggestions even after it is launched by having a contact page that allows users to communicate with the webmaster. This kind of communication allows for improvement of the site and the quality of the information presented (Tarafdar & Zhang, 2005).

Another testing method involves asking a sample user to search for certain pieces of information. This test will give a general idea of how intuitive a Web site's navigation system is. As an example, an experiment could be conducted on a random sample of Web users who represent the intended audience and have not previously viewed the Web site. Each user would be assigned several information-retrieval tasks that would require navigation through several sections of the Web site. A post experiment questionnaire could then be used to inquire about their experience and collect any suggestions they may have for improvement (De Angeli et al., 2006). While it would be efficient to have these test subjects record any errors they encounter as well, care must be taken in ensuring that the task is not too time-intensive, or else few subjects will provide input.

Information quality affects the impact of the Web site and determines whether or not it is perceived as a reliable source. The information on a site must be correct and prove to be reliable, informative, and educational. The Bernier Instructional Design Scale, "a psychometric instrument developed to assess the quality of printed education material," may be used to evaluate the information quality of a Web site. (De Angeli et al., 2006) With this scale, several items would be evaluated including the level of detail, clarity of objects, quality of content, and frequency of updates in information. Furthermore, by taking a post-test questionnaire, users testing the site could indicate which components were the most memorable to them (such as certain pictures, facts, blogs, etc.). At the same time, these users would be able to note the components they found unnecessary or irrelevant

to the purpose of the Web site. A study such as this should give an accurate evaluation of any Web site and provide valuable suggestions for improvement.

Testing is important, but because of the time it adds to development, it is best to make sure that the product is as complete and ideal as possible prior to the testing phase. An "ideal" Web site is one that satisfies the user's needs and provides accurate, relevant, and up-to-date information. Thus, studies on user satisfaction and evaluation aid the development process. De Angeli et al.'s list of items that users should keep in mind when evaluating a Web site can be found in Table 6. Building to these specifications saves time in the testing process, allowing more time to implement all of the suggested ideas and create a Web site that will satisfy the needs of the intended audience.

Table 6: Website Evaluation Rubric
(De Angeli et al., 2006; Dragulanescu, 2002)

Evaluation Criteria	Questions to be answered by user
1. DENSITY (extent/degree to which comprehensive and relevant information is displayed on each site's page)	✦ Is text or graphic content predominant on each page? ✦ Is the text/graphic information displayed on each page comprehensive enough? ✦ Is the text/graphics displayed useful? ✦ How much advertising information is included on the site's pages?
2. INTERACTIVITY (extent/degree to which bidirectional communication between user and author is possible)	✦ Is it possible for you to email the website owner or webmaster? ✦ Is this link active? ✦ Is this link quickly operational? ✦ Did you receive an answer to the message you sent to the author/webmaster?
3. OBJECTIVITY (extent/degree of site's author objectivity versus his subjectivity)	✦ What is the real goal of the site? ✦ What is the real purpose of the site's author? ✦ Are you confident in the author's objectivity?
4. PROMPTNESS (time required for the website to display its pages)	✦ Was the site URL easily found? ✦ Is it possible to quickly change pages? ✦ Is it possible for you to open, within a reasonable amount of time, all provided links?

2.3.7   Summary

According to many researchers and studies, the most important quality in Web site design, both aesthetically and functionally, is simplicity. From this stems the majority of other best practices, such as

a consistent page layout and navigation method. Other important practices include creating a sitemap, a search engine, and a well-designed front page. There are many things to avoid as well, specifically the use of features that are "fancy" or "cool," like flying text and flashing lights. Also, although it was a priority in the past, Web page load speed should not be an important design consideration, unless the Web site is noticeably slow to load (this can be found through user testing). Instead, a designer must properly plan the Web site with a sitemap, a storyboard, or a hierarchy chart. While designing the Web site, care must be taken to avoid mistakes such as dead-end pages or broken links. A Web site designer must also review the final product to guarantee that it is fully functional.

A table containing all of the findings regarding the most important qualities in Web site design can be found in Table 7. This analysis served as a guideline for the project team and functioned as a reminder of key design elements to employ in the development of the LPC Web site.

Table 7: Web Site Design Recommendations

A Web site should:	A Web site should avoid:
Be simple and straightforward	Broken links
Begin with a storyboard	Excessive use of graphics
Have a pre-planned page hierarchy	Trying to look "cool"
Have consistency in page layout	Duplicating content
Use a relevant color scheme	"Under Construction" signs
Contain intuitive page navigation	Excessive plug-ins and frames
Be clear and unambiguous	Spelling and grammar errors
Contain a sitemap and a search engine	
Load reasonably quickly	
Be updated frequently, if applicable	

3.0 Methodology

The goal of this project was to develop outreach materials that: (1) showcase the prior achievements of the London Project Center in order to attract new project sponsors, and (2) provide information for WPI students considering attending, or already accepted to, the London Project Center. This was accomplished by conducting a needs assessment to determine the preferred content and features of the outreach materials, reviewing development practices for the necessary materials, and developing and testing the Web site, printed materials, and other deliverables, including user manuals and the project database.

3.1 Assessing Needs

In order to develop the Web site and outreach materials for the LPC, it was necessary to clarify how the center directors, project sponsors, and students intended to use the materials and identify the perceived needs of these key audiences. To do this, interviews were conducted with Dominic Golding and Robert Krueger (the present LPC Directors), past directors, advisors, and other WPI staff and faculty associated with the Center, as well as thirteen current and former project sponsors in London. These interviews were conducted in person as well as via phone or Web conference. The results of the interviews were recorded in the form of detailed minutes that are available in Appendix D. In addition to the subjects previously mentioned, students with connections to the LPC were also surveyed, both in person and through email. The project team also spoke with previous London project advisors in order to find out more about the on-site London experience, particularly how students and advisors interact with sponsors face-to-face, as well as what qualities of WPI students most impress sponsors. These project advisors provided advice that was utilized when developing the marketing strategy and content for the outreach materials.

Other than the student surveys, all interviews were of a formal nature. Times were arranged with the subjects and specific questions and topics were outlined to ensure the goals of the interviews were fulfilled. The goals of speaking with the present co-directors and past directors were to: (1) learn specific details about the history of the Project Center, (2) gather insights into their methods for recruiting new project sponsors, and (3) learn what they would most like to see in a Web site for the London Project Center. Their advice on sponsor recruiting methods was used to develop the content and organization of the marketing materials.

In addition to contacting Center Directors and project advisors, interviews were also conducted with previous administrators of the IGSD who were involved in the founding of the Project Center. They

discussed the original goals of the program and the methods used to develop the first projects and make the program successful. Finally, interviews were also conducted with past and current project sponsors to discover what aspects of WPI projects appeal to London organizations so that these aspects could be highlighted in the marketing materials. Sponsors were contacted based on a list (Appendix E) given to the project team by Professor Golding indicating the sponsors who would be most willing and available to provide the information. A mix of different groups of sponsors (local authorities, museums, and charities) was chosen and people were interviewed from each of these groups during the first few weeks of this project. Aside from what appeals to sponsors in terms of WPI projects, questions were also asked to determine what format of marketing materials would be most effective in attracting sponsors like themselves and what they would be most likely to read and act on.

The last key group – prospective, current, and former LPC students – was surveyed primarily via email and other forms of Web-based contact. In doing so, anecdotes and pictures were requested that document their experiences as well as other advice they could give to future students. Other items requested included memories, logs of their trips, suggestions for places to visit, and other insider advice on the locale as well as completing the project. In order to evaluate the needs of future students, the group of students traveling to London in D term of 2012 was contacted to find out if they had any questions that could be answered on the Web site. The project team also contacted the group of students who were in London at the time of this project. Personal interviews were conducted with this group, which included asking about their experiences and soliciting helpful advice for future students. This was done to give the student section of the Web site a more personal feel and to advise future students on how to better prepare for their trips to London.

3.2 Preparing for Development

In order to begin creating outreach materials, it was necessary to review the procedures and tools needed to begin formal development. A review of available Web development software was conducted as well as research on reputable Web hosting companies. It was also necessary to acquire the content of the materials. This included obtaining information about prior IQPs to be featured on the Web site and deciding what sponsoring organizations to feature. In addition to this information gathering, the project team spoke with the WPI Marketing and Communications to determine how the Web site could appropriately use the WPI logo and other services.

An assessment of Web hosting options was also conducted. The creation of a rating sheet was the first step in this process. The sheet was developed based on what the site required in terms of

hosting technology as well as what was learned from perusing reviews of various hosts. This led to the creation of a list of desirable and undesirable qualities in a host. The most important qualities were access speed, helpfulness of customer support, and support for server-side scripts. After the rating sheet was finalized, a list of possible hosting companies was generated through a review of customer ratings and online evaluations. The rating sheet was then applied to each hosting company and, after analyzing the individual results, a summary document of all the results was created to easily compare hosts in order to make a final decision. Researching the available hosting companies and choosing the correct one was a critical step, as the reliability and longevity of the site is partially dependent on the reliability of the chosen host.

A similar review was conducted of Web development software. The criteria on this rating sheet were based largely on the specific needs of this project. These needs included: (1) the ability for the Center Directors, who have limited Web development knowledge, to be able to update and enhance the site in the future, (2) the ability for the project team to develop a Web site without large restrictions on layout, design, or functionality in a seven-week time frame, (3) the availability of software support during the development of the site and continued support for the Center Directors, and (4) low upfront and yearly cost. Using these criteria, each software package was tested by attempting to create basic Web sites and recording the experience on rating sheets. The final decision was made by choosing the software that best fulfilled the overall needs of the project team without sacrificing individual requirements like support and reliability.

As the process of finalizing the development tools continued, the team began accumulating other information to be used in the writing of content for the outreach materials. In order to develop the featured projects section of the Web site, WPI professors who had advised LPC projects in the past were contacted and asked to nominate projects they thought were the most successful completed under their advisement. From their responses, the featured projects were chosen based on the following criteria: (1) availability of graphics or pictures supporting the project, (2) positive results from the sponsor's perspective, and (3) completed recently so as to have an online project report available.

To determine the most effective designs for the outreach materials, several steps were completed. An informal review was conducted of the Web sites of the Web sites of the Cape Town, Venice, and Santa Fe Project Centers in order to get a sense of what would be most appropriate and suitable for the LPC Web site. The project team also spoke with the Director of the Cape Town Center, Professor Jiusto. He had worked with a team of students on a project similar to this one in the past to develop a Web site for the Cape Town Project Center. The interview was conducted in order to learn

what Professor Jiusto thought were the most useful elements to consider while designing and developing the content for the LPC Web site. The resources on Web design from the literature review (see Section 2.3) were also utilized to this end. This review was summarized in a table of guidelines, which were used to help construct the formats of the LPC outreach materials. The project team was also guided by the professional advice on Web design gleaned from formal interviews with Web design and Computer Science professionals at WPI. In particular, WPI Professors David Brown and Jennifer deWinter provided the team with basic knowledge of Web design and best practices to uphold during the development process.

3.3 Developing Outreach Materials

Once the planning stage was completed, the knowledge gained from the interviews and the plans for the outreach materials were utilized to create prototype versions of the materials. During this process, modifications were made to some of the plans originally developed as necessary changes became apparent. During this stage, the site map of the Web site was refined and completed and the content of the Web site was developed. The printed materials were also created during this stage using the feedback from sponsor interviews. Testing was conducted on all of the materials to assess their value and how effectively they promoted the Project Center. Finally, manuals were constructed to assist the Center Directors in future maintenance of the outreach materials.

3.3.1 Web Site Organization

One of the primary objectives of this project was to provide an informative Web site that will help WPI display the work that has been done at the London Project Center as well as to ensure the sustainability of the Project Center in the future. This Web site, as discussed before, was organized into two different sections, each of which serves a distinct purpose. The Sponsor section of the Web site is targeted at the employees of project sponsoring organizations. The Student section was developed in order to inform current WPI students about the London Project Center, providing them with a resource to aid them in preparing for their time in London.

Based on the findings from the literature review, it was decided that the development process should begin with a comprehensive, detailed analysis of the Web site's design. To accomplish this, a sitemap of the entire Web site was developed. A sitemap, as detailed in Section 2.3.4, simplifies the development process and prevents duplication and dead-ends. The sitemap was divided into two sections, one for the Sponsor section of the Web site, and one for the Student section. Through the development of the sitemap, the project team was able to visualize the different paths that a user might

take while browsing the LPC Web site. The Sponsor section of the site has a clear destination, the *How to Get Involved* page. However, students were not directed to any page in particular because the purpose of the Student section is mostly informational.

The sitemap displays the organizational structure of the Web site's design. This map determined what pages were required in the Web site, and from this, the project team was able to understand what content to include on each page. More on the content of the sitemap, and the rationale for design decisions can be found later in this report in Sections 4.3.2 and 4.3.3. The completed map was used to determined what content needed to be developed for the Web site. This content included a large section for Project Sponsors, and a second, smaller section for WPI Students. The Web site would also include a comprehensive history of the London Project Center and a database of all past IQPs conducted in London.

3.3.2   Content Development

The sponsor section, which is the primary focus of the LPC Web site, was designed to introduce WPI and the IQP program to sponsors who are not familiar with WPI. It contains examples of other organizations that have worked with WPI as well as sample projects that produced particularly valuable results for their respective sponsoring organizations. These featured projects were chosen based on suggestions from both sponsors who have worked with WPI and from WPI professors who have previously advised projects in London. A searchable database of all past projects conducted at the LPC was also constructed that allows potential sponsors to find projects that appeal to their interests and encourage them to host similar projects. It also provides LPC Directors with information about past WPI projects and a complete record of all projects completed in London.

The student section is geared towards WPI students interested in attending the London Project Center, as well as those who have already been accepted and are preparing for their trip. It discusses the types of projects that are completed at the Center and addresses concerns they may have about packing, living in London, and completing their projects. To understand the point of view of these students, the students who were registered to attend the London Project Center in D Term of 2012 were contacted. They were asked to provide the project team with any questions or concerns they had, so that these could be addressed in the outreach materials. In addition, the project team's fellow students at the LPC during E Term of 2011 were interviewed to determine what information they would have liked to been able to access prior to their trip. The student section also has a Featured Projects page so that students would be able to understand what sorts of projects were conducted at the LPC. A more

social feature, a blog, was also included to allow students to post stories and pictures about their experiences in London. This was confirmed to be important by the student interviews, and is discussed further in Section 4.3.3. Developing this blog also included allowing for moderation by the current LPC Directors.

An additional project objective was to create a comprehensive history of the London Project Center since none had been developed previously. To accomplish this objective, the project team reviewed literature concerning the history of the LPC that was available at WPI prior to traveling to London and interviewed past directors of the London Project Center and other key people who were involved with the program. These people include John Zeugner, the first London project advisor, Lance Schachterle, the first Center Director, and Bill Grogan, the creator of the WPI plan and former Dean of Undergraduate Studies. From these interviews, the team developed a complete history to include on the LPC Web site, allowing it to be more informative to potential sponsors who wish to learn more about why WPI goes through the effort of running projects abroad. This history was incorporated into the Web site within the *About* pages in the Sponsor section of the Web site, which also includes a description of the Interdisciplinary and Global Studies Division (IGSD) and WPI itself. This is discussed further in Section 4.3.2.

In addition to this history, a database of all Interactive Qualifying Projects that have taken place at the London Project Center was also developed. The database is searchable and can be updated as more projects are completed. It is intended to be a historical reference for those involved with the Project Center and is necessary because the existing library database is incomplete and has some usability issues. The three main issues are: (1) specific entries are not well formatted and contain spelling and other typographical errors, (2) it is difficult to navigate and locate IQPs related to the London Project Center, and (3) it is not in an easily discovered or convenient location. To address these issues the project team designed a new database to use in the back-end of the LPC Web site that allows front-end users to navigate through the entire collection of London IQPs. The project team also implemented a search function, where each individual IQP is labeled by a set of keywords to help users find relevant projects. In addition, some default searches and sorting methods were provided, such as sorting by year, searching for IQPs related to museums or boroughs, and a pre-selected set of "featured" IQPs that refers the viewer to the pages describing them. Each IQP in the database has the following information available: the title and date of the project, the authors, the project sponsors and advisors, the abstract, a link to the project if applicable, and a collection of the keywords used for the search function.

A significant amount of time was spent aggregating the project data for this database; refer to Figure 8 for the locations of project data. To find these records, the project team used the resources of WPI's Gordon Library and many different incomplete databases of projects. All IQPs that were completed during or after the year 1999 have been recorded in an archive that the WPI Registrar maintains. For projects completed before this date, the team had to search the Gordon Library Special Archives. *Interactions*, a WPI publication published almost annually from 1981 through 2000, contains information on all of the IQPs completed each year it was published. Gordon Library provided access to past issues of *Interactions* that completed the record of every project conducted at the London Project Center. This record was then verified against the existing library records to ensure that no projects were excluded, and the new collection of data was reviewed multiple times to correct any errors that may have existed in the previous records.

Figure 8: Project Report Locations

Year				
1981	Available in Interactions			
1999		Available in Gordon Library (in print)		
2000				
2003			Some available in eProjects	
2007				Available in eProjects
Present				

In order for the Web site to remain useful, it must be updated whenever new projects have been completed. To assist those that may be completing this task in the future, a manual was provided that describes how to modify the database and add additional projects.

3.3.3 Print Materials

The goal of the print materials was to promote the LPC, attracting the attention of potential sponsors and driving them to explore more about the LPC. To develop these printed materials, the project team needed to determine what elements appeal to British sponsors and what presentation methods would best convey information about the LPC. Since audiences prefer content tailored to their personal preferences, the design elements required input from sponsors. To get this input interviews were conducted with project sponsors to learn what types of materials should be created.

Two types of printed materials were developed, each with a different purpose. The materials targeted British museums, local authorities in the London area, and charity organizations. Both types

were meant to accomplish the same goal but the A4 size flyer, as opposed to the 5x7 card, contained more detailed information as the format allowed more space for information. With the intention to produce easy to read, attractive, and well-presented sets of materials to market the LPC, the content was displayed simply and clearly while focusing on the main points and driving the reader to pursue more details by visiting the Web site.

3.3.4   Testing and Revising

Developing a professional set of outreach materials requires at least several rounds of testing and revision. For this project, some of these tests happened simultaneously with the development phase of the outreach materials. A major testing and debugging phase was also conducted during the last two weeks of this project. These tests were used to evaluate the usability, visual appeal, and other aspects of the materials that were identified in the literature review. The tests consisted of surveys that solicited user feedback to determine where modifications to the materials needed to be made and to identify any glitches or errors in the materials.

The testing process was conducted in two major phases: (1) an initial presentation to the project advisors and the Center Directors and (2) online surveys sent to the projected user groups. Since the Web site was projected towards two distinct audiences, the two sections were tested separately. A prototype of each section was developed and presented to the LPC Directors and the project advisors for initial feedback on the content and design.

After following the advice from this feedback and further developing and revising the site, a second round of tests were performed. This phase consisted of online surveys that were sent to the the sponsor user group.   Comments and opinions were requested about the site's ease of use, its effectiveness at addressing the needs of the target audience, and its visual appeal. The results of the online surveys were analyzed to determine the most pressing issues and those changes that a majority of the audience felt needed to be made.

The survey included a task the user was asked to complete. They were asked to navigate the Web site, looking for a certain piece of information and report how long it took them to find what they were looking for and how well the site navigation facilitated their search. This information was used to determine how well the Web site conveyed the needed information and how easy it was for the user to locate the information they desired.

