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The Social Justice Computing Project (SJCP) at Saint Louis University (SLU) seeks to address the digital divide by providing computers to disadvantaged individuals and the institutions that serve them. Students in SLU's John Cook School of Business take donated computers (most of which would otherwise be discarded), retrofit them with free, open-source software (F/OSS) and then donate the refurbished computers to appropriate institutions and individuals.

The Social Justice Computing Project engages students in providing service to others while also helping the students gain useful IT and leadership knowledge and skills. Importantly, the Project enables students to better understand the barriers faced by the marginalized. Moreover, the Project helps students understand that they have the ability to make a tangible, long-term difference in individuals' lives. These computers enable individuals to gain the IT skills that may help enhance their employability in the future. The project directly addresses the access problem, which is the first step in the path to IT literacy. Put simply, without access to IT, it is difficult to obtain the knowledge and skills necessary for IT literacy.

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Genesis of the Social Justice Computing Project

The Project grew out of a merger of interests in several areas - open source software, information technology literacy, social justice and active learning. The idea began to form as one of the project initiators participated in a year-long seminar on Jesuit values and philosophies. The Decrees of the General Congregation 35 were released during this time. (The General Congregation is a meeting of Jesuits from across the globe; it is the highest authority of the Society of Jesus.) The Decrees specifically addressed the impact of communication technologies on the lives of individuals.

At the same time, the Project initiator and another faculty member were engaged in research and extended discussions about open source software, particularly the Linux movement. (Linux is a free, open-source computer operating system.) Two major advantages of Linux are that it is available for free and that it has lower operating hardware requirements than commercial operating systems. During these discussions the idea behind the Social Justice Computing Project was born. The Project not only provides disadvantaged individuals with a functional computer, it also gives students the opportunity to improve

their information technology skills by outfitting the donated computers with Linux and their organizational skills by managing a project from start to finish. Important learning outcomes for students engaged in Social Justice Computing projects include project management, supply chain management, (procurement, production, logistics), client communication, social networking, technical skills, problem-solving, teamwork, and social justice.

As a Jesuit university, promoting social justice is a core mission of Saint Louis University. The University is surrounded by low-income areas whose residents often lack access to information technology that many take for granted. Lack of access to information technology limits the ability of disadvantaged individuals in the area to gain information literacy skills. The Social Justice Computing Project enables Saint Louis University to address both educational and social justice aspects of its mission.

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Linux

Linux is a computer operating system that can function on a variety of hardware platforms, including personal computers, servers, tablet computers and mobile phones. (The mobile operating system Android is related to Linux.) Linux is free and open source, which means that the computer source code underlying Linux is freely available and can be modified and redistributed. The ability to modify Linux means that there are many different variations of Linux available. These variations typically result from a desire to address particular needs. These variations are known as "distributions." While Linux is more widely used for servers or mobile devices, there are numerous Linux distributions directed at individual users. These are typically referred to as "desktop" distributions, although they work on portable computers such as notebook and netbook computers. Among most popular of the desktop distributions are Ubuntu, Fedora, Linux Mint, and Mandriva.

Several characteristics of Linux make it suitable for the Social Justice Computing Project. First, many major distributions are available for free. Second, some distributions of Linux are particularly suitable for use on older computers that may be lacking in hardware resources such as processor speed and storage space. Finally, Linux distributions often facilitate installing key software applications such as web browsers and productivity applications (e.g. word processors and spreadsheet software).

A Need in St. Louis

Like many American cities, St. Louis is home to a significant number of residents who are economically disadvantaged, and the region's challenges related to poverty have been further exasperated in

the past few years by the recent recession. For example, major employers such as the local Chrysler plant have shut down robbing the area of jobs and forcing more families below the poverty level. In fact, recent census data indicates that "an additional 19,000 people living in the region's top six counties plus the city of St. Louis fell into poverty in 2010" (Moore, 2011, para. 1).

Compounding this problem has been the reduction in resources available to the local agencies that serve the poor. Non-profits are having their government subsidies reduced while simultaneously seeing an increased need to provide food and other necessities to families that are financially burdened (Moore, 2011). Much like businesses in the private sector, government subsidized non-profit agencies need to be become more efficient and learn to do more with less so that they remain solvent and can continue to provide their needed services.

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An example of a St. Louis based non-profit agency that is facing the challenges of an increased client base and diminishing resources is the Harvey Kornblum Jewish Food Pantry housed within Jewish Family Services—an organization that provides support to local families facing economic and emotional challenges. In order to insure that the agency can continue to serve the needy, managers are continually looking for ways to be more efficient in their use of limited funding and donations. According to the Program Manager for the Harvey Kornblum Jewish Pantry, many private food pantries run by churches and community centers have closed resulting in a significant increase in clients at Jewish Family Services. The organization is facing the challenge of serving more people without the benefit of additional funding and other resources.

