Work In Progress: Use of Social Software for Final Year Project Supervision at a Campus Based University

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Abstract: Different students approach tasks in a project differently. Supervisors need to devise ways of accommodating these differences, albeit the difficulties in identifying them. At the start of a project, a student may be a) Independent and need very little supervision, b) Collaborator and seek supervision as required, c) Poser who poses to be independent and may seek help later or the supervisor may need to identify and provide help, d) Dependent on the supervisor They do not however stay in these categories throughout the project. The supervisor must identify and help those students in categories other than (a). We present a novel mix of social software namely: Twitter and Wiki. The aim is to help supervisors in identifying their student's needs thereby making them more flexible in dealing with different students. Students themselves get greater sense of ownership and community support from fellow students doing a project.

Introduction

Some of the key issues in supervising projects in a face to face environment are highlighted in this work. Being flexible in your approach to supervise different students is a difficult task and relies on correctly identifying the needs of different students quickly. This paper proposes a way to facilitate sharing information and interactions amongst the stakeholders, the supervisor and project students, in an informal social networking format. We explain the software we are using to achieve this. With the help of a case study and action research we hope to achieve the aims of our research. Some initial results are presented in this paper.

Every year 8-12 students are allocated to do a project with one member of academic staff. In the three odd months that follow the journey each student makes is very unique. They set out to complete a project that either they have chosen from a list of staff proposed projects or have come up with an idea themselves. Each student's background knowledge at the time of the start of the project can vary from being basic to advance (Ho 2003) and (Barak 2004). This also applies to knowledge about the project process (Ho 2003). A project preparation unit runs parallel to the project itself. This may make it difficult for some students to grasp fully the techniques of managing their project before they make a start. This leaves these students with two challenges. Firstly, working on the project problem and secondly understanding the project process. They get weekly supervision via meetings and are asked to keep an e-log. Communication over email is common form of support for the students and exchange of e-logs take place via this medium.

Some students start early and deal with several problems in parallel. They either take help from the supervisor or discuss issues with other students. They plan in advance and try their best to stick to the plan. Other students may not be so well organised and may even be lagging behind in the plan or in checking their progress against it. To top it, inexperience in running projects can hinder their progress and makes work inefficient (Hudson & Harding 2002). Some students do not get this process right, right till the end, by which time it is probably too late (Hudson & Harding 2002). They may also end up working in isolation from other students. Peer interaction is considered to be one of the key elements of course design that support deep learning (Biggs 1989). Students can benefit from sharing similar difficulties with each other but this is not actively facilitated or always possible.

Supervisors also have to devise different coping strategies for different students (Ho 2003). They find that some students are really ready and enthusiastic and may not need a lot of direct supervision. Such *independent* students may need more yet varying levels of freedom than others. Some other students seem to *pose* that they are independent and enthusiastic about their project but in reality they may need direct supervision. These students are tricky to identify. Another group of students are those who actively seek supervision in topics that they find difficult and get on with their work on their own. These *collaborators* sooner or later become independent and take charge of their own work. Finally, there are some students who are completely *dependent* on the supervisor for most of their project work. It is difficult to identify some of these students as one of these types. If say a dependent student is not attending the project meeting you may mistake him as being independent or otherwise. The supervisor must correctly identify their students and be flexible and accommodating of them.

Most of the project student's project time is spent doing their own work, unable to interact with other project students. This is worsened by the division of a class into smaller project groups, each allocated to different supervisors. It is then up to the supervisors to enable any interactions between the students. Even so the students are very cautious of sharing their work with others, as one, they are not used to this and two they see their project as their personal progress and work. Nevertheless, it is likely that students under one person's supervision will search similar sources and access this information individually.

With the above issues in mind and the advent of social software we wanted to examine the use of tools such as Wiki and Twitter (a micro blogging site) for project supervision. We hope to foster a sense of community and sharing of information, within a small project group, with the use of these tools. This will create a collaborative, informal communication channel for the stakeholders. Peer interaction as facilitated by the supervisor amongst his/her group of projects students has been found to be helpful else where as well (Popov 2003).

Research Questions

The target population for the case study is small group of five students working from home and in a lab on daily basis developing their individual projects over three months. There are several variables here: a group's progress and over all achievement, levels of engagement and the overall technical knowledge created by a group of students. Therefore the following research questions need answering:

Research Question 1: How is providing access to Social Software like Wiki and Twitter beneficial for the supervisor's and the project student's coping strategies during a final year project run?

Research Question 2: How is providing access to Social Software like Wiki and Twitter beneficial for the peer interaction levels and sharing of common information amongst a group of project students?

Research Question 3: How is providing access to Social Software like Wiki and Twitter beneficial for the overall performance of an individual student in their project work?