3.3.5   Manuals

Apart from the Web site and printed materials, the project deliverables also included manuals for managing the Web site's content in the future. Two manuals were developed, one for updating and editing the pages of the Web site, and one for maintaining the database of projects. The first manual detailed the methods required to update the pages of the Web site so that the information can be updated in the future. This is important in sections such as the student information pages where some of the content may change over time. The second manual described how to update the project database. It is important that the database be updated correctly in order to maintain consistency and functionality.

4.0 Results and Analysis

In order to produce the marketing materials and supporting documents that satisfy the main objectives of this project, the project team conducted extensive research to determine the content, design, and layout of the materials and then performed evaluations to ensure the materials produced met the specifications derived from the needs assessment and background research. The following sections describe the results of this development and analyze each stage of the development process. These sections include the results of the needs assessment, the design requirements determined through interviews and research, the development process and the decisions made throughout this process, and the results of the testing phase.

4.1 Needs Assessment

The interviews conducted during the preliminary stages of this project revealed important design and content considerations. Through initial discussions with the Center Directors, it was determined that in order to recruit more project sponsors at London organizations, both a marketing Web site and print documents should be developed. The materials needed to describe the IQP, outline the goals and purpose of the London Project Center, and show potential sponsors how to become involved with the program. Subsequent conversations led to the inclusion of students and the Center Directors themselves as users of these materials.

It was decided that the Web site should have two main audiences: employees of potential British sponsoring organizations, and WPI students involved with, or considering applying to, the Project Center. The sponsor section needed to contain an explanation of the IQP, a summary of WPI's history and mission, a collection of sample projects, information on how to become involved with the Project Center, and other information outlined on the sitemap in Section 4.3.2. During interviews with the current Center Directors, they explained their current methods for recruiting sponsors, which include: (1) heavy use of existing personal contacts in London, (2) a brief letter explaining the IQP and the role of project sponsors, and (3) face-to-face meetings to discuss the process further. The targets of their recruitments were usually British museums, local authorities, or charities. These three sponsor categories are discussed in more detail in Section 4.3.4.

The student section of the Web site, according to the Center Directors and other LPC faculty, had to provide information about the London experience to students already involved with, or considering applying to, the Project Center. This section needed to describe working for a British organization, living in London, and completing an IQP report. The student section also had to assist

students in the application process, as this guidance was not previously located in one easily understood location.

Discussion of the print materials with both the Center Directors and London project sponsors led to the decision that the main goal of the print materials was to remind the potential sponsor to follow up and encourage them to visit the Web site. It was decided that the materials should be something that can be handed to potential sponsors that directs them to the Web site and includes a brief description of the Project Center. The print materials also needed to be visually appealing so that the potential sponsor receiving them would want to hold onto for further consideration in the future.

4.2   Design Requirements

The interviews conducted with former and current IGSD faculty and other WPI faculty members involved with the London Project Center were used to better define the goals of this project as well as to construct an accurate history of the Project Center to be included on the Web site. These interviews explained how the London Project Center was founded and what led to its success. The interviewees shared many anecdotes about the early project years as well as their personal experiences advising and organizing projects in London. A complete listing of the people interviewed at WPI is shown in Table 8. Detailed transcripts of these interviews are contained in Appendix C and the history written using the results of these interviews can be found on the Web site developed for this project.

Table 8: Summary of Interviews Conducted at WPI

Interviewee	Position	Department	Topic of the Interview
David Brown	AI in Design Group	Computer Science	Discussed final product testing, important to develop an understanding of the intended audience.
Mark Claypool	Director of IMGD	Computer Science	Discussed usage of a Content Management System, important do's and don't when developing a Web site (see Literature Review).
Jennifer deWinter	Co-Director of Professional Writing	Humanities and Arts	Helped prepare for Web site development, sitemaps (see Literature Review), pros and cons of Content Management Systems.
Bill Grogan	Founder of the WPI Plan	Former Dean of Students	Discussed history of the WPI Plan, the IGSD, the IQP, and the London Project Center.
Hossein Hakim	Director of IGSD	Electrical and Computer Eng.	Discussed his involvement in the development of the IGSD and the LPC, aided in the development of the WPI history sections.
Scott Juisto	Cape Town Center Director	Interdisciplinary and Global Studies	Discussed previous development of a Web site for Cape Town, assessed pros and cons of that site.
Lance Schachterle	First LPC Director	Humanities and Arts	Helped establish the Project Center and worked with the original development of the IGSD.
John Zeugner	Former advisor at the LPC	Humanities and Arts	Discussed more recent history as well as previous methods of obtaining sponsoring organizations.

4.2.1 Web Site Content and Project Database

Through interviews conducted in London of current and former project sponsors, the initial ideas for content were further refined. Table 9 summarizes the results of these interviews.

Table 9: Summary of Interviews Conducted in London

Interviewee	Organization	Topics of the Interview
Steve Gardam	London Transport Museum	Need face-to-face contact for commitment; personal referrals; short, concise content for print materials.
Catherine Eagleton	British Museum	Student initiative to complete projects; capacity of students to perform; mutual benefit for sponsors and students.
Bridget Clifford	H.M Tower of London (Royal Armouries)	Explain what sponsor has to contribute; use references from other sponsors; large range of projects has been done.
Megan Gooch	H.M Tower of London (Royal Mint)	Information about the amount of time, sponsor's contribution; may search statistical analysis, accomplishments.
Alex Burch	Science Museum	Benefits of hosting projects; showcase skills of WPI students.
Raymond Dill	Reigate and Banstead Council	Include: free resource; student initiative; highly qualified students; wide range types of projects; archive of past projects.
Steve Cardis	Kingston	Discussion about the quality and skills of students; Web site must be visually attractive, short, captivating, professional.
Susan Buckingham	Women's Environmental Network	Emphasize lack of cost of projects; types of projects; Web site must be easy to navigate and useable with low technical skill.
Naomi Martin	Commonside Community Development Trust	Usefulness of students; international students with engineering background; a trifold or postcard for print materials with catchy images and project details.
Ken Hullock	Borough of Brent	Colleague reference helps with commitment; need direct contact with LPC directors.
Josh Lambe & Graeme Kane	Mole Valley District Council	Include: benefits of hosting project; references of other sponsors; case studies; types of projects; amount of supervision; cost; project database; print materials should answer immediate questions.

The sponsors indicated that, as they are busy people and constantly receiving requests for work placement, the materials developed for WPI must be short and attractive; all content displayed should be directly to the point, with further explanation available if desired. Steve Gardam, the head of Live Programs at the London Transport Museum, indicated that in order for him to feel confident in the quality of an organization and risk working with it, personal contact and recommendations from people he is already acquainted with are a necessity. To address this concern in the Web site, he suggested

including a short welcome video featuring the London Project Center Directors as well as references at other organizations in London that have worked with the Project Center in the past (S. Gardam, personal communication, May 10, 2011).

Mr. Gardam, as well as Catherine Eagleton from the British Museum and Bridget Clifford from the Tower of London, also stressed how well WPI prepares students for their projects. The sponsors suggested informing prospective sponsors of the intense seven-week preparatory period that occurs before students arrive and the seriousness with which WPI organizes these projects. They were all impressed with their project team's preparedness and the fact that faculty members accompany the students to keep the project on course. It was also suggested that the portion of the Web site targeted toward sponsors should include background information on WPI and the global studies program, a description of the IQP, example projects completed at the London Project Center in the past, and any other information that was deemed beneficial by other project sponsors.

The sponsors interviewed by the project team also indicated they were satisfied with the results of their projects. All felt the projects greatly benefited their organizations by providing an external point of view on internal projects as well as, in many cases, a technical background not available within the organization, making ideas previously thought impossible to implement possible. They also valued the opportunity to use their project teams to "try out things we wouldn't have time to try out ourselves" (C. Eagleton, personal communication, May 18, 2011). Dr. Alexandra Burch had similar opinions saying WPI projects "can bring in very different ideas" and "challenge our own thinking" (A. Burch, personal communication, May 17, 2011). The sponsors interviewed were all impressed with the actual results their project teams were able to produce as well as in their professionally written and researched final reports and presentations. A selection of the quotes obtained through the interviews is displayed in Table 10.

Table 10: Quotes from Sponsor Interviews

Name	Organization	Quote
Dr. Alexandra Burch	Science Museum	*"[WPI Students] allow us to experiment with things we might not otherwise have time to work with. [They] challenge our own thinking [and] can bring in some very different ideas. They're very good at taking an idea and doing something creative around it."*
Steve Gardam	London Transport Museum	*"It's really evident how much WPI puts into these placements. [Students are] well supported by their advisors, and I'm confident I'll get a benefit back."*
Dr. Catherine Eagleton	British Museum	*"[WPI Projects are] useful in helping us think about what we do with our displays [and] let us try out things we wouldn't have time to try out ourselves. [Students] can get really quite big things done, [and] it's great that WPI brings science and engineering into the humanities world."*
Steve Cardis	Royal Borough of Kingston	*"It's an educational experience for the students. [They] are independent workers with support from WPI staff that ensures a good standard is achieved, functioned very well together as a team, and delivered something we can really use. [Students are] very good at collecting social survey data [and] have the technical skills that many consultancies we use in London don't have."*

Further discussion with the LPC Directors helped to determine the primary audience of the Web site and the print materials. The Web site front-end (the part visible to the public) is used by potential project sponsors, WPI students considering applying to the London Project Center, WPI students preparing for their trip to London, and other members of the WPI community interested in the history of the Project Center or projects completed in London. The back-end (used for updating and maintenance) needs to be accessible by the project team as well as by the Center Directors and whoever needs to update the Web site and database in the future. As a result, it was determined that the back-end of the Web site needed to be easy enough to use so that maintenance could be performed by those unfamiliar with writing code and developing Web sites.

A suggestion made by multiple sponsors and by the Center Directors is that it would be useful to view projects completed at the LPC in the past. This resulted in two features that were included in the Web site. The first feature was a collection of the best projects completed at the LPC, each with its own page and analysis, to show sponsors the quality of work that WPI students are capable of. The second feature, which was originally an objective of the project at the request of the Center Directors, was a database of all projects completed at the London Project Center. This database had to be maintainable by the Center Directors and needed to be intuitively navigable and searchable on the Web site. It was

designed to provide sponsors an archive of information so that they can find previous projects similar to those that they may wish to conduct.

To aid future Center Directors in maintaining this Web site, it was suggested that manuals be developed. The Center Directors requested a user's manual on the operations and maintenance of the Web site, as well as a technical manual on how to add entries to the project database. These manuals had to be simple enough for the Center Directors and others unfamiliar with Web development to understand, but provide the information necessary to work with the materials.

The official name for organizations WPI refers to as project sponsors in the United Kingdom was an issue brought up at many of the interviews. According to the sponsors that the project team interviewed, the word sponsor, when used in the United Kingdom, typically implies that an organization would have to pay money to participate in the program. This is not always the case with WPI projects, so interviewees were asked to suggest alternate words. Many sponsors suggested referring to themselves as either hosts or supervisors, or simply ensuring that the definition of sponsor was clearly established. The term "host" was the most widely supported terminology across the interviewed project sponsors. However, since the IGSD uses the term "sponsor", and to maintain consistency and prevent inevitable confusion when sponsors began to talk with IGSD employees, it was decided to continue to use this term. To avoid confusion, the word sponsor had to be clearly defined on the Web site as a hosting organization for WPI projects that does not often require payment.

To ascertain the requirements of the student section of the Web site, the project team gathered feedback from students who had gone to the London Project Center, those who were currently attending, and those planning to attend in the next year. Much of this information was easily obtained, as the project team members themselves fit in this category, but the requirements were confirmed and expanded through further surveys. The results of these surveys indicated various needs, which were incorporated into the website. Students indicated that they would like to have access to the following: guides about various London-related topics, a detailed application process, a student blog, collections of anecdotes from past LPC students, and a Frequently Asked Questions page. In addition, they requested access to projects completed in the past, with the ability to search through various fields. These design requirements, as well as those of the Sponsor section of the Web site, are summarized in Table 11 below.

Table 11: Summary of Design Requirements

Deliverable	Design Requirements
Web Site – Sponsors	Content on the Web site must be kept brief
	Web site should contain testimonials from both sponsors and Center Directors
	Emphasize the preparation process and that WPI students come prepared
	Include background information about WPI, the LPC, the IQP, and the IGSD
	Feature projects that sponsors were particularly impressed by
	Provide access to a database of all past projects
	Ensure that all terminology, including the word "sponsor," is clearly defined
Web Site – Students	Details on the application process and describe how students should prepare
	Provide access to the project database
	Various guides about London, the IQP, and other relevant information
	Page of Frequently Asked Questions (FAQ)
	Anecdotes and blogs of students who had gone to London in the past
	Student blog for students currently in London (Low priority)
Project Database	Comprehensive list of every project completed at the LPC
	Must be easily maintainable by the Project Center Directors
	Needs to be accessible via the Web site
	Project data should be searchable, with keywords if possible
	Projects that have a Web accessible final report should provide it
Print Materials	Provide sponsors with a link to the Web site
	Any text must be kept brief – if there is too much text, it will be ignored
	Sponsors should have a reason to keep the material and not discard it
Manuals	Include a user manual for updating pages of the Web site
	Provide a technical manual for updating and maintaining the project database

4.2.2 Print Materials

It was found that most project sponsors felt that print materials should provide a brief overview of the Center and some key selling points, as well as contact information for the Center Directors. More insight into the content and format was provided by the sponsor interviews. According to Mr. Gardam, a project sponsor from the London Transport Museum, the most effective designs tend to be simple and straightforward. He also suggested that print materials would be more effective if they were worth something to the intended audience. For example, a notebook where the first few pages contained the marketing content could be effective; audiences would keep the notebook for writing, increasing their exposure to the message. A postcard with a simple, attractive image could also be effective by including a Web address and a short message about the goals of the LPC. He referred to this form of marketing as an "elevator pitch," with the goal of quickly directing readers to the Web site (S. Gardam, personal communication, May 9, 2011). From this information, the project team decided to produce two forms of print materials: a standard A4 (210 by 297 mm) size flyer and a postcard (5 by 7 inches).

4.3 Development

The majority of work effort consisted of developing the final deliverables, which include the Web site, print materials, project database, and user manuals. This section reviews the development process and analyzes the results of the development. It discusses the results of choosing the hosting service and the development software, designs of the sponsor and student sections of the Web site, print materials used to advertise the Web site to potential project sponsors, and manuals developed for the Center Directors.

4.3.1 Web Site – Hosting and Development Software

Prior to any Web site development, the project team had to decide on both the development software and the hosting service to use for the Web site. As outlined in Section 3.2, rating sheets were developed to analyze Web development software (these rating sheets can be found in Appendix J). To obtain a reasonable list of Web site development software to investigate further, the team began with a short list of recommended software and continued to explore related titles. The recommended software were Adobe Dreamweaver, Google Sites, and Wordpress. Another development program, called Joomla!, was found through research, and a fifth program, SiteBuilder, was added to the list through a personal recommendation. These titles were then evaluated to determine the best tool for the project. Table 12, shown below, summarizes the results of the Web development software evaluation.

Table 12: Web Development Software Evaluation

Title	Company	Ease of Use	Sophistication	Design Flexibility	Template/ Plugin Support	Price	Quality of Support	Overall Rating
Joomla!	Open Source Matters	4	4	3	5	$0	4	**4.0**
Wordpress	Wordpress	5	3	2	4	$0	4	**3.6**
Google Sites	Google	3	3	4	4	$0	3	**3.4**
Dreamweaver	Adobe	1	2	5	3	$130	5	**3.2**
SiteBuilder	Intuit	2	1	4	4	$4.99/ month	3	**2.8**

Ratings based on a 1-5 scale with 5 being the most desirable rating and 1 the least desirable.

The category *Ease of Use* refers to how easy the software is to use for beginning Web developers and other users not familiar with Web programming but who still need to be able to modify the site. *Sophistication* refers to how well the software enables the developer to produce professional, high-quality results. *Design Flexibility* rates how customizable the software is in terms of layouts and color scheme choices. *Template/Plugin Support* refers to the number, reliability, and usefulness of the add-ons that are available for the software. *Quality of Support* was based on the availability of support through phone, email, chat, support pages and forums, and the response time for this support and any awards or recommendations it has received.

For the development software, Joomla! was chosen as the preferred tool. As evident above, Joomla! boasts an average or better rating in every category. During testing, it was apparent that Joomla! would make it easy for the current and future Center Directors to update the content of the Web site. Joomla! also proved to be flexible in terms of the ability the project team would have to create custom layouts and designs. This blend of ease of use for the front-end users and flexible and powerful back-end features made Joomla! the best choice among the software tested. Furthermore, since Joomla! is open-source and not developed by a single company, it should remain available for use in the future, allowing the Web site content to continue to be updated.

The other software tested was either too limiting for the needs of this project or too sophisticated to learn and implement in a short time frame. Adobe's Dreamweaver proved to be too complex to learn in seven weeks as well as too complex for the Center Directors to be able to update the Web site in the future. Wordpress did not work well with the desired layout of the Web site because it is designed for blogs. SiteBuilder had an outdated user interface and an unattractive subscription model that required proprietary Web hosting making the Web site non-transferable to other hosts. The final option, Google Sites, was too simplistic for a production Web site; it is a Web-based software tool meant for personal Web pages and immediate publishing of a simple Web presence.

The project team developed a list of different hosting options through research of user reviews and online rankings. From this list, hosts that did not offer the required support and hosts that had reviews that were too negative to pursue further were quickly eliminated. Any Web host that was a reseller was also ignored; Web sites should provide fast service to a front-end user, and resellers tend to provide slower service than companies that provide their own servers. In Table 13 below, *Speed* refers to how fast a Web page will load for users in comparison to other Web hosts. *Reliability* is an indication of how long, on average, the host remains available online without issue. *Customer Service* was evaluated based on user ratings and how easy it was to contact the company's support as well as how

responsive and helpful that support proved to be. The final rating was based on a combination of the other categories, with particular weight put on customer service and reliability, but also considering speed.

Table 13: Evaluation of Web Hosting Providers

Company	Speed	Reliability	Customer Service	Yearly Cost	Overall	Additional Notes
HostGator	4	5	5	$76.32	4.7	Excellent support response time
GoDaddy	5	5	2	$56.88	4.0	Some users report slow speed using Joomla!
CloudAccess	3	4	3	$95.52	3.3	Official Joomla! host, but very expensive
Site5	3	2	2	$59.40	2.3	Poor user ratings
PowWeb	2	2	1	$46.56	1.7	Very poor user ratings

Ratings based on a 1-5 scale with 5 being the most desirable rating and 1 the least desirable.

The result of the Web hosting provider review was the decision to purchase hosting from a company named HostGator.com LLC. As Table 13 indicates, HostGator ranked highly in all of the categories evaluated. Based on user ratings and trial testing HostGator's support was the most responsive and the speed of their hosting and reliability was highly recommended. While using this Web host throughout the term, the team used the support system often, and the quality of support they provided reinforced this decision. Furthermore, HostGator had been running since 2002, was supporting over 5,000,000 domains, had been awarded with dozens of awards, and was likely to continue its hosting service for many years. ("Hostgator reviews," 2011)

4.3.2   Web Site – Sponsor Section

As outlined in the Methods chapter, the Web site's design was based on a sitemap that represents the structure of the Web site and contains all possible paths the user can take. This sitemap, the sponsor section of which is shown in Figure 9 below, was developed through discussion with the London Center Directors, the project sponsors in London, and a Web design expert at WPI, Professor Jennifer deWinter. The WPI short URL wpi.edu/+lpc, given to sponsors and advertised in the print materials, brings the user directly to the *Sponsor Landing Page,* which is the first page on the far left in the sitemap. The Web site structure is designed to ultimately lead the user towards the *How to Get Involved* page to provide contact information and other ways to become involved with the London

Project Center. This is accomplished by removing other "dead ends" and making the *How to Get Involved* page the final possible destination in the site.