Another challenging byproduct resulting from the intersection of poverty and diminishing resources is the impact on education. In 2007, a New York Times article reported that "The St. Louis district, which has 35,000 students — many of whom are poor or homeless — has a history of financial, administrative and student achievement failures" (Gay, 2007, para. 8). The same article went on to say that the 2006 graduation rate in the St. Louis public school system was 55% and the dropout rate was 19%. By 2010, the graduation rate improved to 60.1% (Saint Louis Public Schools, 2011) and while this shows that the numbers are trending in a positive direction, it seems clear that more needs to be done to increase students' chances of completing high school.

A specific example of someone who wants to see improvements in education is Mary, a mid-town St. Louis resident and single mother of two sons enrolled in the public school system. The younger of her two sons has autism. Like many other parents, Mary is concerned about her boys' academic success in an education system that is working to

overcome significant hurdles. Despite these challenges, however, Mary remains optimistic. For example, she points out that her first son is 15 years of age and has an A-B average. She contends that if he's given the right resources, he'll continue to succeed, graduate from high school, and go on to attend college.

Related to a lack of resources, one of the specific challenges facing many non-profit agencies and impoverished families is a lack of technology. In an era when the majority of job applications are on-line and many college courses are being offered on-line, having a quality personal computer seems to be more imperative than ever for personal, educational, and professional success (Crawford, 2011). In addition:

> IT can provide students and teachers with a large body of easily accessible information; create opportunities to reinforce learning basic, new, and higher-order cognitive skills; and increase student interest and motivation, parent-school communication, and parent involvement (Eamon, 2004, p. 93).

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There is, however, a significant divide in access to technology between Americans of varying economic means. "On average, the advantaged, relative to the disadvantaged had a higher level of ownership of Internet PCs (66 percent versus 20 percent)" (Po-An Hsieh, Rai, & Keil, 2008, p. 112).

The Service Leadership Certificate Program

Students in the John Cook School of Business at Saint Louis University are fortunate to be in a position to offer assistance to help address the needs of both non-profit agencies and individuals who are facing challenges associated with limited resources. Saint Louis University is a Jesuit Institution of Higher Education steeped in the philosophy of teaching students to be men and woman for others. Within the John Cook School of Business, students have the unique opportunity to enroll in the Service Leadership Certificate Program where they can engage in Jesuit based community service while honing their business leadership skills.

The Service Leadership Certificate Program is a curriculum that is exclusive to undergraduate business students at Saint Louis University. The Program allows students to earn an academic certificate in leadership by completing 5 courses, attending 24 leadership workshops, and completing 300 hours of community service. The Program is largely self-directed by individual students, and while those enrolled are given a great deal of freedom and latitude in choosing the type of community service they complete, they are also empowered to

look for service opportunities that allow them to use their business skills while serving those who are less fortunate.

When the Dean's Office in the John Cook School of Business proposed the idea of refurbishing used computers and distributing them to agencies and individuals in need, it was immediately thought that this would be an excellent project for students enrolled in the Service Leadership Certificate Program. In the fall of 2009, students in the Program worked with their advisor to form a sub-committee called the Social Justice Computing Project Committee. Their charge was to solicit for gently used computers, refurbish them by loading the Linux non-proprietary operating system onto the machines, and distribute them to those in need.

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The Certificate in Sustainable Business Practices

A brand new program in the John Cook School of Business provides another avenue of support for the Social Justice Computing Project. In 2010, the Dean's Office in the John Cook School of Business proposed the development of the Certificate in Sustainable Business Practices that addresses the demand for training in the area of sustainability. Motivation for offering the certificate stems from the notion that building sustainable societies is increasingly important, both pragmatically and as a social justice issue. Often there is the perception that environmental and social sustainability are at odds with economic sustainability, especially when considered from the perspective of the individual firm. However, this need not be the case; it is possible for businesses to promote environmental and social sustainability while also being economically sustainable (i.e. profitable).

Modeled on the business school's Service Leadership Certificate Program, the new Certificate in Sustainable Business Practices Program is intended to help undergraduate business students understand how firms can achieve economic sustainability while also pursuing environmental and social sustainability; a goal that fits well with Saint Louis University's mission.

The Certificate in Sustainable Business Practices Program combines coursework related to sustainability with field work, seminars and reflections. More specifically, students are required to take 18 hours of approved coursework. A minimum of 6 hours must be taken from a pre-approved list of business courses. In addition, students must attend 10 approved seminars. These seminars include events such as Dean's Breakfast speakers, sustainability workshops, Center for Sustainability events and other activities deemed appropriate by the Program's coordinator. Finally, students must complete 200 hours of field work. This requirement may be satisfied through a faculty-supervised field project, a sustainability-related

internship, or approved community service projects. Students are expected to keep a reflection journal to help them think critically about their field work experiences.

