User Interface Design

According to Satzinger the quality of the user interface can make or break a system after deployment. An interface of high quality will therefore ensure better productivity and morale of the system users, thus the system has to be error-free and efficient. User interface design, in the world today, isn’t only concerned with simplifying presentation on desktop computers, but also on multiple platforms such as phones, iPads, and laptops. It has both analysis and design characteristics, meaning that the user plays a huge role in the design (users and developers discuss inputs and outputs prior to designing the interface). The design activity then uses the analysis information such as the use case diagram to produce sample layouts used by programmers to implement the final system (Satzinger).

4.1 General Considerations

The interface methods that will be implemented in the system will ensure a satisfactory overall user experience (UX) and high usability. Human –interface objects (HIO), those objects that appear on the screen (user interface) which the user can manipulate to cause some action in the system will be divided into general, navigation and user choice functionality.

The interface functionality will be divided into three major areas:

* General – this consists of labels, text areas, and forms. Labels will provide the user information about what text is required in the text areas (input boxes). Error messages will also be used to inform users of incorrect input in the text areas. The forms will contain these two HIOs.
* Navigation – this consists of methods to move from one page to another the web-based system. Such methods will have links attached to them (these links will therefore contain information of the page they are linked to). Buttons will primarily be used for navigation from page to page and also recovery from error messages on pages.
* User Choice – this functionality’s major purpose is error prevention, by limiting user choices on only a possible set of predefined values and grouping related functionality for users t easily locate them. HIOs such as dropdown boxes (menus), radio buttons and checkboxes, will prevent incorrect input and limit user options to only valid ones. Another advantage is increased UX as the user doesn’t have to repeatedly input standard information in text areas, thus also increasing productivity.

Nielsen‘s 10 usability heuristics

These 10 rules will be the rules that the user interface will be built upon for high quality usability. The GUI must be user friendly and must be able to recognise and handle errors, and also inform the user about these errors.

The following were the major heuristics considerations to borne in the interface designs:

Error Prevention – as mention above, a careful design that will prevent a problem form occurring in the first place is a vital part of design. Through the HIOs such as dropdown boxes, error-prone conditions can be prevented. Confirmation messages are also good for ensuring that users are sure before committing to an action (Nielsen, 2018).

Flexibility and efficiency of use – with productivity in mind, accelerator which are unseen by a novice user can increase user interaction by allowing users to tailor frequent actions (Nielsen, 2018).

Aesthetic and minimalist design – the interface will be as simple as possible but no simpler, meaning system messages to the user should contain only relevant information.

Consistency and standards – these ensure users understand the individual interface elements in the design, thus they will know where to look for what features.

Visibility of system status – According to Nielsen (2018) the system must keep the users informed about the status of the system. The interface will achieve this through constant and timeous feedback throughout the user’s interaction with the system.

Another important factor when designing the interface is centring the design on the user. User-Centred Design processes such as Market Definition, Task Analysis and Evaluation and Validation will be employed when building the interface.

4.2 Forms

https://www.ibayipc.co.za/shop-online/login-register

|  |  |
| --- | --- |
| Property | Specifications |
| Navigation |  |
| Background and Colour |  |
| Fonts |  |
| Logo and Motif |  |
| Special Notes | The prototype fonts, colours and display may be changed during the system design depending on what is available on Caspio. |
| Date Prepared |  |
| Prepared By | Kuda Mhizha |

4.3 Reports

|  |  |
| --- | --- |
| Property | Specifications |
| Navigation |  |
| Background and Colour |  |
| Fonts |  |
| Logo and Motif |  |
| Special Notes | The prototype fonts, colours and display may be changed during the system design depending on what is available on Caspio. |
| Date Prepared |  |
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4.4 User Interface Dialogues

Dialogue for manage repair job

Storyboard

Speed-key list

4.5 Systems Control Design

System Access and Control

Security is a major core-functionality that the new system needs to improve. A role-based mechanism will be implemented in the system to provide various accesses to the system information. The Technician portal for example should only be accessed by authorized users (technicians only).

Non-users

* Administrator

This user will have full control over the system, they are usually the developer of the system or the Head of the department.

* Customer
* Technician
* Staff (Front Desk)

Threats

4.6 ‘Help’ Design

Help Tree Structure

References

Nielsen, J. (2018). *10 Heuristics for User Interface Design: Article by Jakob Nielsen*. [online] Nielsen Norman Group. Available at: https://www.nngroup.com/articles/ten-usability-heuristics/ [Accessed 9 Aug. 2018].