In the sitemap in Figure 9 and in the student sitemap discussed in Section 4.3.3, each rectangle represents a page on the Web site. Diamond shapes represent groups of similar pages, cylinders are databases, and rounded rectangles are external links. The pages and groups of pages are separated into different categories, represented by the shaded regions. An arrow indicates that the Web page contains a link to the page it points to. On the actual Web site, a menu bar contains the Sponsor Landing Page and the pages that are accessed directly from this Landing Page. These pages are accessible from every page on the Web site, and so those links are not shown.

Figure 9: Sitemap – Sponsor Section of the Web Site
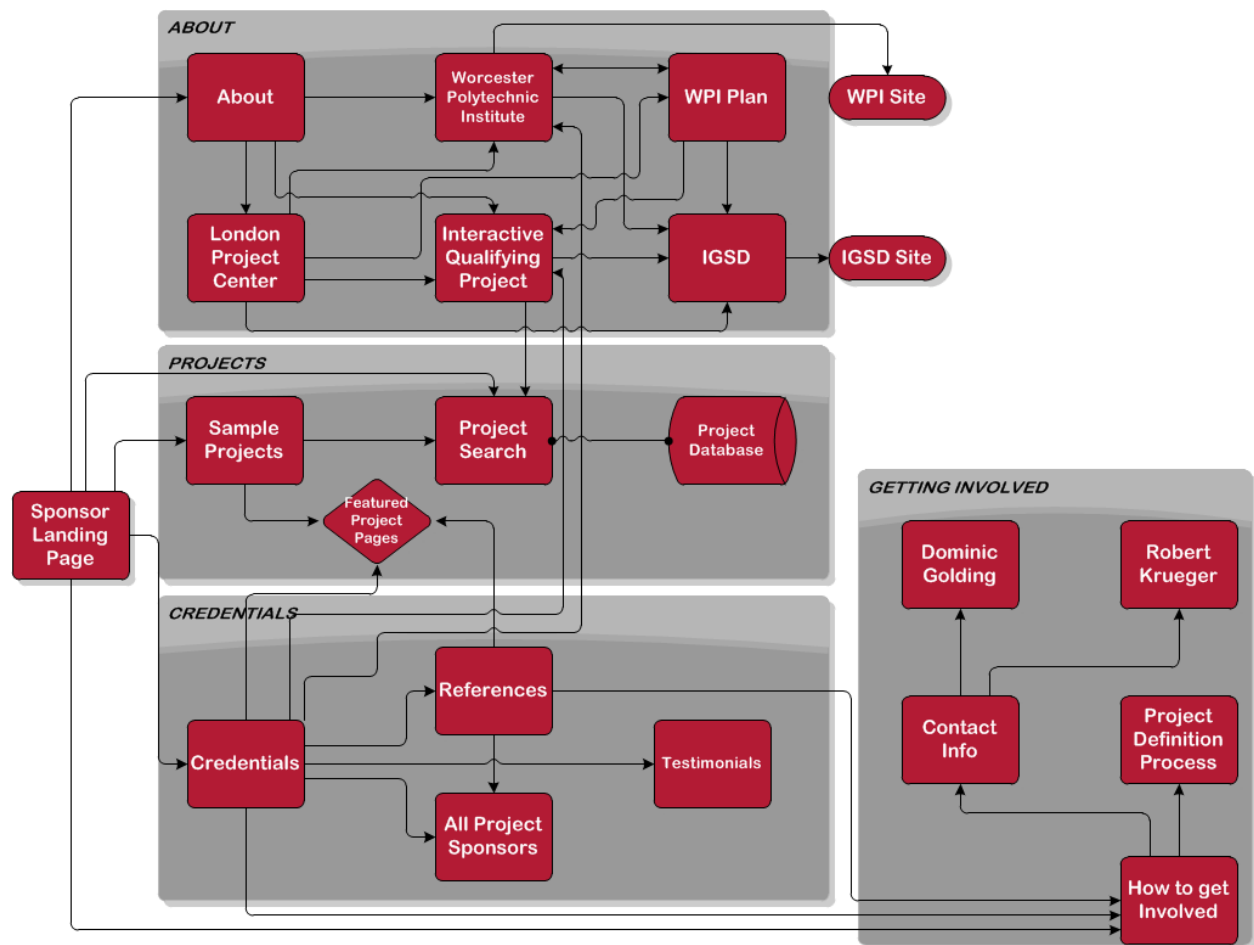
The *About* group of pages includes information about WPI, the IGSD, and their history and mission. This section is designed to explain to the sponsor, who may be unfamiliar with WPI, the unique curriculum WPI employs and the history and reach of the global program at WPI. The content of this

section was extracted from interviews with key individuals involved with the development of the IGSD, the London Project Center, and the WPI Plan that was discussed in section 3.1 as well as research documented in the Literature Review. This part of the site also contains the pages explaining the IQP and is related to the *Projects* section. According to the interviews conducted with sponsors in London, it is important to explain the nature of the IQP and provide information about other IQPs completed in London. In addition, an explanation of how to develop the initial plans for an IQP and what makes a great IQP is necessary. This content was included on the *IQP Info* page.

The *Projects* (see Figure 10) pages are where sponsors can see what projects have been hosted by other London organizations. This section has a page for each sample project with an article describing the results of the project along with graphics and other information that was available to document the success of the project. These sample projects were selected based on feedback by former IQP advisors and sponsors in London who have hosted projects in the past. A list of these recommended projects is available in Appendix I.

Figure 10: Featured Projects Page Screenshot

The *Credentials* section provides information about WPI, its standing as one of the top engineering schools in New England, and the sponsoring organizations that the LPC has worked with in London. Subsequent pages, including *Testimonials* and *References* (pictured in Figure 11), solidify WPI's credentials by using quotes obtained through the London sponsor interviews and describing the experience other organizations have had with WPI projects. It was decided that the Web site would also include a complete list of sponsoring organizations that the LPC has worked with, as well as a list of sponsors containing contact information. This list was designed for potential sponsors so that they would be able to speak with previous sponsors about the successes of WPI students. The project team obtained quotes about the WPI IQP program, the work WPI students have done, and the sponsors and their organizations through interviews with project sponsors. Details about sponsors and their roles in their organizations became a part of the *Sample Projects* section of the Web site. The quotes were also used in the marketing materials as testimonials for WPI to show that other organizations in London appreciate the work WPI students have done for them.

Figure 11: References Page Screenshot

The final group of pages, where the rest of the site leads the users, is the *Getting Involved* section. These pages include information about the London Project Center Directors, how to contact

them, and other information about how to get involved. According to feedback from current London project sponsors, personal assurance and face-to-face meetings are very important in order for WPI to gain the trust of a sponsor (S. Gardam, personal communication, May 10, 2011). To facilitate this contact, the content of these pages was worded in a way that indicates the willingness of the Center Directors to speak in person or via phone or Skype at the earliest opportunity.

4.3.3 Web Site – Student Section

The second main section of the Web site, which is completely separate from the sponsor section, is geared toward WPI students who either have an interest in or have been accepted to the London Project Center. The sitemap of this section is in Figure 12.

Figure 12: Sitemap - Student Section of the Web Site
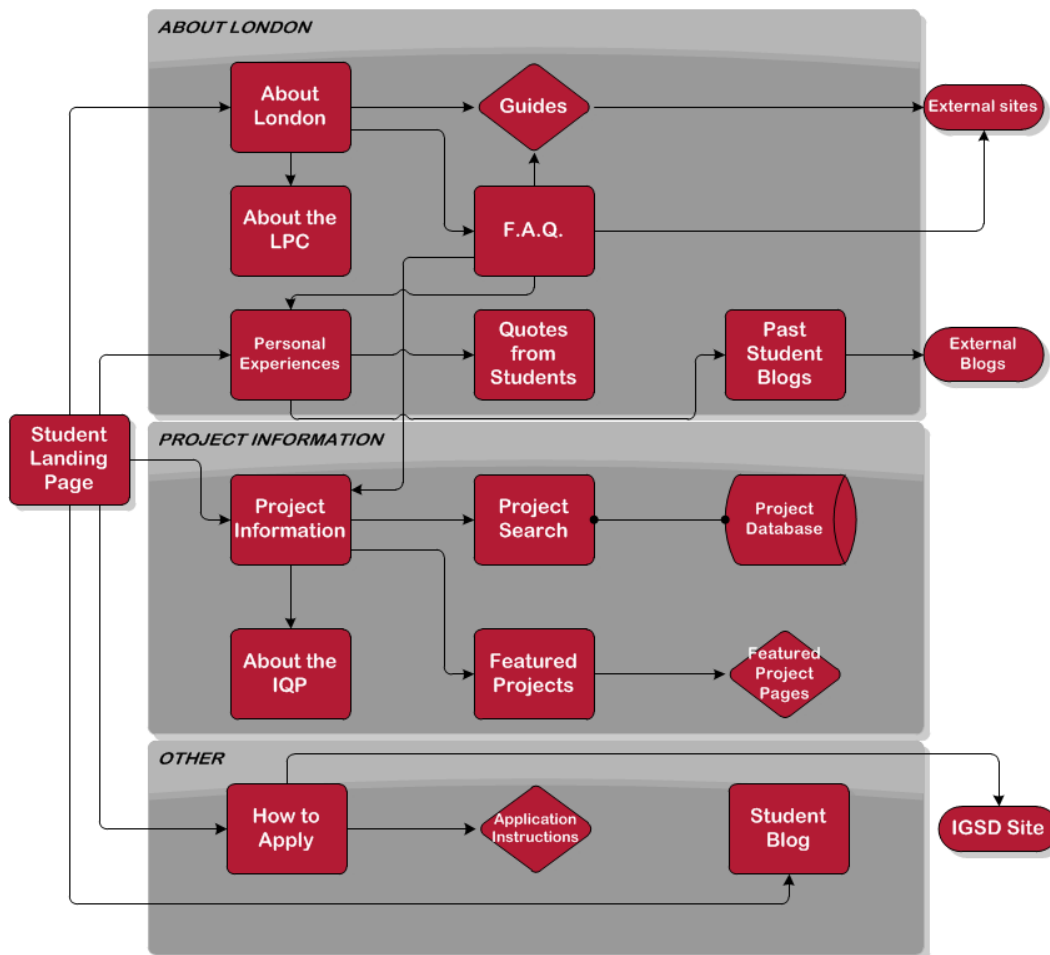
The short URL wpi.edu/+lpcstudents brings the user directly to the *Student Landing Page*. This page has a welcome message and links to the rest of the pages. This portion of the Web site is conveniently divided into groups of pages. The *About London* group is designed to provide students, who have not

yet been to London, insider advice and recommendations. This content was a result of discussions with the students in London during this project term and of the experiences of this project team. The results of these student interviews can be found in Table 14 below.

Table 14: Student Survey Results

Question	Summary of Results
Why did you choose the London Project Center for your IQP?	Because this project was conducted in E Term, most students chose the London Project Center because it would not conflict with their schedules during the year.
Do you have any specific packing suggestions for future students?	Most suggestions involved clothes, specifically business casual clothing for working with sponsoring organizations. Other suggestions include rain jackets and umbrellas, toiletries, towels, and other necessities.
What was your favorite experience so far that you think is a must-do?	Students recommended visiting museums, pubs, and plays at the Globe Theatre. They also suggested using London as a base and visiting other areas, such as Dover, Oxford, Cambridge, and even places in Ireland and Italy.
What do you do for entertainment when not working on your IQP?	Some students went to pubs, parks, or simply walked around London to experience what the city had to offer. Other students would socialize or play games with friends in the residence hall.
How much money do you plan to spend while you're here?	75% of responders estimated between $2,000 and $3,000, with another 16.7% estimating less than $2,000 and 8.3% estimating between $3,000 and $4,000.
Did you purchase an ISIC [International Student Identity Card], and was it worth it?	53.8% of responders did not buy an ISIC and were glad that they did not. Additional comments showed that an official college ID is accepted anywhere the ISIC is accepted, so future students should simply use their WPI ID instead of purchasing an ISIC.
If there was a student blog on an LPC Web site, would you use it?	Of the responses, 30.8% said "Definitely," 15.4% said "Probably," 38.5% said "Maybe," and 15.4% said "Probably not." Additional comments showed interest in the use of a Facebook group.
How much time do you devote to IQP-related activities?	For project work, 23.1% of students devoted less than 25 hours a week. Another 23.1% devoted between 25 and 30 hours. 15.4% answered 30-35, 7.7% answered 35-40, and the remaining 30.8% answered with between 40 and 45 hours a week.
What is the best piece of advice you can give to future students?	Students answered with various quotes and suggestions. The better quotes were used on the Web site on the *Quotes from Students* page.

The content of the *About London* section includes lists of must-see sites and inexpensive restaurants. In addition, suggested packing lists and travel advice developed from the experiences of students this term are included. This section is designed to be a sort of student's version of the IQP Handbook. The informational pages present the recommended tourist attractions and advice in a

guidebook format that has ratings and other comments (see Figure 13). The student blogs contain entries written by students who have been to London to share special stories or to write about their trip for the benefit of future students. To allow for moderation of the blog, students cannot submit entries for immediate publication, but they can access the blog and submit articles for review by the Center Directors.

Figure 13: Guides Page Screenshot
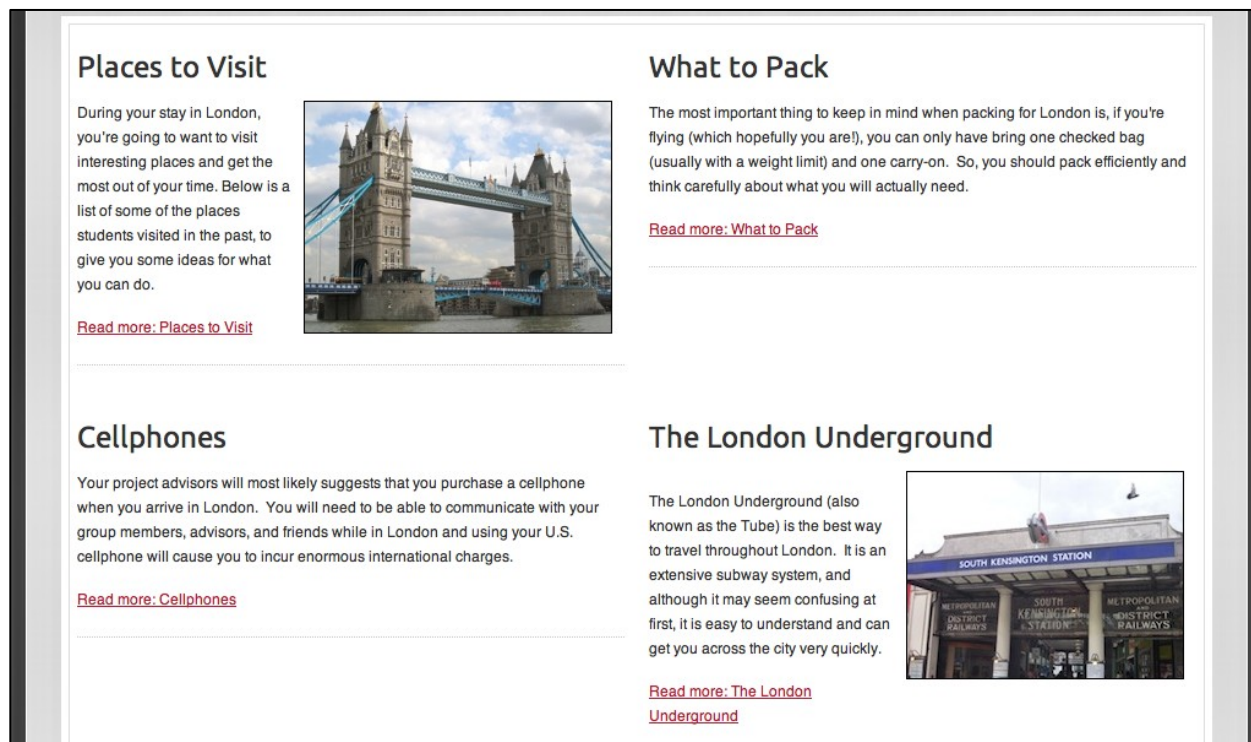
The project information section for students is developed from the same list of projects generated from the solicitation of best projects from IQP advisors and discussions with project sponsors. These projects are designed to give future IQP students an idea of what kind of work is involved, the daily experience of a person completing an IQP, and what an IQP report looks like. The structure of an IQP report is outlined on the *What is an IQP?* page as the student interviews found that many of the students starting their IQPs did not know what the report consists of or how it is structured.

The final section of the student section is the intended destination for students visiting the site that are considering applying to the program. This section, pictured in Figure 14 provides a link to the IGSD Web site for the current year's application process as well as advice during the application process. The purpose is to make the process less stressful and to supplement the directions currently listed on

the IGSD Web site. This provides a more London-specific application page to minimize confusion from its IGSD counterpart.

Figure 14: Application Process Page Screenshot
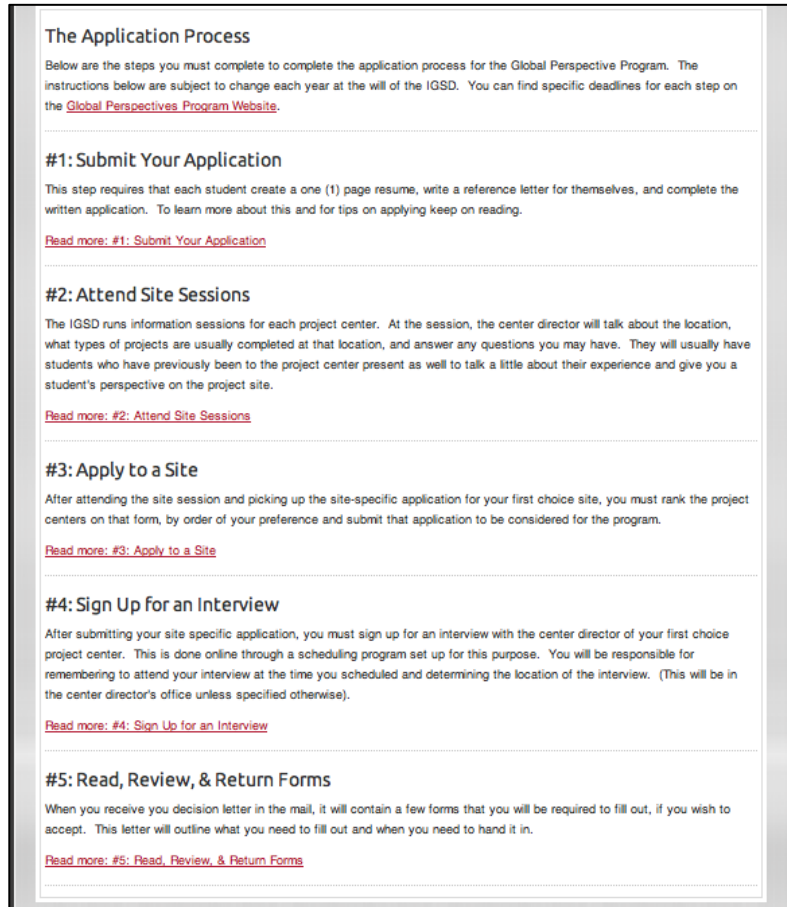
4.3.4   Project Database

The needs assessment, as well as the discussions with the London Center Directors, indicated that the creation and maintenance of a database containing all projects completed at the London Project Center was desired. This project team developed a searchable database, available via a Web page shown in Figure 15, which allows project sponsors, students, and Center Directors to perform custom searches.

