Project Usability: Schmoosability

…what does it matter?

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Abstract—More often than not, problems and challenges readily surface within technology projects. These stem from poor usability and user experience aspects of the development process.

Successful forward planning and succinct on-going communication of development and testing processes is critical.

Clear communications across the range of impacted user work groups, together with the project team; ensuring an understanding of all roles in the development process is vital. Understanding the need to engage expert users and representatives from the impacted user groups is also critical.

This paper and associated presentation will look at what can happen in the real world, when even highly detailed project planning can be undermined by a lack of communications, understanding and unsatisfactory project team user experience. In effect, the user experience of project teams.

Figure 1. Project frustration

I. TECHNOLOGY DELIVERY PROCESSES

Most technology organisations develop their projects with the aid of a Technology Delivery Process, as seen in Figs. 2 and 3.

TDP is a suite of processes and supporting process aids (eg. templates, checklists, reviews and guidelines) used to develop and deliver quality products and services and maintain them.

Major organisations that I have consulted to, such as Coles Myer, IBM and Telstra all employ a version of TDP.

It is flexible so can be tailored for groups who already have processes; and is benchmarked against and based on the CMMI (Capability Maturity Model Integration) "best practice model.

(CMMI) is a process improvement approach that helps an organization improve its performance. CMMI can be used to guide process improvement across a project, a division, or an entire organization.

Figure 2. Technology Delivery Process diagram - high level

Figure 3. Technology Delivery Process diagram - detailed

However, a poor or lack of a communications strategy, particularly for the project team, can create frustrations due to lack of role clarity, and also clarity regarding development, and who (in the project team) is responsible for specific deliverables.

This aspect of the project user experience is generally overlooked in the planning stages, and it is vital that these aspects are addressed during the Project Design phase.

The International Conference on E-Learning in the Workplace 2010, www.icelw.org
II. PROJECT DESIGN

The project startup phase is crucial, because this is when the key resources forming the critical mass of the project team are brought together.

Test Manager, Test Analyst, Usability specialist, Instructional Designer, and others are roles that are critical to the on-going success of any application development project.

The Project Manager must ensure that there is transparency of roles across the project team. There is the risk that each person(s) in their respective role gives their own interpretation of what they think is needed to bring the project to fruition.

From this, misinterpretations can be created from the start and the time line of the tasks and the roles associated are skewed to favour the individual creating the time line. (e.g., the project manager in this case) As a result, the project has the potential to not fully meet the needs of all involved.

By making everyone fully aware of their own roles, misinterpretations can be kept to a minimum and the tasks and roles will be associated appropriately.

Once everyone is aware of the roles of a project, there should be a clear idea of what’s involved from all parties and a better understanding of which team members are person(s) is responsible for specific tasks and activities, based on their skill sets.

To facilitate the understanding of project team roles and responsibilities, as well as users, stakeholders and development team members, a process of information gathering should be undertaken.

A. INFORMATION GATHERING

A process of information gathering or discovery needs to be undertaken. Information needs to be collected and from the organization and stakeholders of the project.

The project needs to find out as much as possible about the target user group/s:

- Who are the current and future impacted users?
- What are their workplace/environmental routines?
- What are their expectations & needs?
- Observation, consultation in the context of location where application will be used
- Observe and understand user tasks and activities

This knowledge will offer greater insight into user behaviours, habits, preferences, likes, and dislikes

This will give a greater understanding of how they use, or may use, both the application and any materials associated with it.

B. USER CENTRED DESIGN

The role of the User Centered Design (UCD) process is vital to the success of site and/or application development, yet it remains something of a foreign concept.

It is also frequently bundled in with “Usability” and tacked on to the end of a project instead of taking its proper place as the underlying foundation.

User-Centered Design is a process focused on the design of information/tools that cater to the end user for the purposes of the most effective and efficient way of maximizing usage.

UCD is about designing the total user experience, which consists of all aspects of a product or service as perceived by users.

It is critical to setup and incorporate the following process steps at the project planning stage, and monitor and maintain through the scheduling process:

- Project Management
  - Communication of project requirements
- Usability Engineering
  - User and task analysis
  - User involvement
- Design
  - Information structure design
  - Prototype design
  - Design of interface, navigation, interaction
- Content Management
  - Gathering and collating appropriate content
  - Writing and editing

III. USABILITY

What is usability?