The Case in Question

At the University's department of Electronic and Computer Engineering projects are either a single version or multiple version project. The former is done by one student with one supervisor or more. The later is done by more than one student in parallel. Both run for exactly the same amount of time and have same marking scheme. In the multi version project it is important to keep the projects unique enough so that there is no conflict of interests amongst the students. This is best done at the start of the project by either choosing a different technology or in some other appropriate way. In both types of projects students can find many things to share and discuss. Most supervisors will have a pre-defined list of topics that are similar in their construct. This offers enough opportunity for collaboration and knowledge sharing amongst the students. For all other projects the project process is the common thing that provides the opportunity for students to discuss and collaborate on certain issues as they do their projects.

In the study we have four students doing their final year project in similar topics and one student doing a project in very different topic. Three of these students will be working on a multiple version project that have all been defined uniquely. The remaining one is working on a project that has some similarity, with regard to the technology used, with multi-version projects.

Methodology

For seeking insights into practical improvements Action research is used widely (Zuber-Skerritt 1992). This method uses a critical (and self-critical) collaborative enquiry conducted by the reflective practitioner. One important step in action research is to re-plan carefully and improve the existing change in practice. This is the chosen methodology for this project.

The findings and outcomes of this project will come from observations over a period of six months. The author is personally familiar with all five students involved. The students were also informed about the changes and willingly took part in this research project. Student presentations, their e-logs, the Wiki pages, Twitter messages, preliminary and final reports will all provide a rich source of information. Other ways of assessing the outcomes include the use of a student feedback questionnaire with interview type questions and by conducting open ended personal interviews.

The Proposed Use of Social Web in Project Supervision

We are using two services that are available to our students online. Firstly the social networking tool, Twitter and secondly a Wiki, are being used. These are explained in more detail below.

Twitter

Twitter is a micro-blogging tool that allows users to post messages on their blogs up to 140 characters long. A user can form a social network by choosing to follow other users. These users intern may choose to follow following user thereby completing the loop. What happens next is most interesting; a user following other users gets all their messages on his/her home page. If some of these users are also following him/her then his/her messages can be seen on their home page. Some say it is like dipping into and out of a river as and when you want for a refreshing dose of messages and snippets of what is happening in the lives of your networked friends.

Wiki

A commonly used open access web based collaborative workspace, of which Wikipedia is a prime example. This tool is beginning to find several applications especially in online and blended learning courses.

All five students in the study will have access to the Wiki pages dedicated for project work. They will have there own area where they can record the following:

1. Minutes of the meeting with their supervisor.
2. Any draft that they may be working on (for sharing it with the supervisor for comments).
3. Their project plan for monitoring progress.
4. Sharing summarised links to various useful resources.
5. Sharing summaries of literature review etc.

For the multi version project some additional pages were added to help them decide on the uniqueness of the project based on the contributions from different students to discuss:

1. Common Issues in the project

2. Features of the basic system
3. Technical options available
4. Skills each student possess or wishes to acquire that is directly related to the project
5. Sharing online resources.

All five students were also requested to register for Twitter and to follow students whom they think are relevant to their social community. All students now follow each other on Twitter. They are also asked to follow their supervisor, who follows all of them. This forms an informal community of users ready to sharing information with each other.

It is intended that the students will post Twitter messages (known as Tweets) about what they are doing (project related or other wise) so that a sense of online community can be established. The supervisor will send Tweets to encourage students in what they are doing for their project. They will also encourage community spirit either by asking students to add a link on the Wiki to a certain resource they have found and mention about it on Twitter for the benefit of others, or by thanking those who do this openly by sending Tweets to them. Their role is to close the loop on information that is with one student but is potentially useful for others. In doing so a number of times the student see the point and start to form a more cohesive community of users all going through similar situation. Student will also send Tweets directed to the supervisor asking them to review a piece of work the student has posted on the Wiki.

Another tool that is probably redundant but still useful here is Google reader or Yahoo Pipes. This keeps the students and the supervisor informed about the updates on the Wiki and Twitter. We are also using meetings every other week along with exchange of e-log for reporting progress with the supervisor in a formal way. The e-logs are used to provide feedback and distance supervision to the student and are deliverable. On the other hand Wiki postings and Twitter interactions are in no way assessed and are purely informal mechanisms. The web links to these resources are not included in this document to maintain anonymity as these links are live and are being used.

Initial Results

The students started to use Twitter and Wiki at different rates however initial observation of their use of the two tools look promising. So far only one student is not using Twitter, but this student is using Wiki effectively and contributing with useful resources for the multi-version project through it. All other students communicate with the project supervisor through Twitter and update their Wiki pages regularly and seek feedback from the supervisor in this way. Emails are also common but are restricted to send attachments that are not easy to send using Twitter or not suited to be put on the Wiki. Amongst each other they use Twitter to keep others posted as to what they are doing and to share links with each other. These links are exchanged mainly when they come across something that may be useful for others in the group.