Figure 15: Project Search Interface
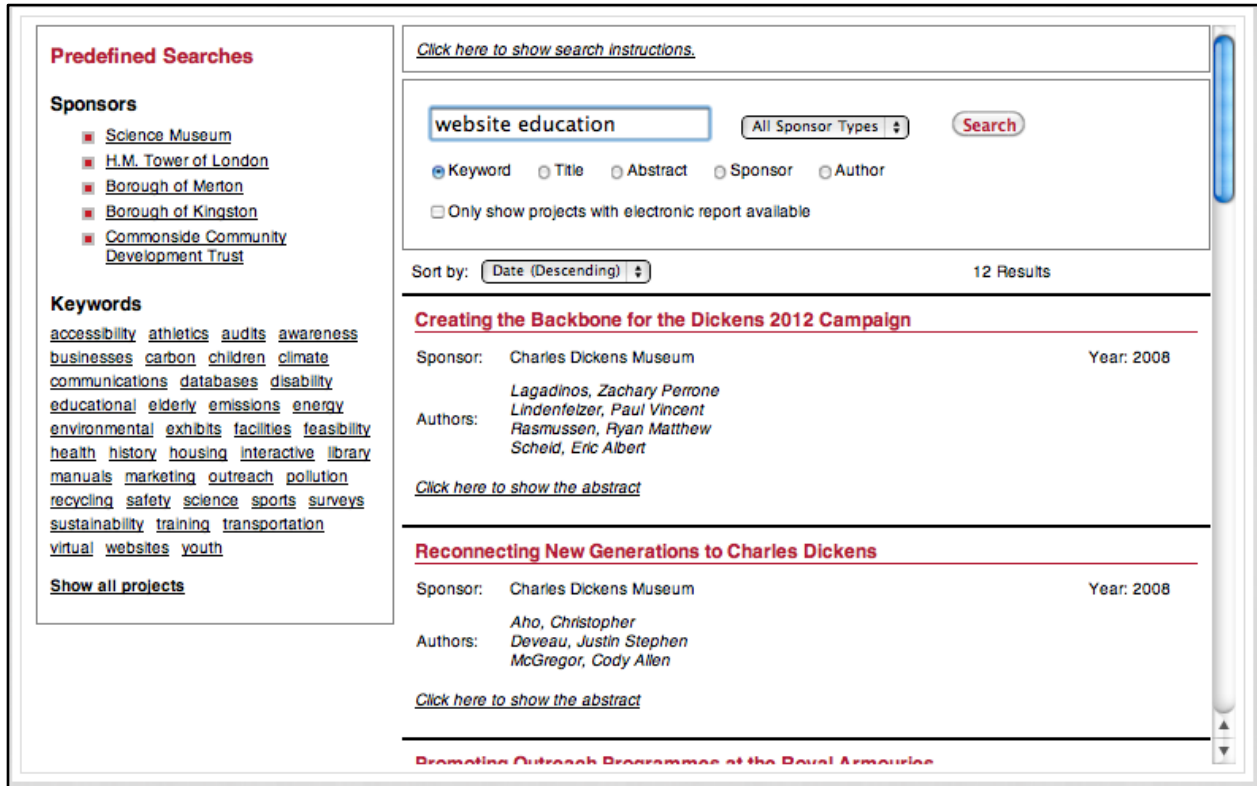
Searches return the project title, authors, sponsoring organization, abstract, and a link to the complete project report from the WPI electronic library for every project in the database that matches the search. The search interface also allows users to sort the data by selected fields. The interface consists of a search box allowing entry of a query, along with instructions, example searches, and different categories for the query. A user can choose to search through any of the following categories: project titles, sponsors, authors, abstracts, and keywords. Every project in the database is accompanied by a short list of related keywords, the list of which can be found in Table 15. Searches can also be restricted based on whether or not the result contains a link to the project report.

Table 15: Project Keywords

accessibility	databases	feasibility	pollution	virtual
athletics	disability	health	recycling	websites
audits	educational	history	safety	youth
awareness	elderly	housing	science	
businesses	emissions	interactive	sports	
carbon	energy	library	surveys	
children	environmental	manuals	sustainability	
climate	exhibits	marketing	training	
communications	facilities	outreach	transportation	

The Center Directors also indicated that they would like to be able to easily add projects to the database each year, possibly from the database already maintained by the registrar. To accommodate this, the project team provided a manual explaining how to edit the XML file containing the project data and then how to upload the new data file to the Web site. This manual, as well as others, is discussed in more detail in Section 3.3.5.

In order to better organize this database of projects, it was decided that projects should be grouped by sponsoring organization type. Based on the projects completed in the past, projects were grouped into four categories: *Local Authority*, *Museum*, *Charity*, and *Other*. *Local Authority* projects deal with the local governments and the boroughs of London. *Museum* projects work with museums such as the British Museum, the Science Museum, and the London Transport Museum. *Charity* projects encompass most other non-profit organizations that the London Project Center works with. The *Other* category of projects holds projects that do not fit the other descriptions. An example database entry can be seen in Figure 16. The entry is in XML format, which is a hierarchical format. Each project can be considered a branch with information about that project in that branch's leaves.

Figure 16: Project Data (in XML Format)

```xml
<project>
    <year>1999</year>
    <term>D</term>
    <advisor>Brattin, J. J.</advisor>
    <advisor>Christopher, P. R.</advisor>
    <weblink>http://www.wpi.edu/Pubs/E-project/Scanned/99D007I.pdf</weblink>
    <author>Boyd, Kevin Michael</author>
    <author>Dreher, Maureen Lacey</author>
    <author>McKenney, Marc David</author>
    <title>Assessment of Patient Satisfaction</title>
    <sponsor>Royal Hospital for Neuro-disability</sponsor>
    <sponstyp>Charity</sponstyp>
    <keywords>health;surveys;disability;</keywords>
    <abstract>This project evaluates the level of patient satisfaction at the Royal Hospital for Neuro-disability,
    targeting quality of life issues that arise in healthcare literature through the use of a quantitative survey and
    qualitative in-depth interviews.  A key aspect of research and implementation in the study was utilizing augmentative
    communication tools for neurologically disabled patients. The study reveals strengths in the hospital's staff and
    overall atmosphere and weaknesses in the activities, wheelchair repair, and the scheduling of meals.</abstract>
</project>
```

4.3.5   Print Materials

The project group developed two different forms of print materials to accommodate the differing opinions of project sponsors: a postcard-sized handout and a page-sized flyer. Museum-based sponsors, such as those at the British Museum and Science Museum, shared similar opinions that led to the development of the postcard-sized handout. The handout contains basic contact information, a couple of sentences about the Project Center, and a prominently displayed Web link to the sponsor section of the Web site. The front features a captivating graphic that is designed to encourage sponsors

to save the card for future consideration. The back contains more detailed information about the Project Center, designed to further convince sponsors to visit the Web site. The post card was the most widely advocated print material across the interviewed sponsors and should be used more often than the others. The postcard material can be seen in Figure 17.

Figure 17: Postcard

| Front | Back |
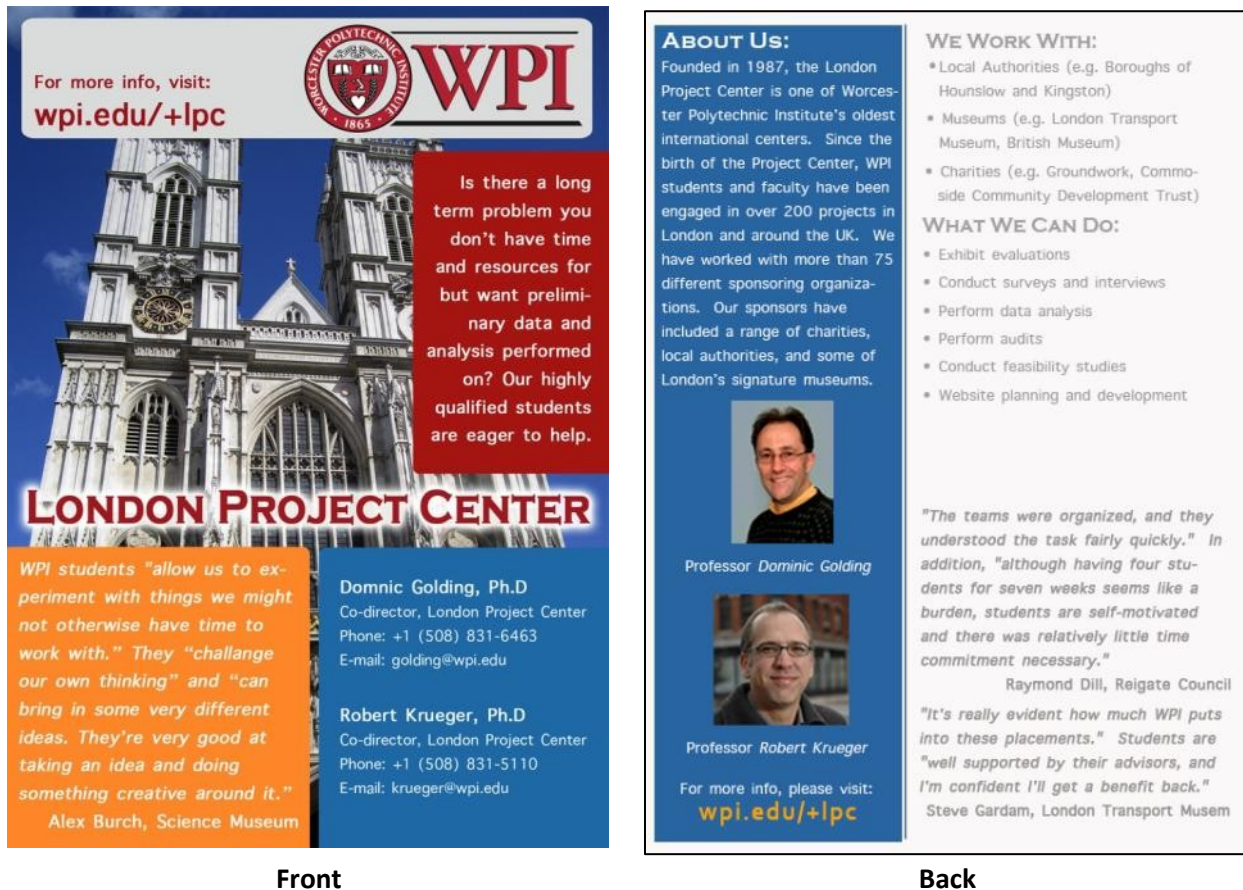
Other sponsors, including some from Charities and Local Authorities, suggested alternative materials. These suggestions were based on the small size of the postcard, which restricts the amount of information that can be conveyed. For these types of sponsors, the team developed two A4-sized flyers that contain much of the same information as the postcard but with additional graphics and information. The flyers are single-sided, as it was suggested that sponsors could use these materials to show to other members of their organization, possibly by posting them on a bulletin board. These materials are shown in Figure 18.

Figure 18: A4 Flyers
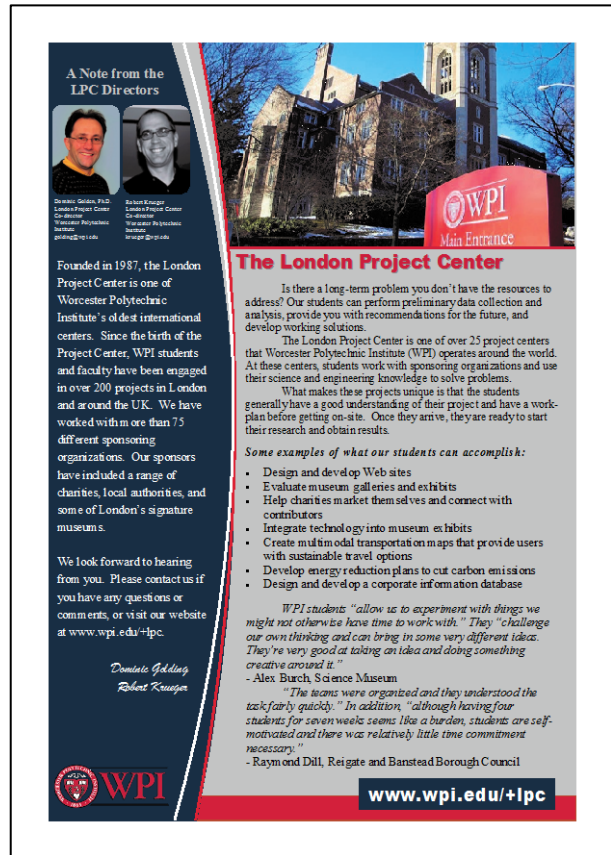
Sample 1   Sample 2

4.3.6   Manuals
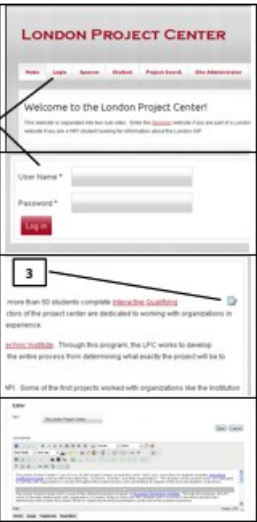
In accordance with the needs of the Center Directors, the project team developed four manuals for two different groups. The manuals written for the Center Directors were called user manuals, and those geared towards any future developers were called technical manuals. The first user manual was developed to detail how to edit the content of the pages using the Joomla! software. The manual describes the process required to log in to the program and edit pages directly from the user's view (front-end) of the Web site. The second user manual was developed to allow the Center Directors to add entries to the project database. It details exactly how to enter new project data into the XML file and how to replace the old XML file hosted on the Web site with the updated version. A sample of these manuals can be seen below in Figure 19 and the complete manuals accompany this report.

Joomla! User Manual   **Project Database User Manual**

The second set of manuals, the technical manuals, was developed to provide future developers a source of information on how to edit the internal structure of the Web site and the database. As with the user manuals, two different technical manuals were developed, one for modifying the Web site, and one for editing the project database. A sample of these manuals is displayed in Figure 20 and the complete manuals accompany this report.

Figure 20: Sample of Technical Manuals
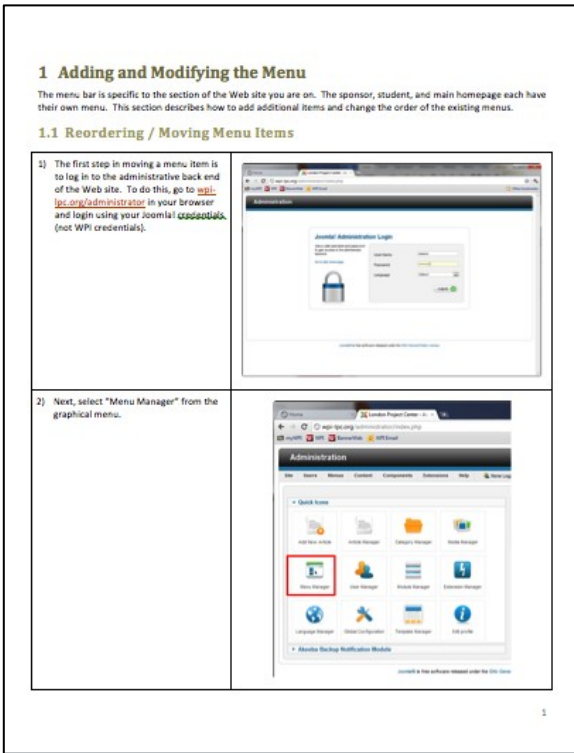
| Joomla! Technical Manual | Project Database Technical Manual |
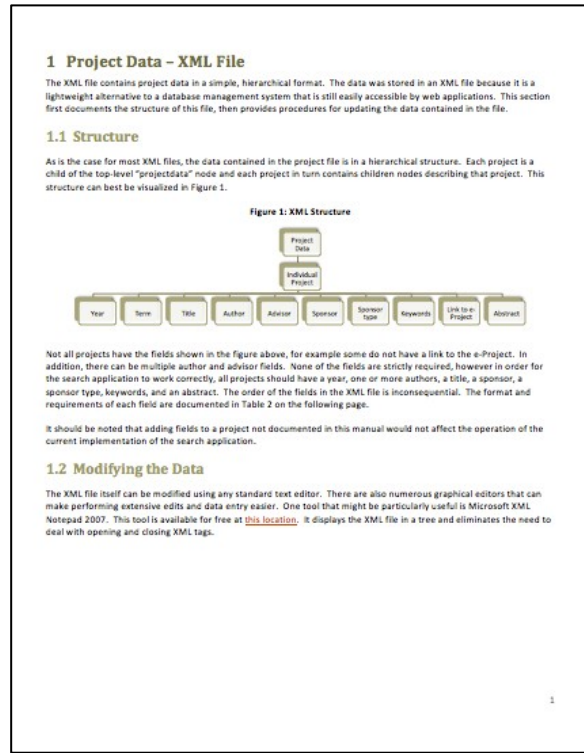
4.4 Testing

As was discussed in Section 3.3.4, the outreach materials for the London Project Center were tested in two main phases. The first phase was an initial presentation to the Center Directors and this project's advisors and the second was a survey of the user groups. This testing phase analyzed the effectiveness of the Web site, the project database, and the print materials, and provided suggestions for improvement. The feedback from the advisors and Center Directors was incorporated into the materials if possible, and those aspects that could not be implemented are described in the recommendations chapter (Section 5.0). The following sections describe the features added based on this feedback. They also show the results of the assessments of the user groups, most notably the previously interviewed project sponsors in London. As of this report, there have been six (out of thirteen surveyed) responses from project sponsors.

4.4.1 Web Site

Discussions with this project's advisors and the London Project Center Directors led to suggestions for improvements to the Web site. Most of these suggestions were beyond the scope of

this project and have been included in the recommendations chapter (Section 5.0), as mentioned above. However, some suggestions were implemented, including the order of articles on certain pages as well as changes to parts of the Testimonials page. Figure 21 below shows the responses from the sponsor survey. From these, it is apparent that the website contains most of the content that first-time sponsors would be looking for, and that it is easy to navigate. The color scheme and layout of the website was also rated to be attractive overall.