Beyond providing computers for disadvantaged youth, one of the salient benefits of the Social Justice Computing Project is the prevention of used machines ending up in landfills. The environmentally friendly nature of the project gives it a major thread of relevance to the Certificate in Sustainable Business Practices. Specifically, students enrolled in the certificate can consider joining the Social Justice Computing Project Committee as a way to complete some or all of their field work hours.

An important component of the field work experience is the reflection journal. Students are asked to spend time thinking about and writing about how their work relates to the concept of sustainability. In addition, students are asked to consider how their sustainability field work intersects with their business studies. The Social Justice Computing Project has the potential to provide a great deal of scholarly fodder for students to begin making connections between the social, environmental, and business outcomes related to the initiative.

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Social Justice Computing Project Initial Donations

During the first two years of the Project, computers were donated by a range of organizations including D.A. Watson & Company Financial Services, the Breese, Illinois School District, the St. Louis Metropolitan Sewer District, and Saint Louis University. In addition, many computers were donated by individuals who are interested in seeing their old machines used to help young people in need.

Recipients of the updated computers have primarily been school children from the mid-town St. Louis area. Most of these young people have been referred to the Project by Third Baptist Church. Third Baptist Church is a parish in mid-town St. Louis with a ministry that provides academic tutoring to local kids. The director of the tutoring program has been a valuable conduit for connecting the Social Justice Computing Project with kids who need computers.

One of the individual recipients has been the 15 year old son of Mary, the St. Louis mother mentioned previously. Mary is convinced that having a computer in their home is one of the keys to assuring that her son completes high school and fulfills their family's goal of sending him to college. She believes that one of the greatest benefits of having a computer is that her son is able to leave school at the end of the day and seamlessly continue his studies at home; a process that gives him a boost in confidence and helps him maintain his good grades. Mary further points out that her younger son who has autism also benefits from the computer. When her younger son is having

trouble communicating verbally, he is able to use the computer to relay his needs to his mother.

While the Social Justice Computing Project has primarily delivered computers to individuals, they recently expanded their efforts to include computer delivery to non-profit organizations. For example, the Committee delivered two refurbished computers to the Harvey Kornblum Jewish Pantry to assist in their effort to become more efficient. Prior to receiving the computers, the staff tracked clientele and donations using a note card system. With the two donated computers, they now plan to transfer all of the data on to spreadsheets so that tracking can be done in a more timely and streamlined manner.

Another example of a non-profit being served took place on April 1, 2011, when a group of 200 students, faculty, and staff from the John Cook School of Business loaded on to buses and traveled to Hope House—an organization that provides affordable housing and empowerment to families in the St. Louis area. The group spent the entire afternoon painting, cleaning, and landscaping. As a major part of the day's efforts, members of the John Cook School of Business Social Justice Computing Project Committee installed updated computers in various areas within Hope House including the front desk/reception area, the social services center, the staff rooms, and the childcare center. The computers that were delivered to Hope House will be used to assist the staff, empower the residents, and educate the children.

Continued Growth of the Social Justice Computing Project

Recently, the Social Justice Computing Committee was recognized with an article in the Saint Louis University *Newslink* Newsletter as well as a generous corporate grant to support their efforts. With the recent notoriety and generous funding, there are plans for the Project to continue to grow and expand in the months and years ahead. Much of the planning will involve creating strategies to insure that financial resources are used efficiently so that those in need can be served most effectively.

An initial strategy that is being employed involves dividing the Social Justice Computing Project into two facets: (1) using grant money to purchase refurbished computers for donation and (2) continuing the original format of the program to repurpose gently used computers donated from community members. With the recently acquired grant money, the committee members decided to experiment with the idea of buying refurbished computers and installing Linux onto the machines. These computers will supplement computers donated by community members, increasing the number of computers available for those in need. Buying refurbished computers is consistent with the idea of serving the poor and marginalized, and also

promotes sustainable business practices by keeping computers out of landfills. As an initial test, the members of the committee ordered five refurbished laptop computers, and these machines will be donated to a local inner city middle school.

The second facet of the project, collecting donated computers, will continue to be the main focus of the Social Justice Computing Project Committee. Members of the committee are aware that the longevity of the project is dependent on their ability to bring in gently used computers from the community. At some point, the grant will run out, but there will likely continue to be a supply of gently used computers available. To help facilitate the collection of used computers, the committee is in the process of revamping the marketing strategies of the Social Justice Computing Project. Understanding the power of networking and leveraging contacts, the committee is taking a step back from current practices, evaluating methods of solicitation for computers, and addressing possible process improvements.