Definitions vary – we basically tend to think it is about how successfully a user can navigate and interact with a web site or application to achieve their goal or goals – either personal or workplace-based.

These goals could range from finding information; making a retail transaction, ordering items; manufacturing; personal needs; or merchandising activities.

Usability is also about how easy a product or application is to use.

The usability of applications can be considered successful if users can navigate and use them as tools to achieve their specific workplace performance requirements.

Successful applications should meet user needs, be easy to access and intuitive to navigate.

- From the user’s perspective usability is important because it can make the difference between gaining the knowledge to perform a task accurately and completely or not, and enjoying the process; or being frustrated.
- From the developer’s perspective usability is important because it can mean the difference between the success and failure of a system.
- From a management point of view, software with poor usability can reduce the productivity of the workforce to a level of performance worse than without the system.
- From the project team perspective, their user experience, that is, combining effectively towards the creation and deployment of a user-friendly product, needs to progress smoothly.

The excellent site www.usability.gov, as illustrated in Fig.4, provides a wealth of information for planning...
projects to cater for usability and user centred design requirements.

A successful project team user experience will only occur if the communications strategy is implemented effectively. This means ensuring that all members of the project team are involved in regular team meetings and updates from all members.

It is important to understand all the stakeholders for your product: the principals who make the purchasing decision, the business partners, technicians, developers, and consultants who are responsible for installing and configuring your product and bringing it to market, the users who will interact with the product, and the development team.

Although you may have some representative stakeholders or proxies on your design team, it is also important to communicate this stakeholder information to everyone on the project team.

IV. WHEN THINGS GO WRONG

When a project has not been carefully planned, or even if it has but has a project manager who is not project team-centric, but has a project plan focus; this scenario becomes a recipe for confusion, frustration and time-slipping.

I have recently completed a role in a project where this problem started to manifest itself at the testing stage. The development streams of the project had been proceeding on time, but then technical problems started happening just prior to the testing stage.

Timelines and milestones planned as part of the Business Process Trial (BPT), as seen in Fig. 5, had to been re-assessed and altered.

Typically, the testing team meets with the rest of the project team and appropriate stakeholders to decide on the major elements of the test plan and strategy. Often, the usability specialist then drafts the plan, which circulates to management and the rest of the project team.

Once everyone has commented and a final plan is negotiated, the usability specialist revises the written plan to reflect the final decisions.

The testing schedule in general is well planned by this stage of a project. The testing schedule should have had iterative changes made, and the Test Plan completed.

The purpose of the Test Plan is to document test activities that will happen, how the test will be conducted, what metrics are going to be captured, number of participants to be tested, and what scenarios will be used, as seen in Fig. 6, detailing the intricate aspects of a project testing phase.

The Test Plan should be understood and agreed to by all parties and signed off so that testing activities can commence.

V. TESTING

However, what became apparent at this stage was that there had been a breakdown in the testing schedule of consultations and interviews with stakeholders. Testers were not being included the iterative prototyping and development stages, and were being left out the development loop. This meant that the information scripted into a series of Test Cases, as illustrated in Fig. 7, did not truly reflect all stakeholder requirements.
Deadline pressures were not allowing enough time for user involvement, testing and review at the appropriate stages to be included. Detailed test scenarios and test cases were not being reviewed, understood and updated as required. This created issues in understanding task flow within the user interface.

When one of the testers came to me asking for assistance with navigating the User Interface, this was evidence that there were problems.

The tester couldn’t find the links to new Analytic screens for the Reporting module, a critical business enhancement for the new system, as seen in Fig. 8. This was because the various Reports were accessed by drilling down from the Answers tab.

If the communications strategy had been properly implemented, this situation would not have occurred; and the testing team would have been aware of the limitations of the navigational User Interface being developed by the 3rd party vendor.

VI. SUMMARY

Successful forward planning and succinct on-going communication regarding application development and testing processes is critical.

Clear communications across the range of impacted user work groups and ensuring that they understand their roles in the development process is vital. As is the need to engage expert users and representatives from the impacted user groups.

Together with appropriate product briefs and regular internal communications releases, regular team meetings, and workshops if required, will ensure that all involved understand ‘what to do’, and what updates are planned to the User Interface.

Project usability can be considered successful if project team members have a clear understanding of their role in the project, meaning that they also have a clear overview across the entire project, not just their portion in isolation.

REFERENCES

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