Figure 21: Sponsor Survey Results: Website
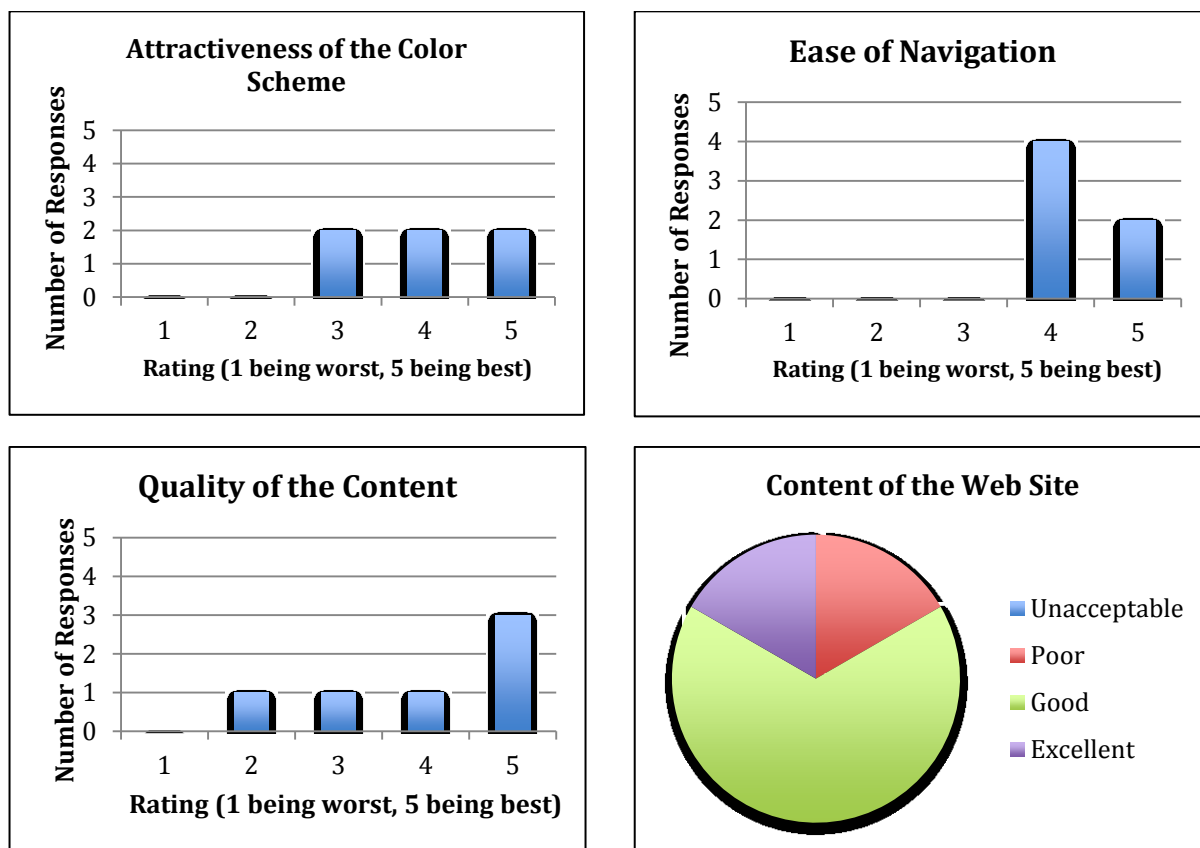
4.4.2 Database

The *Project Search* page on the Web site that utilizes the project database was one of the primary focuses of these evaluations. Discussions with the advisors and Center Directors led to many improvements of the search feature. These features include "Scroll to top" links, reformatting of the results, a button to show and hide abstracts, and a "New Search" button. Another issue became apparent for users of low-resolution screens, it was not intuitive that the search had completed because

the results were not fully visible. To help accommodate this, the search bar now hides when the search is completed to better display the results.

The results from the sponsor survey show a clear distinction between two groups of people. Three of the six responders found the search feature very easy to use and were able to find the projects that they had sponsored. The other three responders were unable to use the search interface and rated it very poorly. After analyzing these responses and trying to replicate the problems, the project team found issues with running the project search in certain versions of Microsoft's Internet Explorer browser. These issues have been addressed, and the project search page is now functional in Internet Explorer browsers.

4.4.3   Print Materials

For the evaluation of the print materials, the prototype 5 by 7 inch postcard and the white A4-size flyer were sent to project sponsors for evaluation. All six of the responses from project sponsors indicated that the flyer was the more effective of these materials, both in terms of design appeal and content (see survey responses in Figure 22). The project team made further recommendations based on the comments and suggestions from the project sponsors. These recommendations can be found in (Section 5.3).

Figure 22: Sponsor Survey Results: Print Materials

Design of the A4 Flyer

Number of Responses vs. Rating (1 being worst, 5 being best)

Rating	1	2	3	4	5
Responses	0	0	1	3	2

Content of the A4 Flyer

Number of Responses vs. Rating (1 being worst, 5 being best)

Rating	1	2	3	4	5
Responses	0	0	2	2	2

Design of the 5x7 Card

Number of Responses vs. Rating (1 being worst, 5 being best)

Rating	1	2	3	4	5
Responses	1	0	1	4	0

Content of the 5x7 Card

Number of Responses vs. Rating (1 being worst, 5 being best)

Rating	1	2	3	4	5
Responses	1	0	2	3	0

5.0 Conclusions and Recommendations

This project was completed for the Center Directors of the London Project Center managed by the Interdisciplinary and Global Studies Division at Worcester Polytechnic Institute (WPI). To better enable the London Project Center to continue to provide projects for students at WPI, outreach materials were sought for the Project Center. These materials are designed to demonstrate to potential sponsors the many benefits that hosting a WPI project can bring to their organization by showcasing the success of previously completed projects and by displaying the testimony of former project sponsors. Information about the London experience and the process that an IQP involves is also presented for the benefit of WPI students considering the LPC or already preparing for a trip to London. The materials take the form of a Web site, a database of IQPs completed in London, print materials, and manuals.

5.1 Web site

The Web site created for the project center was designed based on the needs expressed by the Center Directors and on the suggestions made by project-sponsoring organizations and WPI students involved with the project center. The center directors requested a Web site to help them communicate with the two primary groups mentioned above: project sponsors and participating students. After determining the specific requirements of each user group and discovering that they were different, it was decided the Web site should be split into two sections, one for each group.

5.1.1 Sponsor Section

The sponsor section of the Web site addressed the needs of the center directors to attract new project sponsors and promote the achievements of the project center. This section itself contains four main sections identified as: About, Projects, Credentials, and Getting Involved. The *About* section was developed to provide both a brief description of WPI, the IQP, and the London Project Center, as well as more detailed information about the Global Perspective Program, the WPI Plan, and the history of the London Project Center. This content is meant to introduce project sponsors who are unaware of WPI to its unique projects and help sponsors to better understand if a WPI project could benefit them. More information about what the projects can do for an organization is available in the *Projects* section, which displays example IQPs that have been completed in the past. The results of these IQPs were highlighted to show viewers the benefits a project team can bring to a London organization.

The remaining two sections provide references for the London Project Center to help establish credibility as well as to point potential sponsors in the direction of the Center Directors so they can

begin arranging a project. The *Credentials* section features testimonials and other quotations from sponsors WPI has worked with in the past that were recorded during interviews. In addition, a complete list of the organizations involved in the past and an overview of WPI's position in the U.S. academic world are included to further solidify the project center's credibility. The intended destination of all sponsors visiting the Web site is the final section, *Getting Involved*. This final section provides contact information for the project centers, information on the development of an IQP proposal, and biographical information for the center directors. The most important goal of this section is to convince potential sponsors to contact the center directors.

5.1.2   Student Section

The student section of the Web site was developed to provide students with information not available elsewhere about non-academic issues specifically related to their travel and stay in London. It contains three major sections: About London, Project Information, and How to Apply. The *About London* pages are intended to provide information that will help future London Project Center students better prepare for their time in London and make the most of what London has to offer. The section includes guides on transportation, food, and packing for London as well as articles written by former students describing their experiences in London. There is also an FAQ that attempts to answer as many common questions as possible in a short, concise manner. The *Project Information* pages describe a typical IQP, what the report will contain, and what an average day during the work week will be like. It also contains sample project reports and featured projects that show students what types of projects have been completed in London in the past.

The *How to Apply* section is specifically for students who are considering the London Project Center. It explains the applications process and provides some advice on how to complete the application and represent themselves in a positive fashion to the center directors during the application process. The final section, the *Student* Blog, will be used by all LPC students. This project team intends for students who have traveled to London to continue to provide content that can be a resource for all students involved with the project center. This section will be continuously updated to reflect changes in London and the project center itself.

5.1.3   Recommendations

It is important to back up the Web site so that it can always be restored in the event of any kind of technical failure. A complete backup of the Web site can be created relatively quickly by following the instructions provided by the manuals accompanying this document. Creating backups will ensure

that, in the event that the current hosting company stops providing service or its servers fail, the transition to an alternate host will be relatively simple.

In regards to the pages and content developed for the Web site by this project team, there are some recommendations for improvement the team would like to make. Over the course of this project, an emphasis was placed on creating initial versions of all of the materials with an appealing and effective design. As a result, parts of the actual written content can still be refined, elaborated on, or improved to better represent the London Project Center. In the future, an evaluation of the Web site and the implementation of improvements using marketing techniques and best practices would be beneficial as this project did not conduct extensive research on marketing technique or evaluation. The *Projects* section could also be modified to include more featured projects that showcase other benefits of IQPs not evident in the three projects chosen by this project team. In general, a more thorough analysis of the effectiveness of the content, as far as how viewers react to the content psychologically, should be conducted to guide further revisions.

The project team has provided documentation to facilitate updates to the Web site in the future. The manuals accompanying this report describe the process for updating the content of the site and adding additional content. The project team has provided a solid implementation of the Web site that is simple to maintain making future improvement of the content easy to accomplish.

In addition to improvements to the content of the site, the student blog could, pending research as to the opportunities and risks involved, be better implemented as a Facebook group. This would be more easily accessible to students involved with the LPC, less of a risk for WPI in that it would not be visible to anyone outside the group, and less work for the center directors to maintain as they would not have to clear content to be published. In the future, the center directors could encourage students to create a Facebook group during ID-2050 while they are preparing for their IQP and, upon the completion of their IQP's, share any information they feel may be helpful to students in the future that was developed during their time in London.

5.2 Database

In order to maintain a record of all IQP projects completed in London, a searchable project database was created. Although not considered a database by technical standards, the project data is in a form that is searchable through the Web site and modifiable using a simple text editor. This database contains all 276 projects completed from the inception of the London Project Center in 1987 through 2010. Each project entry contains the: date and term of completion, title, list of authors, list of advisors,

sponsoring organization, sponsor type, abstract, keywords, and a link to the project report. This information is stored in an XML file that is searchable online.

The database was created in order to help sponsors learn what types of projects have been completed at similar organizations, provide a record for the center directors, and enable students to see what types of IQPs have been completed in London. The content of this database makes available the enormous amount of research and analysis conducted by all of the London Project Center students to date.

5.2.1 Recommendations

At the conclusion of this project, the database is searchable online and modifiable. However, those two main functions are implemented in a basic form. They serve the purposes of the users in that they provide the search capability required, but they could be improved in the future. If more advanced search capabilities are required, better record control, or a more advanced way to modify project data is required, the current XML-based implementation can be migrated to a database management system. Alternatively, if the volume of project data remains relatively low (it only increases by about 4% each year), the search functions could be greatly enhanced while still maintaining the existing XML structure as a large amount of effort will likely be required to perform the proposed database migration.

In regards to the current implementation of the project database, the project team has some recommendations for its continued maintenance. Since the only file that will be updated with new project data is the XML file, a system needs to be instituted that will ensure multiple users will not make changes to the file concurrently, causing the file to diverge. Maintaining a central repository, possibly using a SharePoint site, will allow users to check in or check out the XML file and provide version control. This will ensure that the file can always be reverted to a previous copy and that only one person can make changes at a time. The updated file can then be periodically uploaded into the appropriate directory on the Web-hosting server. It is imperative that this file be maintained without becoming corrupted. It would be ideal if this file could also be backed up to a location external to the WPI computer system so that, in the event of a catastrophic failure, the data will still be available in a protected location. It is recommended that the Center Directors be responsible for the safekeeping of this file as it is very valuable.

There is also room for improvement of the search interface and presentation of results used in the current implementation of the database front-end. A more sophisticated interface could be made available for advanced users and further options for tailoring the presentation of the results could be

implemented, for example a way to export the results of a given query to a spreadsheet or to create formatted reports for printing. A more sophisticated search box that can interpret search operators like "AND" and "OR" may also better accommodate advanced users. A Web-based system for entering project data could also be developed, further simplifying the process of entering new project data each year. All of these improvements may be more easily achievable after a migration to a database management system.

As far as the current state of the project data, there are still some inconsistencies within the fields. Projects completed before 1999, when electronic records were implemented, do not have an accurate year of completion. This information could be gleaned from paper records kept by the registrar or by attempting to contact the authors or advisors of these projects.

5.3   Print Materials

The print materials developed by the project team are prototypes that are designed to show what kind of printed material would be useful for sponsoring organizations. Two sample A4 flyers and one sample postcard were created. In order to further improve these materials, the team recommends that the print material designs be discussed with the WPI Marketing and Communication Department and revisions be made as necessary. Furthermore, it would be beneficial to conduct additional testing on the content and layout of the print materials to potentially improve their professional appearance.

5.4   Manuals

The project team wrote four manuals for maintenance of the Web site and database created by this project: two user manuals and two technical manuals. These manuals were developed for the Center Directors and for future developers respectively. The user manual for the Joomla! content management system describes how to edit content, add new content, and perform other design changes. The user manual for the database explains how to add and edit project data. The technical manual for Joomla! discusses the implementation of the Web site, and the technical manual for the database describes how the search function is programmed, as well as detailing specifics about the XML file.

Recommendations for the improvement of these manuals include supplementing the written manuals with video tutorials that demonstrate the features of the software. They should also be updated if, in the future, changes are made to the implementation of the Web site or database. This will ensure that both the Web site and database continue to be updated in the future and remain valuable and accurate sources of information. Furthermore, the manuals should be updated with any corrections

or additions that may be required while they are in use. A review of the manuals should also be conducted by someone not involved with the development of the materials to ensure they are intuitive and fully explain the procedures.

5.5 Summary

As discussed above, since the primary items produced by this project (a Web site and database) can become outdated, it is imperative that they continue to be updated and improved through future efforts. This project team has provided initial versions of the implementation and content of both items, leaving room for further development of additional content and functionality. Some future improvements that may be beneficial include carefully developed content following marketing evaluation and a Web-based front end for adding projects to the database. Other needs may certainly arise in the future and should be addressed to maintain the usefulness of the Web site and database and ensure they continue to positively represent, and serve all those involved with, the London Project Center.

After considering what this project has accomplished, it is clear that this project benefits the entire WPI community and society as a whole. By helping to promote the London Project Center, an organization that offers educational and humanitarian projects every year, this project ensures other projects will continue to be completed in London. It also enables future WPI students to continue to enjoy, and benefit from, the opportunity to work for a British organization and experience the culture of London. This project necessitated the study and use of skills not specifically related to engineering and brought them together with the engineering knowledge of the project team to create a set of materials that will continue to benefit the London Project Center for many years to come.

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Appendix A   Timeline for Project Completion

Week	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Task	5-Mar	22-Mar	29-Mar	5-Apr	12-Apr	19-Apr	26-Apr	9-May	16-May	23-May	30-May	6-Jun	13-Jun	20-Jun
Review previous literature on the history of the LPC	■	■												
Review the Web sites of similar organizations to the LPC			■											
Complete a literature review of sources			■											
Interview current leadership of the IGSD, including the current Dean of the IGSD			■	■										
Review literature on marketing strategy and best practices for outreach materials				■	■									
Determine the best implementation of the database & Web site				■	■	■								
Interview past LPC directors and other key people involved with the program				■	■	■								
Conduct interviews with experts in the field (i.e. C.S. professors on campus)					■	■	■							
Aggregate project data for the database						■	■							
Complete the project proposal							■ (blue)							
Determine the Web host and development software to be used								■	■					
Develop site map for the Web site							■	■	■					
Determine the best design of the Web site									■	■				
Interview current and past project sponsors in London									■	■	■			
Build a functioning search engine for the database										■	■	■		
Develop different types of print materials											■	■		
Survey current students about their London experiences											■			
Write the content of the Web site										■	■	■	■	
Test and revise the outreach materials using sponsor surveys													■	
Prepare and present final presentation													■	■
Write the project report									■	■	■	■	■	■
Complete and submit the report and final deliverables														■ (red)

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Appendix B   Interview Questions

Previous London Project Center Directors and Advisors

1. How did you first become involved with the London Project Center?

2. What was your official position in the London Project Center?

    a. Do you remember the specific years you were director?

3. What was your role in the creation of the London Project Center?

4. What were the roles of Bill Grogan? Maria Watkins?

    a. Specifically in regards to the development of the first project sponsors and topics.

    b. When was Maria Watkins involved? Where is she now?

5. How was the nature of the projects changed over time? What caused this change?

    a. Specifically topics, i.e. the environment as opposed to social service.

6. What was Jenny Hawkes's role and how did she influence the project topics?

7. How has the process for preparing students for their IQP's the term prior to their departure evolved? What did it entail while you were involved?

8. How did you approach potential project sponsors?

    a. Did someone arrange meetings for you? How did you get your foot in the door?

9. What were some of the most difficult aspects of the sponsor search process?

10. Did you have any marketing materials to hand out?

    a. Perhaps fliers, literature on the IGSD and LPC mission?

    b. Was any specific form of material particularly useful?

    c. If you didn't use any, do you think they would have been useful? What kinds?

11. Do you think a Web site would be useful to the LPC directors to attract new sponsors?

    a. What should such a Web site include as far as content?

    b. Who would it be useful too?

    c. What audience should it be targeted towards?

    d. Should it include information for students applying to the program? Or is that best left on the IGSD Web site?

    e. Would you be willing to pilot our Web site once we have a working prototype?

12. We are creating a database of IQP projects completed at the London Project Center.

    a. What information about each project would you want to see included in such a database?

b. What methods would you want to use to retrieve data from this database? What types of keywords would you want to use? Would you want to be able to choose categories before searching? What search terms would you be likely to enter, say if you were looking for a project you remember working on?

Computer Science Professionals

1. Where to host the Web site? What experiences have you had with hosting on WPI's servers?
2. Would you recommend that we use WPI in this situation?
3. How well does WPI's content management system work?
4. If we host on our own – what tools would you recommend?
5. Any suggestions about database implementation?
6. Which would result in the fastest time to production?

Other Project Center Directors

1. How do you go about contacting potential project sponsors?
2. Do you find any specific form of marketing material particularly useful?
3. What was your reasoning in deciding to create a Web site? What groups did you design your Web site to appeal to?
4. What do you think are the most important items on your Web site?
5. What features would you like to add to your Web site?
6. How, if at all, do you categorize projects? Have you thought about using keyword search?
7. Did you encounter any difficulties in creating your Web site? How did you overcome them?
8. What are the pros and cons of hosting your Web site the way you do? Did you consider or are you hosting with WPI?
9. Is there anyone you recommend we speak with about Web design?

Important Figures in the Formation of the IGSD and WPI Plan

1. How does the IGSD support the development of project centers and the attraction of project sponsors?
2. What was the reasoning behind the creation of the WPI Plan?
3. How do the projects run by the IGSD fulfill the requirements of the WPI Plan?

Web Design Professionals

1. Are there some basic principles for Web design that you can outline for us?

2. How would you recommend we organize our Web site, a Web site for a project center?

3. Can you give us some helpful sources we could consult in the design of our Web site?

   How do you suggest we evaluate the Web site? What characteristics should we be sure to have?

Former LPC Sponsors

1. Can you tell us a little about yourself? (What is your position in the Science Museum?)

2. How did you hear about WPI and when was your first project?

3. What do you think of WPI students and how would you rate your experience with them so far?

4. Are you looking into sponsoring any other projects in the future? What would influence you to do more projects with WPI students?

5. We are building a Web site and brochures as outreach material – What features/information on these materials would draw your interest?

6. If you were talking with others in your organization about the WPI program, what would be the most valuable kinds of information to have on the LPC Web site?

7. Is there any other information that might be helpful to have on the Web site for other sponsoring organizations that have not worked with WPI?