Leveraging the skills of the Social Justice Computing Project Committee members, various tasks have been assigned to each member of the committee to assist in the creation of a new solicitation email format, an informational flyer for the Social Justice Computing Project, and an information sheet on the technical aspects of the project. The goal of these marketing materials is to increase the visibility of the project within the St. Louis community by encouraging the use of word of mouth advertising. For example, perhaps a contacted individual or organization does not currently have computers to donate; the contact could still help promote the Social Justice Computing Project by forwarding the email and informational materials to friends, family, colleagues and other organizations. This package of marketing materials can also be provided to contacts and organizations that would be willing to help spread the word about the Social Justice Computing Project.

With the marketing materials created, committee members are starting to reach out to various networking contacts for assistance in increasing the visibility of the project and soliciting for computers. Two primary contacts for this step of the project are Mr. Nick Smarrelli and Mr. Tom Stemm of GadellNet Consulting Services, LLC. Mr. Smarrelli and Mr. Stemm have a wealth of contacts that they are recommending the committee members pursue. In addition, they are personally contacting several potential donors on behalf of the Social Justice Computing Project. Mr. Smarrelli and Mr. Stemm have also helped the committee brainstorm additional organizations and individuals as potential recipients of marketing materials.

As the new marketing strategy begins to take form, there are also some operational aspects that the committee is revisiting. The first of these involve how to increase the security of old data stored on

donated computers. In order to better assure donors that any stored data cannot be retrieved, Social Justice Computing Project Committee members researched various methods to wipe computer hard drives. A freeware called DBAN was found that clears and overwrites hard drives, making it exponentially more difficult to extract previously stored data.

Another operational feature that is being developed is a mentor program. The purpose of an accompanying mentor program with the Social Justice Computing Project is to give recipients of repurposed machines another reason to utilize their computers. Given access to technology and the Internet, mentees can maintain contact with a member of the Social Justice Computing Project Committee and receive technological, educational and personal guidance. More specifically, the proposed mentoring program will pair a young computer recipient with a mature college student from the Social Justice Computing Project or from the Business School in general. The young person's new ability to link via email will allow them to connect with a mentor from Saint Louis University in order to discuss topics ranging from academic progress to personal challenges. The mentoring program will be launched in the spring of 2012.

Very often, the talk turns toward the idea that feeling safe in our living environments is taken for granted and that an environment that does not feel safe might be a major hurdle for inner city youth who are trying to succeed academically.

Learning Outcomes for Members of the Social Justice Computing Project Committee

Beyond gaining logistical and technical skills, students who are part of the Social Justice Computing Project Committee have the opportunity to learn a great deal about what it means to be poor in St. Louis. After a computer is collected and refurbished with Linux, a group of committee members accompanies an advisor to deliver that computer to the home of a financially disadvantaged family in the city. The experience is often poignant and thought provoking for students.

A typical initial observation among students during these computer deliveries is the condition of the neighborhoods where the recipient families reside. Conversations revolve around the stark difference between growing up in a suburban environment versus growing up in an inner city environment. Very often, the talk turns toward the idea that feeling safe in our living environments is taken for granted and that an environment that does not feel safe might be a major hurdle for inner city youth who are trying to succeed academically.

Other observations that committee members make during deliveries involve the conditions inside the homes of the computer recipients. More specifically, recipient families usually lack desk space and infrastructure to accommodate a computer. As a result, students have set up computers on coffee tables, on kitchen tables, and on bed stands. Beyond this, students have observed a shortage of power outlets in some homes leading to the need for recipient families

to permanently unplug lamps or appliances to make room for the computer power cords. After the deliveries to many of these homes, there are often spirited conversations about many of the day to day conveniences that college students take for granted.

Related to infrastructure, a third observation that committee members occasionally make during deliveries is the lack of Internet access in recipients' homes. This is, perhaps, the most thought provoking observation made during the process. As committee members recount their computer delivery experiences, there are typically questions related to how families manage their day to day lives without access to the internet. While there are concerns related to the use of the internet for emailing and paying bills, there are also questions about how the youth in these homes develop academically without being able to plug into the resources that the web has to offer. Again, Social Justice Computing Project committee members gain an appreciation for many of the conveniences that they take for granted every day.

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Conclusion

This mission of Saint Louis University's John Cook School of Business is "excellence in business education inspired by the Jesuit ideals of seeking truth, educating the whole person and serving others." The Social Justice Computing Project helps the Cook School achieve this mission. Students not only gain practical business skills they also gain an appreciation for the circumstances of less fortunate individuals. In addition, the Project serves the larger community by providing disadvantaged individuals with tools that will help them gain critical information technology skills. By doing so, the Project has a role in reducing the social inequities faced by the disadvantaged. Project participants, both students and recipients, confirm the program's success. As one student put it, "Every time I finish a computer delivery, it is very exciting for me. It only takes a little of our time to make such an impact on someone's life."

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