The results so far, in this early stage of the project, are encouraging as we can see from (Tab. 1) below. It is Evident from (Tab. 1) below that all five students have used the Wiki to update the supervisor, some even as many as ten updates in three weeks. This is on top of fortnightly meetings and some emails. Almost all students are using Twitter to update their supervisor on their progress informally (see Tab. 2) and formally via meetings and e-logs. However, there is a growing exchange of messages between students within the group through Twitter. Only Student E is not using Twitter for now. We will investigate this further. Sharing of useful information amongst the students can also be seen to be taking place, mainly through the Wiki pages of the multi-version project. One student (student B) finds it useful to use Twitter to inform others of various useful resources he comes across. There is evidence (Tab. 2) that students see the intended use of the tools and are using them. It is also evident that they value sharing information and see it helpful for problem solving. They get a feeling that they are connected with the community of students and supervisor and get more contact with each other. They seem to value this contact time.

S.No	Event	Student: Count
1	Twitter Post saying "What am I doing?" (Twitter)	A: 24; B: 13; C: 5; D: 10; E: 0;
2	Here is a link I found that may be useful for some of you. (Twitter)	A:0; B: 4; C: 0; D: 0; E: 0;
3	Here is a link I found that may be useful for some of you. (Wiki)	A:0; B:4; C:0; D:2; E:2;
4	Wiki Updates for supervisor or others to comment on.	A: 7; B: 10; C: 9; D: 7; E:7;
5	Supervisor queries and support comments (several counts on wiki and on Twitter)	N/A

Table 1: Social networking activities recorded prior to the start of the final year project period.

Student	Comments
A	1. Twitter has been very handy so far with regard to the project if I required my tutor to look at my Wiki page or simply stating I need some advice. 2. If I have an enlightened moment I stick it in my log and or post it on Twitter. I can get feedback from my tutor quickly about it. (I) will aim to maintain it's (use) as so far it's been an invaluable contact mechanism. 3. It has helped with sharing of information and knowledge of the supervisor. I have not come across any disadvantages so far. 4. (A Wiki) can be edited by myself or my supervisor (and) is very handy so I can get feedback where needed. 5. If I need to access the Wiki it will be for periodical larger updates rather than consistent small ones. 6. It (Wiki) is an equally useful tool but in my opinion separate from the uses of email. 7. They (Twitter & Wiki) are very (very) good and nearly all my course mates I have spoken with about them are very interested! Mainly for having much improved contact time with the supervisors.
B	1. Twitter is useful for passing short pieces of information or keeping a community of people informed of your status/whereabouts/thoughts. As deadlines approach and as milestones come close I expect to use it more often. 2. If I formally need to notify my supervisor of something or ask him something I will always resort to an e-mail. Twitter is not appropriate for longer questions or status reports. 3. The advantage (of Twitter) is (in) knowing how others are doing in a similar situation. Another advantage is sharing knowledge although this is limited to short statements and links in Twitter. 4. Wiki is useful for logging longer trains of thought and maintaining a status report of our projects. 5. I will use Wiki to maintain a checklist of objectives achieved and for posting useful links and information to others who will benefit. 6. Wiki feels just as formal as an e-mail. The layout is in a much more official manner. Wiki will be used for info that either requires no response or no quick response. 7. Problem solving I expect will be greatly helped by this sharing environment. 8. The biggest drawback of both of these is repetitiveness. My log book contains everything but yet I want to put stuff on the tools. I feel as the project becomes heavier and more time constrained these two tools will be the first to be ignored....maybe not but that is my feeling.
C	1. Useful information and related links to the project can be posted up so that both parties can share ideas on the same areas of concern. 2. This (Wiki) is useful as it offers the ability to monitor your colleague's work and offers a method of communication between peers to share ideas and solutions. 3. Twitter proves to be useful as it eliminates the need to contact or hassle a project developer, generally via phone, and can simply see the status or work in progress.

Table 2: Selected comments made by students in their preliminary report or in reply to an email interview during first three weeks

Conclusion

Initial results show that even in the short period before the start of the project the students have taken up the use of the social software. A sense of community building up in a previously individual work scenario can be seen through the exchanges through Twitter and sharing of information through Wiki. The supervisor is better placed with these tools to identify which students need regular support and can be flexible in their approach in providing this help. It remains to be seen how these students perform as a whole and to compare their performance and experience with other students who did not use these tools during their project. We see some evidence being generated and collected to explain some of the research questions we listed above. The use of social software seems to help in tapping into collective knowledge of the small group thereby facilitating progress at a rate that is not possible in traditional settings unless where collaboration and sharing is commonplace. When completed the study will help shape future supervision approaches within the department.

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