8. What would you think about us featuring the Science Museum on our Web site?

9. Can we have permission to use [pictures from the museum, pictures of you, quotes from you] in our Web site? We will keep in contact with you and if it is ok we would like to send you a copy of our material to you, In case you want to take a look at it.

Appendix C   Interview Minutes – IGSD & LPC Faculty

Dean Emeritus William Grogan

April 19, 2011

- Came to WPI in 1942, at that time going to be an electrical engineer, came as civilian
- Later became member of naval unit at WPI, went through WPI as a navy seaman (got commission as an electronics officer on a destroyer, waiting to be in invasion of Japan)
- Grogan stayed on West Coast after WWII then came back to WPI and went to graduate school, became member of faculty
- College was created to form engineers for mostly mechanical positions
- Navy changed WPI, needed electrical engineers – wanted sonar, radar, etc.
- WPI had the opportunity to move into electrical and chemical – but not defined well enough
- When Grogan taught electrical engineering, he had to bring in theory but didn't have the math background because the math courses were centered on ME (math requirement was the same then as it was in 1865 when the college was founded)
- Still required hand drawing – the college was very far behind, department heads didn't want to change anything
- Group of EE and CE faculty wanted to move ahead, 1957, Grogan wrote "Seven years after Sputnik", scared the U.S., Russians beat the U.S. to space
- Freshman program hadn't changed since the beginning – could have got money from the NSF, DOD, etc.
- Started a revolution, Grogan became very vocal, at the time had no summer research on campus
- General Electric had big naval plant in Pittsfield, WPI was dead in the water but it had potential
- President appointed Grogan as first faculty member to be chairman of a faculty curriculum committee
    o   Not to go to department heads (didn't want change)
    o   Report directly to the entire faculty (they wanted change)
- "If we're going to change some things, let's make some real changes"
- Wanted to get rid of divisiveness between departments
- Started the idea of having an advisor – made the curriculum much more flexible and interdisciplinary – they guided you through your career at WPI

- Grogan became convinced that engineering & science should be learned internationally – it is becoming a global topic
- Studied all kinds of university, especially internationally, and took the best things to form into the new curriculum
- For engineering education to be effective, it should be done internationally, students should take courses internationally
- When the President saw their path, he appointed the planning committee, designed the first plan – very idealistic and impossible to obtain
- Then they toned down the plan, made compromises with the Faculty
- Saw what engineering was like in Europe and England, Germans when he was in the navy – we needed to learn from other countries
- WPI was at the tail end of the new electrical engineering innovations
- Decided we should have cooperative programs with other colleges
- Started exchange program with a school in Zurich
- Grogan and others at WPI had friends in England – built exchange program in London with Maria Watkins, electrical engineer, first woman to be member of IEE in the U.K., very smart and had same ideas, wanted to gain some American perspective for her students, agreed to be first liaison, we would accept 8 students from The City University and we would send 8, semester long, mainly take courses, but then wanted to try projects
- Grogan and others on committee felt projects were the way to learn – get rid of final exams
- Professor Schachterle was our first liaison over in London
- Realized our semester calendar wouldn't work – too long to go over for a whole semester
- Started trying projects, no question you need fundamentals from courses
    - Ebbinghouse forgetting curve, educational psychiatrist, theory – when you sit in a lecture and you copy down the notes, you hold onto knowledge until you take the exam, then poof you spill it all back in the exam, then that's it – half-life curve, you loose that information quickly
    - You can prevent this by reinforcing the information, use it in some way – projects are the way to do this, can enormously extend your retention
- WPI people remember information – because students have to go back and use what they learn in the projects

- "I'm a great proponent of project-based education, it seems inefficient because you're fooling around doing a lot of extra stuff, but you're learning it"
- The two new programs were very successful – expanded London, changed to King's College, then started our own project center
- Planning committee had meanwhile, designed a whole new plan – extremely project oriented
    - An exciting and interesting new way of learning, "what you like you'll remember"
- Grogan became very involved with planning the new program (similar to the plan)
- Theory was "you had to be good in your major field...but we wanted to have a practical aspect to it"
- Washburn shops was run as a profitable operation, Boynton was where theory was taught
    - They took this further and said go with Lehr und Kunst, learn theory in classes, humanities, but also have projects
- New technological ideas were not being explained – up to World War II, engineers were the most important policy makers in the United States, the railroads, the dams, power systems, communications systems
- WWII came – engineers faded from the scene, lawyers took over, "that slowed the whole think down, naturally"
- Wanted to go back to having engineers as policy makers, "they knew more about what was really going on, than all the lawyers in the world, and that's why we emphasized the IQP"
- Dumped final exams, required all to do projects, want students to know how to present their ideas, sell them to other people, accomplish stuff
- "what we want in a WPI engineer, is someone who can go out there and do something"
- At first thought of having a big project at the end that contained the social, economic, and technological stuff
- Decided to split, no longer have a big final exam
- When the project is accomplished, you have shown yourself and others that you can do this stuff, a final comp doesn't accomplish anything
- Resulted in the IQP and the MQP, canned the big comprehensive exam
- Instead, put in distribution requirements into the curriculum
- Grogan, with 6 members of planning committee, put together the curriculum, talked with departments about courses they wanted, changed the calendar

- Financial concerns mostly led to calendar change – how long can we afford to keep students and professors away
- Changing a college calendar is extremely difficult, all the courses have to be re-sequenced, etc.
- President called him in, at the time we only had one dean mostly just department heads, President Hazard said he wanted Grogan to be the dean of undergraduate studies – job description: implement the WPI plan and help Hazard find the money to do it
- Grogan did it for 20 years
- Vote to implement the plan was 82 to 46 – exactly 2:1
- Grogan's job was to, despite the opposition, make it happen
- Some people quit, tried to down the plan
- Talked with students and faculty at the pub on campus – softened up people and persuaded them to cooperate, even took the President at one point
- "London has been an excellent project center, it's gotten bigger and better"
- "We do all kinds of projects, we do a lot of them with the townships around London, and after all our work, we now have people in 26 project centers"
- The seven week term change was primarily a cost decision – to go for a whole semester was very expensive, missing a half year also really takes you out of the mainstream WPI
- Started encouraging the use of PQP – "PQP is the answer", you can still do two other courses but do the advanced work for your IQP, gain a background understanding
- After Grogan retired, he started really developing the PQP and encouraging it, makes it possible to do the IQP in 2 months which would otherwise have been impossible
- "The projects have been amazingly productive, because you're working under high pressure all the time"
- Decided on teams because couldn't possibly develop a project for every student, decided on three students, went from needing 1200 to 400, the faculty could manage 1/3
- "The projects have really become the hallmark of the school"
- Outreach materials
    - Fabio Carrera – born project center leader
    - Grogan's wife had died right after he retired, decided to travel, develop other project centers

- Went as an advisor to new project center in Austria, fixed a border issue between Italy and Austria, completely solved the problem, Italians were trying to build ski slopes in Austria, the border had been misrepresented
- Suggestions
  - Make a list of some past projects that were successful, stir potential sponsor's minds, what they may want to offer
  - Look through projects done in London and their advisors, which have been the most successful
  - Pick the most thrilling, exciting, and important projects (think from sponsor's perspective)
- "On the whole we've had enormous success"
- When Grogan retired, he and Zeugner established the Bangkok center
- Potentially talk to alumni about their projects
- Ask previous sponsors for recommendations to improve the project, they'll give us a completely unbiased idea of what they would've have like to seen WPI project students do
- The fact that we talked to previous sponsors will add to the credibility of our report

Prof. David Brown, Computer Science

April 12, 2011

- In order to test we need a set of formal requirements
- Human interaction – visual: implement, user analysis, task analysis
- Users: find out who they are, what they need
- Tasks: find, who, etc. – different user groups correspond to different tasks
- Layout: sponsors – cost, time, spaces, Q&A
- References:
  - User Interface Design and Evaluation (Debbie Stone)
  - Design the user interface (Ben Shneickerman)
  - GUI Bloopers (Jeff Johnson)
  - Don't Make me Think
  - The Elements of User Experience (Jesse Garrett)
  - Designing Web Usability (Neilsen)
- Recommendations:

- o Neilsen book

- o Organize pages

- o Color scheme

- o Lay outs

- o Users?

- o Tasks?

- o Evaluate regularly

- o Maintain constant running prototype

- o Test with users (sponsors, students, etc.)

- o Be aware of "what do users know?"

Prof. Hossein Hakim, Former Dean of the IGSD

April 19, 2011

- Always wanted to get involved in educating American students oversees – got the impression that they didn't know enough

- Proposed to Professor Schachterle to buy books and establish group of faculty to discuss international issues

- Suggested WPI needed to do more curriculum development for courses here geared toward international study

- Position – global program officer, 25% of time, basically just do what you want to do, given to him by Dean Grogan, started a resource center, got a 130,000 grant from dept. of education

- Increased time to 50%, Schachterle was stepping down so he applied for the position

  - o Chair of ISD (Interdisciplinary Studies Division)

  - o He added global to the name

  - o Remained chair for 5 years

  - o Number of students went from 100 to 400 per year

  - o Budget went from 200,000 to 1.3 million, expanded, new staff, erected project center building

  - o When he started, faculty didn't really support the IGSD, when he left, we were number 1 in the country, widespread support from the campus

  - o Expanded to many other locations

  - o Developed center director responsibilities

- o   Compensation, process for recruiting center directors
- ✦ Initially had informal center directors, for example Fabio Carerra (alum) was interested in Venice so he started with Venice
- ✦ Formalized application process for Faculty, get additional 2 months of salary for going abroad during the summer
- ✦ Started presenting the programs to students in a larger venue (Alden Hall) – began form of presentation used now (Global Fair)
- ✦ Center directors – needed someone who knew how to look for housing, look after students, etc.
- ✦ Attracting sponsors
  - o   Summary of best projects, some nice pictures
  - o   Should list all previous sponsoring organizations
  - o   Show off President's IQP award
  - o   No need to have all of the projects easily accessible (some might not look so good)
  - o   A few "wow" projects
  - o   Something about WPI and its reputation in the U.S. (how it is regarded in the U.S.)
  - o   What percentage of our students are at the top of their class, 4.0, etc.
  - o   Quality of the college & past projects
  - o   Make immediately evident this is not like other programs (not an internship where people will make photocopies, these are professional consultants who will get the job done, they come with faculty, spend a lot of time to prepare the projects)
  - o   Letters from pervious sponsors indicating how satisfied they were with past projects
  - o   This is getting young people to do something that would normally require a professional consultant
- ✦ Look for publications, Chronicle of Higher Education (previous issue), Christian Science Monitor that have written about the IGSD

Prof. John Zeugner, Former London IQP Advisor

April 8, 2011
- ✦ First project advisor on site with 4 students the first year
- ✦ Center directors came along later, Schachterle was really the first but no title
- ✦ Housing for 1st projects – private homes (rented), didn't work out
- ✦ Maria Watkins found the first sponsors

- - U.K. patent office, liaisons from D.C. office told the U.K. office how helpful WPI students were, U.K. office approached Maria directly
  - Need strong entrepreneurial skills to find projects
- London was the first official overseas center
- Project later shifted toward sustainability when Jenny Hawkes and Paul Davis were around
- Website recommendations:
  - Sample projects with simplified overviews
  - Emphasize useful outcomes
  - Statements from prior sponsors – how gifted WPI students are
- 1992 – students started wanting to go abroad, Richard Vaz started the ambassadors program: students who had done projects went around to tell their stories, doubled interest in the program, also it was becoming fashionable to go abroad
- Keep in mind, U.K. runs on British time, everything closes at 5:30 or 6:00
- Zeugner advised projects in 1989, 90, 91
- IGSD
  - Promote the IQP, wasn't required in the beginning, IGSD came about when IQP became required
  - Social Sciences department didn't want to take on managing IQPs
  - Berkey – no tenure for IGSD faculty
- Selling to sponsors
  - Is there a long term problem you don't have money for but want preliminary data and analysis performed on?
  - Utilize the LPCs long reputation, "We've been here since 1987"

Prof. Lance Schachterle, Former Dean of the IGSD

April 12, 2011

- Became the head of the IGSD (then known as the Division of Interdisciplinary Affairs) between 1984 and 1985
- Look in 1990 issue of "Interactions" for article featuring the London Project Center
- Beginnings:
  - Bill Grogan was dean of undergraduate studies

- o The head of The City University in London heard about the WPI Plan – invited Bill Grogan to talk about such an innovation
- o 1971-72: Schachterle went to London, was asked by Grogan to develop an exchange program with The City University
- o The City University came about from a want of the City of London to have it's own university
- o The exchange program lasted 10-12 years
- o After year a year or two as IGSD head, Schachterle proposed the exchange program be converted into a residential IQP program – London became the second official project center
- o The City University provided housing & guidance, they appointed Electrical Engineering Professor Maria Watkins as advisor, in the beginning students completed their IQPs and other courses as it was still a ½ year program
- o Moved to IQP only because Watkins helped City University develop exchange programs with other universities, then she retired to independently develop exchange programs
- o Schachterle decided to switch to 7 week IQP program with Watkins as local coordinator (1986-87)
- o Schachterle became the first LPC director
- o As global program got larger, hired Hossein Hakim who became the IGSD dean, Hakim was succeeded by Paul Davis, then by Richard Vaz
    - Needed someone to manage risk and administrative staff
- ✦ Sponsors:
  - o 1st recruitment method: talked to Washington sponsors and asked for contacts at their sister organizations in London
    - this worked, a lot of projects were hosted with government offices, until it became British government policy to decentralize, moving government offices out of London to more economically challenged areas
  - o "Watkins was a genius at finding projects"
  - o Maria once told Schachterle, "I'm a really dangerous person to know", she was very tough
  - o Many sponsors realized the cost benefits, Maria had a lot of contacts

- Did projects with Kings College, London: head of EE dept. Charles Turner liked WPI projects, WPI and Kings would exchange students
- IEE and its mechanical and civil counterparts also hosted projects – very nice corporate locations
- Be aware that London is (or at least was) much more class conscious, engineers typically considered working class

- Projects:
  - When Paul Davis took over projects moved more towards the environment and urban planning, developed new contacts
  - This happened when Schachterle & Watkins concurrently retired
  - Watkins recruited Jenny Hawkes to take over the role of local coordinator
  - Hawkes had contacts in offices of urban planning
  - Side note: ID-2050 existed from the beginning, it was already developed for the Washington, D.C. center

- IGSD:
  - Schachterle hired in 84-85 to be head of Division of Interdisciplinary Affairs
  - 10 years in changed to ISD, then later Hakim added the "Global"
  - Formed right with the WPI plan to manage the IQP, very first head was Ray Hagglund, then James Demetry, then Schachterle
  - Demetry started the publication, "Interactions", then Schachterle started adding feature articles, often featuring new project centers

Prof. Mark Claypool, Computer Science

April 11, 2011

- Content Management System (CMS) – will put your content in for you, control versions, internal preview, manage for you
  - Downsides:
    - Number of restrictions
    - Can't do a lot of style stuff
    - Fixed set of possible layouts
    - Restricts creativity
    - Hard to design intricate front page

- o Do have options for menu & banner colors

- o Hard to change navigation bar

- o Requested updates are not always immediately applied

- o Contacts: Luke Salsich, Carol Williams

- ♦ Web design

    - o Kiss of death – outdated information, broken links

    - o Consolidate – only update information in one spot

    - o Should have predefined project searches as examples

    - o Display featured projects page

    - o Possibly ask future IQP students to produce a Web page (or the content) for their IQP

- ♦ Other

    - o Attend a CMS lesson if possible

    - o Ask about borrowing an ATC laptop to access the CMS system

Prof. Scott Jiusto, Cape Town Center Director

April 12, 2011

- ♦ Talking about what Scott Juisto does for the IGSD

    - o Works specifically in Cape Town

    - o Has also done ID2050 for Denmark for the last few years

    - o Contacting sponsors:

        - ▪ His role is center director

        - ▪ He travels about 6 months before the Cape Town projects to network

        - ▪ He carries around stuff to show off work that has been done before and shows it to whoever may be interested

    - o Cape Town is a bit unusual in that there is a very clear theme that concerns sustainable community development in informal settings. It's a very specific focus.

    - o He has binders containing 6 or 7 IQP reports from the previous years

    - o He shows them (sponsors) that we have some smart, enthusiastic, hard-working people who are willing to learn and be a part of the project. They will be motivated to collect data. Faculty will advise them, so it's not just students.

    - o He goes himself, plays the role of both center director AND advisor AND ID 2050 instructor for Cape Town. We actually have a similar situation.

- In Cape Town, he sometimes plays a bit of a sponsor role too because he's working in an unusual community
- They are in poor neighborhoods, lots of conflict issues
- Used to go to Venice, London, Puerto Rico, London about 5 years ago

✦ Why was the Cape Town Web site designed?
- Education for the students, we're likely to do similar things in the future so it is useful as an IQP
- The work is valuable and so we should make it more accessible to our partners in Cape Town but also other random researchers who find our stuff around the world
- To send potential sponsors and interested people and even potential students so that they can see what we're all about
- Researchers, activists, community members, etc.

✦ Description of the Web site/how was it developed?
- They have two versions up. Started two years ago, we did it with 28 authors starting from scratch in the last 3 weeks. Started it in Wordpress, felt it'd be easy to work with. Hosted it on a private Web site.
- WPI, who had previously not wanted people to use Wordpress, started embracing it, so it was converted to the WPI server
- Lots of problems and bugs
- Not actually sure why it is so slow, possibly Wordpress, possibly the Blog part of WPI.
- They were disappointed in that it was so slow. They wanted it on WPI because they thought it'd be faster.
- Also very complicated, hundreds of pages, not positive about what we're going to be doing next year. He and Fabio Carrera are looking to do something different. Looking into Google Websites. But they'd never be able to translate from Wordpress to Google.
- There are four years of material on one, do we start with another, how do we relate it, etc.
- Whatever would make it faster on another server, WPI would be able to do, so not sure what exactly the speed problem is.

✦ What is the most important feature of the Web site?
- It has to look nice and captivate a wider audience. Not sure how clearly organized it is
- Try to find out why it's so slow, if we find out then let him know.

- o The big thing was the one template, didn't like the new look and so it didn't work out as well
- If you had the choice of features to add to the Web site, what would you add to it?
  - o They were very happy with the original version, never really got independent feedback about it though. Is it intuitive, is it clear? It was done very quickly, so there wasn't time for testing. Critical analysis for the Web site would be awesome.
  - o Again, the Web site was very rushed, took about 3 weeks, and started from scratch to do it.
  - o We (Juisto and Cape Town students) had given it some thought coming into this, and some students volunteered to do mockups and stuff. Was very flexible, told some certain sections that everyone had to have
  - o The minimum was that everyone had to have an "Executive summary" which was their final IQP report, they used the executive summary as pages on the Web site; they wanted to have lots of pages on the Web site. The two of these were combined as the final IQP report.
  - o They developed a manual, style and technical questions manual of questions they had, things they need to do that everyone needed to do, what things could be different, etc.
- Is there a search engine?
  - o The functionality is in there in the original version, never really used it.
- How is it organized?
  - o Categorized by year, each year has an introduction, has about six or seven project each.
  - o Over time would have indexes, see connections, etc. They are cross-linked where they deal with other projects, they have links to the older projects. That could be done in a better, fuller way.
  - o Right now it's all under construction, not sure if they are going to stay with WPI or go to the Google Web site so he is interested in what we do so he can get some useful information
- What about posting information to the Web site?
  - o Anything on the Web site ought to be reviewed by advisors, so if you do blogs or something similar, it should be moderated by advisors so that there is nothing embarrassing or inappropriate or if the student makes a mistake. Students can have

their own blogs and they can write whatever they want there, it just wouldn't be in the WPI domain.

