A methodology for successful Project Management in Medium Scale Enterprises

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ABSTRACT
The user interface or human interface determines how people use and communicate with systems. For example, a voice mail system on the telephone communicates the information to the user in the form of audio messages, and the user communicates information back by pressing the touch-tone buttons. The more complex the system, the more important the user interface. The user interface should help the user build an intuitive sense, of how the system works. When a system feels natural to use, the user interface is doing a good job [1]. The User Interface plays a key role for successful project implementations in medium scale industries, a research have been done on significances of user interface in medium scale industries and a new methodology have been evolved. The research results shows that user interface plays a key role in identifying software requirements specifications through the interaction of client, User Interface is developed with the interaction of client, from which an Project Manager is able to analyze the domain problem, functionality, complexity, cost, business strategies, human resources [2] etc

KEYWORDS: User Interface, Process Model

INTRODUCTION
Three golden rules of the user interface design
1) Place the user in control
2) Reduce the user memory load
3) Make the interface consistent

Design Principles:
Define interaction modes in a way that does not forces the user into unnecessary or undesired actions
Provide flexible interaction
Allow user interaction to be interruptible and undoable
Streamline interaction as skill levels advances and allow the interaction to be customized
Hide technical internals from the casual user
Design for direct interaction with objects that appear on the screen [3].
Reduce the user’s memory load:
The more the user has to remember, the more error prone interaction with the system it is for these reason that a well-designed user interface does not tax the user memory.
Whenever possible, the system should remember pertinent information and assist the user with an interaction scenario. There are number of principles that enable an interface to reduce the user memory load.
a) Reduce the demand on the short term memory
b) Establish meaningful defaults
c) Define shortcuts that are intuitive
d) The visual layout of the interface should be based on real world
e) Disclose the information in the progressive fashion

Make the interface consistent:
The interface should present and acquire information in a consistent fashion. This implies that
1) All visual information is organized according to the design standards that is maintains throughout the system.
2) Input mechanism are constrained to a limited set that is used consistently throughout the application and
3) Mechanism for navigating from the task-to-task [4]
There are few principle that help to make interface consistent

The Process: The analysis and design process for the user interface is iterative. The user interface analysis and design process encompasses on following activities

1) User, task, environment analysis and modeling
2) Interface Design

Once general requirements have been defined, a more detailed task analysis is conducted. The task that a user performs to accomplish the goals of the system are identified, described and elaborated [10]. The analysis of the user environment focuses on the physical work environment among the questions to be asked is
1) Where will the interface be located physically
2) Will the user be sitting, standing or performing other tasks unrelated to the interface
3) Does the interface hardware accommodate space, light, or noise constraints
4) Are there any special human factor considerations driven by environmental factors [5]?

The information gathered as part of analysis activity is used to create an analysis model for the interface. Using this model as the basis, the design activity starts. The goal of the interface design is to define a set of interface objects and actions that enables a user to perform all defined task in a manner that meets every usability goal defined for the system.

The construction activity normally begins with the creation of Prototype that enables the usage scenarios to be evaluated.

Validation focuses on[9].
1) He ability of the interface to implement every user task correctly, to accommodate all the task variations.
2) The degree to which the interface is easy to use and easy to learn and
3) The user acceptance of the interface as useful tool to their work. Therefore, there is no need to attempt to specify every detail on the first pass subsequent passes through the process elaborate task detail, design information and the operational features of the interface.

Applying Interface design Steps:
An important step in the interface design is the definition of interface objects and the actions that are applied to them. To accomplish these Use cases are parsed that is a use case is written.

**The Goal of a User Interface**

Easy to learn
Easy to use

The user interface or human interface determines how people use and communicate with systems [6].

Any machine that requires interaction with human beings will have some sort of a user interface. Modern computers interact with users with the help of video screens, keyboards and pointing devices.

The user interface should represent the capabilities of the entire system. The more complex the system, the more important the user interface.

The user interface should help the user build an intuitive sense, of how the system works. When a system feels natural to use, the user interface is doing a good job.

A good user interface helps tailor the system to the user.

Importance of User Interface [8]
- can spell the difference between acceptance of a software product and its failure in the marketplace
- It is the look and feel of a software package

Having understood the importance of user interface for product development, we have come up with new methodology, which is as follows:

Ones Project manager feels that he has sufficient data available (60% Clarity), the Project manager will prepare the first cut of


The FRS is exchanged between all the stakeholders of the project and this may take little iteration from both the sides with changes and modification.

Once the FRS is approved, then TASK Breakdown chart and tentative hour’s estimation for each task will be prepared. After the task breakdown is prepared the next step will be Preparation of Project plan with start date and the completion date. While preparing the Project Plan, PM will know how many resources will be needed for the project, what skill sets is required and other risk factors will also be documented.

Once the project is approved the process of development is started, it starts with the preparing of User Interface

With interaction with client and the following methodology is adapted

Step # 1: Home page layout with all elements and one inner page design will be sent to the client. (This will take some iteration to get the approval from the client)

Step # 2: Once we get the approval on the Home page design we will start the HTML Mock tour (Complete Navigation) for all the modules.

Step # 3: Database Design will start

Step # 4: Class Design and Framework design

Step # 5: Class Coding and Database Coding will get kickoff

Step # 6: Integration of HTML into the actual application

Step # 7: Front end Coding

Step # 8: Unit testing will be performed from Step #5 to S

Step # 9: Manual Testing according to the Test CASES prepared by the QA dept

Step # 10: Integration of the application

Step # 11: Integration Testing

Step # 12: User Acceptance Testing

Step # 13: Deployment Planning

Step # 14: Deployment of the application on the Server

Step # 15: Maintenance and Support

Pear Review will take place in all the above-mentioned Steps.

We have applied the above methodology for three types of domains and the results were found to be successful, we also tried to the same domain with tradinal process models and

**The research results with UI and without UI concepts are as follows:**

<table>
<thead>
<tr>
<th>Project Id</th>
<th>With User Interface</th>
<th>Without Interface</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100%</td>
<td>60%</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>95%</td>
<td>45%</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>100%</td>
<td>50%</td>
<td></td>
</tr>
</tbody>
</table>

Project Id:
- A: College websites.
- B: Business with transactions.
- C: Content based projects.
CONCLUSION
The User Interface plays a key role for successful project implementations in medium scale industries, a research have been done on significances of user interface in medium scale industries and a new methodology have evolved. The research results shows that user interface plays a key role in identifying software requirements specifications through the interaction of client, User Interface is developed with the interaction of client, from which an Project Manager is able to analyze the domain problem, functionality, complexity, cost, business strategies, human resources etc.

FUTURE SCOPE: We can be established a new process model.

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