4.0

We conducted research on similar online result computation system, where tertiary institutions manage their student result as mentioned in chapter 2, similar features of the systems that would be beneficial in the development of the proposed system are explore, initial designs persona and prototypes, were created and were evaluated with participants.

Personas

Use and misuse case

Product backlog

Sprint backlogs

Requirements

4.1 Prototyping

Prototyping Is described as initial phase of a software release in which product amendment, and evolutional development may occur before the real product is release. This is sometimes known as beta phase or beta testing, it is to enable the project get evaluated by some class of users before full development.

https://www.techopedia.com/definition/13136/prototyping

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Prototyping is significant for the development of the proposed system to enable us take and make early decisions regarding the usability, functionalities and meaning user needs. This was achieved using low and high fidelity prototyping.

4.2 Low Fidelity – Sketches

In order to get a tangible representation of the concept, sketches were drawn initially to get a feel for the design and layout describing the proposed look of the proposed system to improve the existing system. It is characterised with low technology implementation, with materials like sheet of papers and ruler and pen. Figure ….. are the initial sketches of the proposed system, it describe the basic layout and content of proposed system’s login page, all users Home page with accessible menus, broadsheet result, student individual result, analysis page.

4.3 High Fidelity – Indigo studio

To create a higher tech visual representation of the website we uses a high fidelity prototyping tool called indigo studio, this prototyping software was adopted as it is suitable of producing a fully functional prototype of the proposed system, including interaction and dynamic features like hyperlinks and buttons. Figure 5 shows the Indigo studio software interface with an example of the prototype of the login page.

*Indigo Studio makes it easy for anyone to rapidly design functional, UI prototypes that maximize usability and appeal. It promotes design process best practices and enables developers to stay focused on the end users and their stories.*

[*https://www.i-programmer.info/news/146/5149.html*](https://www.i-programmer.info/news/146/5149.html) Copyright © 2009-2019 i-programmer.info. By David Conard, November 2012

4.4 Evaluation of High Fidelity Prototype

4.4.1 Participants

In total 11 participants were invited, only 6 were able to turn up, they were given the porotype to interact with and give their feedback and opinions. Each participant is asked to read participant information sheet (Appendix 4) defining the nature of the task and then sign a consent form (Appendix 5) indicating that they have agreed to participate in the study. Each participant was asked to respond to evaluation questions/survey (Appendix 6) based on their infarction with the prototype as shown in Figure 6 above. The survey includes a number of questions and statements, where each participant uses a five-point Likert Scale (1 for strongly agree to 5 for strongly disagree) or multiple-choice questions with options to select any choice of their opinions on each question or statement.

The survey first asks their opinion on the aesthetics of the website. They were then asked to go through each of the main web pages of the prototype and were asked how much they agreed with each statement using the Likert Scale or multi choice options. Participants were given the option to provide any additional feedback at the end of the survey which was not covered anywhere else.