- Any difficulties in designing the old Web site?
    - The first thing is reviewing, how do faculty advisors review the Web site?
    - Imagine how much we're writing, then imagine reading nine of those like Golding is. Website doesn't have word functionality so they struggled to have an efficient way to submit Web sites for review. This year it worked smoothly, the executive summary worked well.
    - Submitted it in Word before they put it on the Web site. Got a lot better, wasn't a big deal. Other advisors could find that it is a burden, so we need a guide or tutorial on how to maintain and guide students on what the Web site should include.
- Any suggestions for how we should organize the Web site?
    - A database approach seems sensible, what's more important is moving forward with new students, what is the relationship, how big of a piece of the IQP should they have on the Web site.
    - Venice has almost exactly the same and Fabio has kept the chapters of the final IQPs and the pages are in the same sections.
    - It's interesting and straightforward but not convinced that is the best way. Websites are a different medium.
- Anyone else who we should contact?
    - In the Web development office, Nicholas Galotti provided them with assistance, the communications department here is quite interested in this, so we may want to contact that office
    - Jennifer deWinter in Humanities, this is her specialty, visual rhetoric and Web site design, met with students in preparation before the 3 weeks. Recommended some good books that could be helpful for design.

Appendix D   Interview Minutes – London Project Sponsors

Dr. Alexandra Burch, Science Museum, May 17, 2011

- Audience Advocate
  - Part of the learning team
  - Ensure what they create and develop is accessible and people are motivated to approach and learn from it.
  - Look at learning broadly - social, cognitive, curiosity.
  - Constructivist model of learning, assisted discovery.
  - Three aspects, what do audiences remember.
- Get involved
  - Student created an iPhone tour
  - Gallery – Launch Pad – hands on, interactive, video labels – exhibit extension – what could the staff bring out
  - Special projects needs students to contribute: could they make exhibits about light for the blind, sound for the deaf.
- "Allow us to experiment with things we might otherwise not have time to experiment with."
- "Challenge our own thinking", "They can bring in very different ideas"
- "They're very good at taking an idea and doing something creative around it"
- "Defined outcomes, which give us an opportunity to think differently."
- Teixeira – paper – credited WPI students
- Darwin's House – Bramley – exhibit on display about diversity/speciation
- 3 Projects have been done by WPI students:
  - iPhone tour
  - Video Labels – Launch Pad
  - Plasma Ball – Scaffold – They seriously experimented whether they could make that into an exhibit
- Launch Pad
  - Target: 4 years old kids
  - Problem: the museum cannot have enough staff to talk to a couple hundred people
  - Solution: Video that shows how to use an experiment
  - Students helped us test – videos that save museum from always having staff on the site.

- - Helps kids understand how to use the exhibits
  - We can obtain Launch Pad photos on Flickr (Contact: Getanelae)
- iPhone tour
  - Problem: hard to match labels to objects in exhibitions
  - Label has limit from 40 to 60 words
  - Solution: digital interpretation – show the objects in context, moving parts, parts audiences can't see
  - Chronological gallery – try to change viewers' route that they take by passing certain exhibits.
  - 2.7 million visitors per year.

Dr. Catherine Eagleton, British Museum, May 18, 2011

- Curator of modern money, academic curator – mostly research and maintaining exhibits
- Enjoys WPI projects because they involve both technology and society
- The British museum has hosted 2 types of projects
  - Gallery evaluation – "useful in helping us think about what we do with our displays"
  - "Try out things we wouldn't have time to try out ourselves"
- She likes that "WPI brings science and engineering into the humanities world"
- What should be included on the website:
  - What are other projects working on? What kind of organization we work with?
  - Description of what makes a really good project; this section will be pointers for potential sponsors
  - Make clear the amount of support sponsors will contribute to the project, students take initiative role
  - Time commitment is not an issue because the students give back much more time than she commits
  - The best projects are when it's a real project, which will be used
- Print materials:
  - Show off engagement between technology and society
  - Should not mention IQP terminology – audiences won't know what it means
  - People are leery at first about what engineers can do in a humanities setting
  - It's a two-way situation – sponsors and students both get benefit out of it

- How to refer to "sponsors"
    - At the British museum, anyone with an intern is considered a supervisor (academic term)
- WPI has been involved with the money gallery in the past
- Sponsors are unsure of how much 4 people can do in 7 weeks – there for we should inform clearly the amount of progress that is possible
- "Can get really quite big things done"
- Need to know what a perfect IQP is like – what kinds of results are possible
- Confidential projects (for the mean time):
    - The work 2 WPI teams did in '09 and '10 evaluating the money gallery is leading directly into the revamp of that gallery later this year

Steve Gardam, London Transport Museum, May 10, 2011

- London Transport Museum (LTM) is a charitable trust, largely funded by Transport for London
- Structure of leadership: trustees, directors, assistant directors
- Divisions:
    - Business & performance
    - Support services (I.T. & building maintenance, etc.)
    - Visitor services
    - Marketing & Development
    - Collections & Heritage (responsible for care and preservation, research & expertise)
    - Public Services
- Some exhibits geared toward families and young people
- Provide training and work experience for students (particularly high school aged)
- Learning department's purposes
    - Convince children to use transport well so it will reduce the cost for TFL
    - TFL Mission is to make London a better place to live and work
- WPI projects have been well received by the staff at LTM, had a positive experience shared by all
- Following by face-to-face contact to acquire sponsors to commit, make clear "how well supported it is" (WPI projects)
- "Really evident how much WPI puts into these placements"
- He said it's a lot of hard work "but I'm confident I'll get a benefit back"

- He stated that he wouldn't visit our site without having been personally pointed to it first
- He thinks that the Web site content need to be very concise because museums are flooded with requests for work placement, therefore they don't have time to read every materials.
- Need personal assurance
  - Makes a huge difference
  - Need face-to-face
  - Bona-fides
  - The amount of prep research we do in 7 weeks is a significant assurance
- Articulate the importance of the program
- Web site could have a very short video (possibly from center directors)
- Web site need to be very short and relevant, nice an attractive, extend information when necessary.
- Print materials should be worthy, and reusable
  - A notebook where first few pages are used for content about LPC, so the audiences will retain the notebook, and use it
  - Postcard with an attractive image they might want to keep in their office. It should have a stand out Web site address and little else, an "elevator pitch", direct audiences to the Web
  - Content should be enough to give confidence but not lengthy

Bridget Clifford, Royal Armouries, May 19, 2011

- Senior staff member for Royal Armouries (not a part of H.R.P which runs the rest of the Tower)
- Host education projects and exhibit analysis projects
- Knight is Young project – 2006
- Hands on History
- She is impressed that WPI students come well prepared to start working right away
- WPI students bring a fresh pair of eyes and computer techniques, and cooperate with social problems.
- Hands on History
  - Wanted feedback on the exhibit
  - Survey public reaction
  - Ant trails

- o WPI students produced a good cross-section of feedback
- o Having a directed group was very helpful in collecting feedback rather than just putting out a comment book
- o WPI students also did extensive prep work at other museums, including those in the U.S.
- o "You've got the vigor to prove something, coming from an engineering background"
- o This exhibit was groundbreaking at the Tower, one of the first exhibits you could touch
- o "Really good thing that, as students, you've had to apply your knowledge"
- o "Bring fresh ideas"
- o "Range from theoretical data processing to having a very practical outcome"
- ♣ Website
  - o She would want to know what the sponsor has to contribute
  - o Inform that students are well prepared
  - o Cost to the organization
  - o Range of things that have been undertaken in the past
  - o Provide references from other sponsors that they can contact
  - o Referring to sponsors as either partner or sponsor would be fine for H.M. Tower
- ♣ Historic Royal Palaces
  - o They run most of the Tower
  - o Ms. Clifford is not part of HRP, Royal Armouries is a separate entity
  - o HRP does not have government funding – runs on charity
  - o Verify any content with Megan Gooch and HRP
- ♣ "Did things we dreamt we could do but didn't have the facilities to do"
- ♣ It's great to see what can be done with technology and a lot of people are still in the dark about computers, good to get outsiders into the staff as well
- ♣ Explain how the project experience is a mutual benefit for sponsors & students

Megan Gooch, H.M. Tower of London, May 19, 2011

- ♣ Worked with WPI students at the British Museum
- ♣ 1st year – evaluation of an exhibit, people counter
- ♣ 2nd year – evaluation and visual data analysis
- ♣ Results
  - o "Presenting in an interesting and useful way"

- o "Really good and professional"
- ♠ Materials
    - o Contain information for people like herself can show to their bosses that will convince them to try hosting a project
    - o Help the sponsor promote us within their own organization
    - o Make clear that it is FREE – it's very important for museums on limited budgets
- ♠ Need to know:
    - o How long will the project be?
    - o Amount supervision required?
    - o Explanation for the acronym – IQP, IGSD, etc.
- ♠ Printed Materials
    - o Should be short, contain the website URL
    - o Need to be retainable, and useable
    - o Indicate that: projects are free, high quality work, relatively long period of free work
- ♠ Database
    - o Would search for content like statistical analysis etc.
    - o Should list the kinds of things WPI has done – predefined searches

Raymond Dill, Reigate & Banstead Borough Council, May 25, 2011

- ♠ Works with the community to promote green products, etc.
- ♠ Heard of WPI through professor Golding – personal acquaintances
- ♠ First WPI project group
    - o Did a particularly good job
    - o Organized, "understood the task fairly quickly"
    - o 1st group did energy audits
- ♠ 2nd group
    - o Continuing the energy audits
    - o Having less success engaging the business community
    - o Looking to make the project look at forms of engagement of the business community
- ♠ Website
    - o The benefits of being a free resource

- The students are self-motivated and organized – makes what may seem like a large burden (4 students for 7 weeks) was not a problem
- Ease people's concerns with time commitment and resource usage
- Highlight academic credentials of the projects
- Give a wide range of the types of projects people have been involved with
- Case studies, anecdotes – people will want to see what students have done
- Print Materials
  - A small flier type publication – 1 piece of paper, includes case studies on the back side, an overview on the front side
  - Engage the viewer in a short amount of time
  - An A3 folded, contains more information: who is WPI, where are we from, details about the program
- Sponsor word sometimes gives the sense that funding is required. In those materials, the word sponsor would be appropriate, but be very clear there is no expectation of financial funding
- Sponsor is the right word – main contact in the organization, responsible for the well-being of the students within that organization
- Has been content to be called a sponsor
- He agreed to allow us to write up an article about Reigate – wants us to run it by him; make it a reference

Steve Cardis, Kingston Council, May 19, 2011

- Biography
  - Manager of six staff at Kingston planning office
  - Worked with WPI at Merton in the early 1990's, connected through Jenny Hawkes
  - Been at Kingston for the last 3 years
- Did project this year with WPI
  - Audit of sports fields
  - Met with clubs, used GIS software
  - "Students worked really well together as a team"
  - "Like a professional job"
  - "Delivering something we can really use"
- When worked in Merton

- o Sponsored a lot of website projects, a skill WPI students have that many people in London don't
- o Also a lot of social / research work and surveys
- o "Very good at collecting social service data"
- o Higher response rate as Americans
- o Students are independent workers, people are more cooperative because we're American

- ♣ Supervision
  - o Sponsors don't have to take on all the responsibility
  - o Borough workers have limited time and money
  - o WPI students spend time in America preparing for the project
  - o They can take some of the burden off a limited staff

- ♣ Web site
  - o Point out the purpose of the program
    - ▪ That it is an educational experience
    - ▪ Sponsors will like to know they are committing to educational project
  - o Overview of the process, time-table
  - o Outcomes of projects
  - o What the risks involved are
    - ▪ Students might not be well prepared or might not get along, etc.

- ♣ Print Materials
  - o Visual, short and snappy content
  - o Flow charts
  - o Links to Web site
  - o Look professional and visually interesting

- ♣ Database
  - o Would be helpful in understanding what is possible
  - o What skills WPI students have
  - o Would want to know what are other projects done at other local authorities – brief overview of each project
  - o Possibly search terms: web, sustainability, carbon, emissions

- Communication is key – there should be a way for people looking at the site to call and talk directly to someone, ask them questions, get reassurances, etc.
- Emphasize the scale of the projects and the outcomes that can be achieved
- Many people are more receptive to American students in London in terms of surveys, etc.
- Promote the fact that WPI students are International students

Dr. Susan Buckingham, Brunel University, May 27, 2011

- Did a project with GroundWork, an environmental NGO
- Used to run a program for geography students at Brunel, they worked with a team from WPI
  - Her student had received benefits from the project
  - Enjoyed working with American students
  - Gave him some insight into working with students from a different tradition
- London Borough of Merton project
  - "Getting U.K. and American students working together"
- Sponsored the Women's Environmental Network project herself
  - Women's campaigning organizations
  - WPI team updated the website
  - "Students were very respectful and they came to WEN offices and were very good at briefing the organization and feeding back the information that they assembled"
  - "Got a really good handle in quite a short time of what the organization was about"
  - With 7 weeks, it was limited in what they could deliver – they were able to make recommendations, later WEN commissioned someone else to do the web design work
  - "Useful in terms of helping them draw up the spec"
  - "Helping them think through what they would need to think about it"
- Website
  - What is it going to cost?
  - What is available
  - What are the implications
    - How much time? Financial cost? What it can contribute to the organization?
    - Expectations on her as a commissioner
  - Easily navigable – logically organized, make sure content is where you would expect it to be

- o Test it out on a few people that are less web savvy
- ✦ Print materials
  - o "If I'm going to use the brochure, all the information should be in print"
  - o A short postcard type thing might not make her interested if she had never heard of WPI
  - o A short print material would not be good for as a form of first contact
  - o If it looks really nice, she'll put it on her shelf and look at it from time to time
  - o Striking designs
- ✦ Database
  - o She would look at other websites students designed, etc.
  - o If she were looking to host a project she would look for things similar to her interests
  - o She would use keywords – women, environment, etc.
- ✦ What to call sponsors?
  - o As an NGO, she is interested in getting work done but also on the educational experience
  - o Science museum, etc. are really just interested in getting work done, and less interested in educational experience
  - o Project partner is the term she uses for her external project sponsors at Brunel
  - o Commissioner is not the right word to use
  - o Sponsor word usually indicates financial funding
- ✦ Check with WEN about content by sending it to Dr. Buckingham.
- ✦ Send draft of content including the quotes above to Dr. Buckingham for verification

Naomi Martin, Commonside Center, June 3, 2011

- ✦ Biography
  - o She has been working with Common side center for the past 6 years and she is currently the center director.
  - o They run a community center and often get funded for small programs.
  - o WPI has been working with the Common side Center at least for the past 6 years, they were introduced by Borough of Merton
  - o Developing a website for the London Project Center is a great idea, because often I talk to my colleagues about WPI students and having a website to refer them to is very useful.

- o The center has hosted about 6 projects so far. Often the projects are successful. Students are ready and organized once they get here.
- o The last project they hosted was the most successful one. It was about sustainability and energy efficiency, but it was successful because: "the sponsor was clear with what they wanted and they shared this information with the student team clearly, not because of the type of project it was."
- o The other great project we hosted was on "advertising our café" – "the team of students were very funny and smart so it worked for us"
- ✦ Website
  - o She is a big fan of exchange programs, so she doesn't need much persuasion. "I like a team of bright students to ask questions, I believe it's a cheap way of having a consultant. That is what most consultants do, they ask you questions and make you think." – "I feel we are very lucky – because we get some really bright brains from all over the world that go to a good school in America"
  - o Keywords she might search for : Development trust, community centers, charities, regeneration centers – or by local areas "south London, north London, Croydon borough e.t.c"
  - o "I would be happy if you list me and my e-mail as a contact person in the website and I would be happy to talk to people about WPI projects."
- ✦ Print material
  - o A trifold or post card would be nice, something shiny that can attract attention
  - o It needs to have: "Here is WPI, we love working with organizations in UK because _____, example projects: content should not be too dense, use attractive graphics and images.

Josh Lambe & Graeme Kane, Mole Valley District Council, June 1, 2011

- ✦ Josh Lambe's role at Mole Valley District Council
  - o Wasted, recycling
  - o Supporting Graeme Kane in reducing carbon emissions
  - o Carbon management programs
    - ▪ Trying to reduce Mole Valley Council emissions by 30% by 2015
    - ▪ Council manages 20 buildings, fleets, 2 recreational centers

- o Environment & Sustainability Officer
- ✦ Graeme Kane
  - o The council's internal carbon footprint
  - o Emissions of residents and businesses
  - o Some WPI projects have performed carbon emission analyses on businesses
  - o Residents can check out electricity usage monitors from local library
  - o District – 60% of waste is recycled
- ✦ WPI Project
  - o "We're stretched pretty thin" – have trouble helping businesses reduce emission, deal with their own emission – don't have much time to reach out to businesses
  - o WPI project team helped start things off with businesses
  - o "We got a lot of work out of them"
  - o Limited staff – project teams help deal with this problem
  - o "Students were very independent"
  - o Referred back to sponsors when necessary
  - o Had a lot of initiative to develop the project
  - o "Gave us insights into things we may not have known"
  - o Engineering – knowledgeable, taught the sponsors things they didn't know
  - o Head of chamber of commerce very pleased with the presentation
  - o Pitched the presentation at the right level
  - o Learned from practice audits – better developed methods
  - o Flexible in their methods
  - o "Really thought about what they could leave behind", The students thought about the bigger picture
- ✦ Initial contact with WPI
  - o Through Raymond Dill
  - o Referral is the best way to get involved sponsoring a project, be cause they don't have time, and not confident about WPI, skeptical about cold calling.
  - o Need someone to answer questions.
  - o Explain how important is the time commitment? How much supervision will be required?

- Website
  - Case studies – show what the projects are capable of doing
  - Need to see what other organizations are doing
  - Show these facts:
    - Minimal supervision required
    - Self starters
    - Students do not need constant advice & suggestions
    - Not a burden for sponsors
  - FAQ
    - How much supervision?
    - Where they will stay (live)?
    - How much it will cost?
  - They want to get the information quickly
- Print Materials
  - Minimal content
  - URL link to our Web site
  - Small size materials
  - Short FAQ addressing basic questions
  - Skills students come with
  - Build up a picture of what exactly the IQP is
  - How many people, age, etc.
  - "Wet their appetite", get them to read more on the Web site
- Database
  - As a Borough, they want to look at what we've done with other Councils, suggestions for new projects
  - Keyword searches
  - Council-based projects
- The term "sponsor"
  - Does imply the exchange of money?
  - Recommend calling them "hosts"

Ken Hullock, Borough of Brent, May 26, 2011

- About Ken Hullock
  - Deals with the planning and development in Brent
  - Produces work plans for the borough
  - Projects he sponsors work with planning and sustainable development
- Projects
  - His first project was in 2003, dealt with analyzing the North Circular Road
  - Other projects involve surveys, some with schools, some with parking
  - Most projects deal with development and planning
  - Student housing in 2011 was a very useful project in particular
  - Project in 2006 was also useful, dealt with Wembley stadium and regeneration
- How did Wembley get involved in WPI projects?
  - WPI had already done a lot of projects in Merton
  - Ken Hullock was contacted by the sponsors in Reigate
  - WPI center directors met with him to discuss projects
- Use of the word Sponsor
  - Sponsor is better than Supervisor
  - Host is more clear than Sponsor

Peter McDonald, Borough of Croydon, May 18, 2011

Current Role:

- Has been in Sustainable Transport development team in the past 15 years,
  - Also has been involved with electrical vehicle transportation system
- Our WPI project team researched and found 57 more best locations for vehicle points
  - Now we have a professional consulting team reviewing students work
  - "Having a group of hard working students to go out and research is very useful"
  - "It is very useful that students come prepared and with a background. Students deal with the people in the organization professionally and the fact that I know what I am getting gives me confidence to come back"

What to include on the website:

- State that students come prepared with background

- o State that they act professionally with other people in organization
- o Describe what the sponsoring organization is getting out of hosting a project
- ✦ Searchable database
  - o Searchable database would be very useful; sponsors would like to see what else has been done previously.
- ✦ How do you refer to word "sponsor"
  - o Using word "host" is better than "sponsor" as the word "sponsor" amplifies that there is money involved.

<u>Print materials:</u>
- ✦ Organizations like this get approached allot by other colleges, so I do want to know what I am working with.
  - o It should fit in one page and must be short and realistic.
  - o Quotes and testimonials from other organizations and previous sponsors
  - o Display a featured project
  - o State "students are well supported by advisors and at the end they well leave you with a good piece of work"

Appendix E   London Project Sponsors

Full Name	Organization	Email	Phone
Dr. Sue Buckingham	Brunel	Susan.Buckingham@brunel.ac.uk	+44 (0) 18 9526 6090
Dr. Alexandra Burch	Science Museum	alex.burch@NMSI.ac.uk	+44 (0) 20 7942 4843
Libby Burkeman	Science Museum	libby.burkeman@sciencemuseum.org.uk	+44 (0) 20 7942 4753
Steve Cardis	Kingston Council	steve.cardis@rbk.kingston.gov.uk	+44 (0) 20 8547 5349
Bridget Clifford	Royal Armouries, HM Tower of London	Bridget.Clifford@armouries.org.uk	+44 (0) 20 3166 6669
Raymond Dill	Reigate & Banstead Borough Council	raymond.dill@reigate-banstead.gov.uk	+44 (0) 173 727 6211
Dr. Catherine Eagleton	British Museum	ceagleton@britishmuseum.org	+44 (0) 20 7323 8228
Robert Fiddik	Croydon	bob.fiddik@croydon.gov.uk	
Steve Gardam	London Transport Museum	steve.gardam@ltmuseum.co.uk	+44 (0) 20 7379 6344 (switchboard)
Megan Gooch	Tower of London	megan.gooch@hrp.org.uk	+44 (0) 20 3166 6405
Jennie Hawks		jhawks@churchcottage.org.uk	+44 (0) 20 7274 9128
Adrian Hewitt		hewittadrian@hotmail.com	+44 (0) 20 7324 2662
Ken Hullock	Brent Council	Ken.Hullock@brent.gov.uk	+44 (0) 20 8937 5309
Joyce Ip	Brent Council	joyce.ip@brent.gov.uk	+44 (0) 20 9837 2274
Graeme Kane	Mole Valley District Council	Graeme.Kane@molevalley.gov.uk	+44 (0) 13 0687 0622
Mike Maguire	Brent Council	michael.maguire@brent.gov.uk	+44 (0) 20 8937 5310
Naomi Martin	Commonside Community Development Trust	naomi@commonside.net	+44 (0) 20 8764 9582
Peter McDonald	Croydon Council	Peter.McDonald@croydon.gov.uk	+44 (0) 20 8760 5791 / 020 8726 6000 x 62765
Joseph McFarland	Hounslow, London Borough of	Joseph.McFarland@hounslow.gov.uk	+44 (0) 20 8583 5485
Elizabeth Puddick	London Transport Museum	Elizabeth.Puddick@ltmuseum.co.uk	+44 (0) 20 7565 7286
Dr. Florian Schweizer	Charles Dickens Museum, The	florian.schweizer@dickensmuseum.com	+44 (0) 20 7405 2127
Kate Steiner	Science Museum	Kate.steiner@ScienceMuseum.org.uk	+44 (0) 20 7942 4821
Nicola Upton-Swift	Science Museum	nicola.upton-swift@sciencemuseum.org.uk	+44 (0) 20 7942 4743

Appendix F   Survey of Previous LPC Students

Hey Londoners!

Our IQP group is going to London this E term and part of our project involves creating a Web site to promote the London Project Center. We were wondering if you would be willing to share any fun (appropriate) photos from London and any interesting blurbs or quotes about your experience. They might be featured on our Web site! Any other suggestions for Web site content would also be greatly appreciated.

Feel free to send these things to lpce11@wpi.edu

Thanks in advance!

The London Project Center Team E11

Tariq Aziz-Azizi (CE 2012)

Chris Casola (CS 2013)

Long Huynh (CE 2012)

Adam Talbot (CS 2013)

Appendix G   Survey of D 2012 (Future) LPC Students

Hello everybody!

Do you have any questions about your upcoming London IQP? Unsure about what to pack, where to eat, or how to not get run over when you cross the street because you decided to look the wrong way? We're going to try to give you answers.

We are an IQP group currently at the London Project Center. Our project involves creating a Web site that will have information for upcoming Londoners such as yourselves!

In order for us to provide useful information, we would like to know some things from you, such as:
> Questions you may have about London
> Suggested guides or information you would like
> Questions about the IQP process and how to complete your project
> Any features you would use, such as a blog or a collection of past experiences
> Any other concerns you may have for your D-Term project

This site should be up and running by the end of this term, so all of you can use this as a resource; because of this, **any information you ask for is for your own benefit**!

Please help us out, and help yourselves in the process! You can email lpce11@wpi.edu with any questions. Please reply by **May 20, 2011!!**

Tariq-Aziz Azizi
Chris Casola
Long Huynh
Adam Talbot

Appendix H   Sitemaps

Sponsor Section
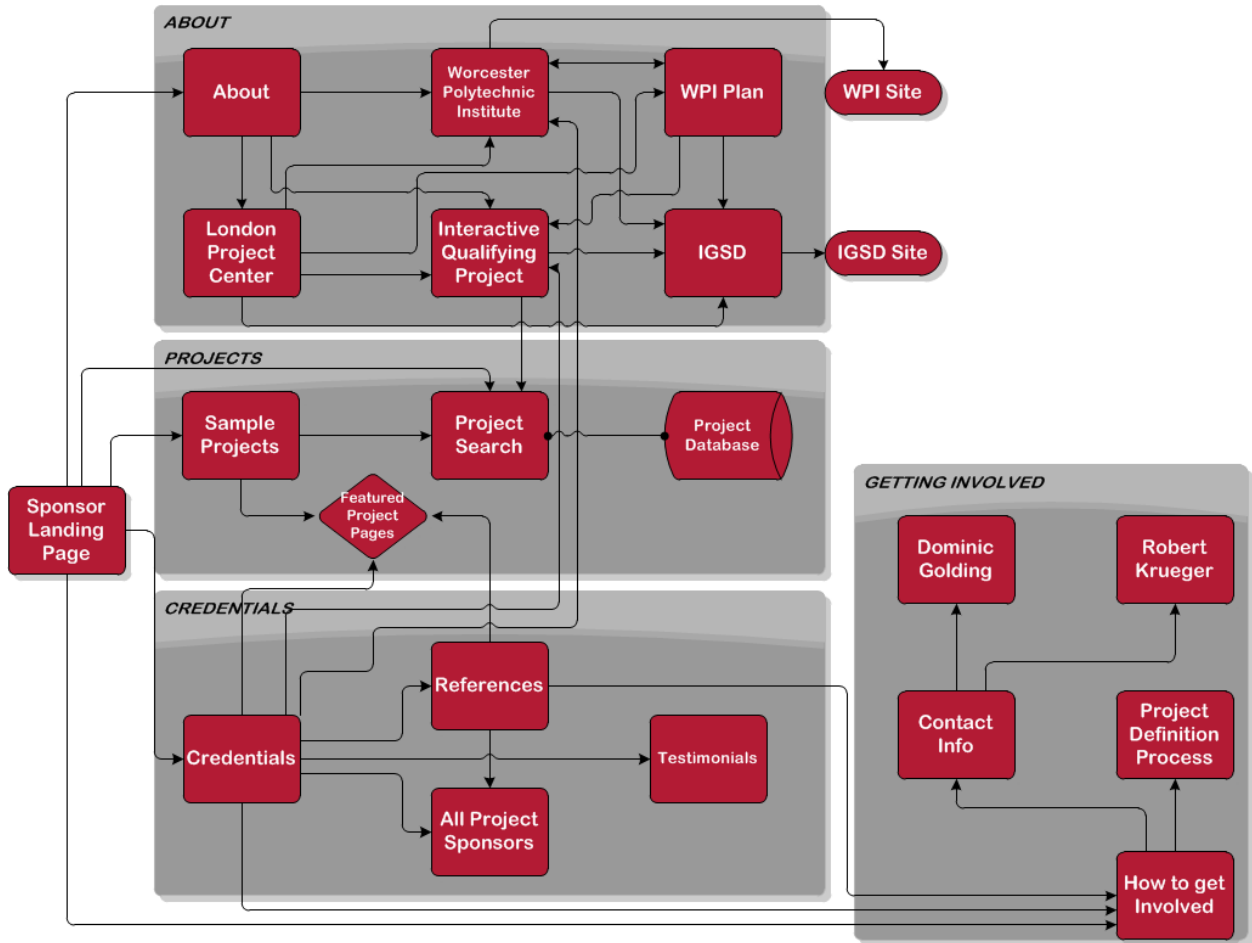
Student Section
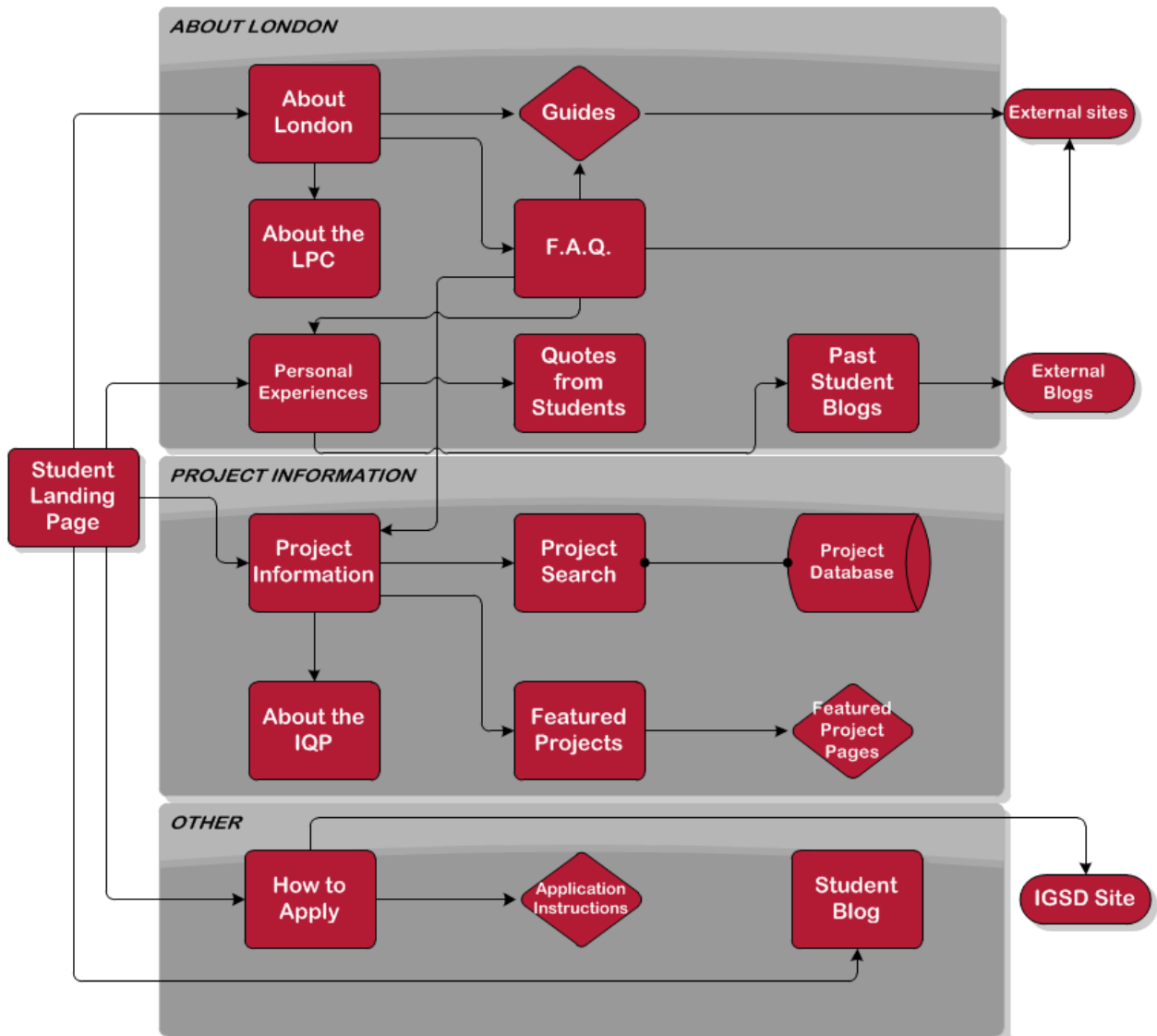
Appendix I Recommended Projects to Feature

Investigating Visual Instructions for Mechanical Exhibits
Science Museum
2006
2006 President's IQP Award
Recommended by: Steven Taylor

British Museum Gallery Study: An Analysis of the Effectiveness of Select Galleries for Families
British Museum
2007
Recommended by: Wesley Mott
http://www.wpi.edu/Pubs/E-project/Available/E-project-042507-070939/

Sustainable Transport Mapping for the Kingston Council
Borough of Kingston
2010
Recommended by: Nikolas Kazantzis
http://www.wpi.edu/Pubs/E-project/Available/E-project-062410-173054/

Evaluating the Effectiveness of Hands-On-History at Her Majesty's Tower of London
HM Tower of London
2008
2008 President's IQP Award
Recommended by: Peter Hansen & Stanley Selkow
http://www.wpi.edu/Pubs/E-project/Available/E-project-042308-151929/

Development of Key Stages 2 and 3 Teacher Resources in the Areas of Space and Flight for the Science Museum in London
Science Museum
2008
Recommended by: Peter Hansen
http://www.wpi.edu/Pubs/E-project/Available/E-project-042308-184038/

Innovative Exhibit Interpretation Using Mobile Applications
Science Museum
2009
Recommended by: Paul Davis
http://www.wpi.edu/Pubs/E-project/Available/E-project-043009-205722/

Evaluating the London Science Museum's Activity Boxes at UK STEM Clubs
Science Museum
2009
Recommended by: Paul Davis
http://www.wpi.edu/Pubs/E-project/Available/E-project-043009-134958/

Community Facilities Appraisal
Borough of Brent

2009
Recommended by: Paul Davis
http://www.wpi.edu/Pubs/E-project/Available/E-project-043009-181325/

Evaluating the galleries of the Department of Coins and Medals at the British Museum
British Museum
2009
Recommended by: Paul Davis
http://www.wpi.edu/Pubs/E-project/Available/E-project-050109-085007/

Web support for the Carbon Reduction Partnership in the Royal Borough of Kingston
Borough of Kingston
2009
Recommended by: Paul Davis
http://www.wpi.edu/Pubs/E-project/Available/E-project-043009-163913/

Appendix J Web Hosting and Development Software Rating Sheets

Web Hosting Service

Rating Sheet: Web Hosting Companies

Company Name: ▭

Website: ▭

Reliability

Uptime: ▭

User rating: Rate from 1-5

User reviews: ▭

Is this company a reseller: ☐ Yes   ☐ No

Available support hours: ▭

Servers

Location: ▭

Operating System: ☐ Windows   ☐ Unix   ☐ Other: ▭

Supported Tech: ☐ FTP   ☐ PHP   ☐ Perl
☐ Python   ☐ ASP   ☐ MySQL
☐ Others: ▭

Price & Limits

Length of subscription available: ▭

Storage space: ▭   * Avoid sites that say unlimited storage: usually not true

System resource limits: ▭   * May be none

Bandwidth per month: ▭   * Avoid sites that say unlimited bandwidth: usually not true

Cost for 1 year of service: ▭   * All-inclusive

Trial period available: ☐ Yes   ☐ No

Final recommendations: ▭

Web Development Software

Rating Sheet: Web Development Software

Software Title: �_____

Company: �_____

Ease of Use & Flexibility

Can pages be edited without writing code? How easy is it for an inexperienced user to edit page? How is it done?

�____

How much control over style and layout does the designer have? How difficult is it to obtain the desired results?

�____

How steep is the learning curve for both people who may want to edit the pages and those designing the site from scratch?

�____

Cost & Compatibility

Total Cost: _____

Subscription required? ☐ Yes ☐ No

Supported OS's: ☐ Windows ☐ Mac

Support

Is paid support available? ☐ Yes ☐ No

Comment on the extensiveness of online help, particularly on the company's support pages and user forums.

�____

Final recommendations: ____

Appendix K   List of Project Keywords

Accessibility
Athletics
Audits
Awareness
Businesses
Carbon
Children
Climate
Communications
Databases
Disability
Educational
Elderly
Emissions
Energy
Environmental
Exhibits
Facilities
Feasibility
Health
History
Housing
Interactive
Library
Manuals
Marketing
Outreach
Pollution
Recycling
Safety
Science
Sports
Surveys
Sustainability
Training
Transportation
Virtual
Websites
Youth

Appendix L   A4 Flyer – Version 1

A Note from the LPC Directors

Dominic Golden, Ph.D.
London Project Center
Co-director
Worcester Polytechnic
Institute
golding@wpi.edu

Robert Krueger
London Project Center
Co-director
Worcester Polytechnic
Institute
krueger@wpi.edu

Founded in 1987, the London Project Center is one of Worcester Polytechnic Institute's oldest international centers. Since the birth of the Project Center, WPI students and faculty have been engaged in over 200 projects in London and around the UK. We have worked with more than 75 different sponsoring organizations. Our sponsors have included a range of charities, local authorities, and some of London's signature museums.

We look forward to hearing from you. Please contact us if you have any questions or comments, or visit our website at www.wpi.edu/+lpc.

Dominic Golding
Robert Krueger

The London Project Center

Is there a long-term problem you don't have the resources to address? Our students can perform preliminary data collection and analysis, provide you with recommendations for the future, and develop working solutions.

The London Project Center is one of over 25 project centers that Worcester Polytechnic Institute (WPI) operates around the world. At these centers, students work with sponsoring organizations and use their science and engineering knowledge to solve problems.

What makes these projects unique is that the students generally have a good understanding of their project and have a work-plan before getting on-site. Once they arrive, they are ready to start their research and obtain results.

Some examples of what our students can accomplish:

- Design and develop Web sites
- Evaluate museum galleries and exhibits
- Help charities market themselves and connect with contributors
- Integrate technology into museum exhibits
- Create multimodal transportation maps that provide users with sustainable travel options
- Develop energy reduction plans to cut carbon emissions
- Design and develop a corporate information database

WPI students "allow us to experiment with things we might not otherwise have time to work with." They "challenge our own thinking and can bring in some very different ideas. They're very good at taking an idea and doing something creative around it."
- Alex Burch, Science Museum

"The teams were organized and they understood the task fairly quickly." In addition, "although having four students for seven weeks seems like a burden, students are self-motivated and there was relatively little time commitment necessary."
- Raymond Dill, Reigate and Banstead Borough Council

www.wpi.edu/+lpc

Appendix N   5 x 7 Postcard