



12 Pages

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7	Number of Answer Books handed in	

List the numbers of the questions you have attempted	Office Use
2a	8 7
3a	5
3b	1 6 6
4a	3 3
Office Use	17/19

21%
23%

2a) There are different types of evaluation techniques that can be applied into the development of the proposed application. The waterfall model is the development ~~strat~~ strategy that is going to be used for the proposed application. The first phase of the model is the requirement analysis. In this phase the different things that are going to help in the following stages of the model are looked at. One of the techniques looked at is the user's opinion. Checking the opinion of the user is one way of avoiding features that are unusable and unattractive in the application. In the case of the proposed application interviews can be carried out to collect data from a number of students. Questionnaires & surveys are another way to provide data and they can be used with a large number of users. These techniques can be used in the early stages of the development. This allows the users views to be taken into consideration in the following stages of the development. The requirements stage of the model looks at the potential requirements of the application and in the requirements document it defines what the application should do. The data gathered from the students with the use of either interviews, surveys or questionnaires would give an idea of what to include in the application.

The second phase of the waterfall model is the system design. In this phase the requirement specifications from the last phase are studied and the system design is prepared. There are many ways the system design can be prepared. A paper prototype can be used in this stage. A paper prototype is used to communicate ideas between the designers ~~to get a rough~~ ~~idea~~ and the developers of the application. This technique can be used to observe human interaction with the user interface. Using a paper prototype allows the designers to get a rough idea of how the interface is going to look and where they will place certain things within the application.

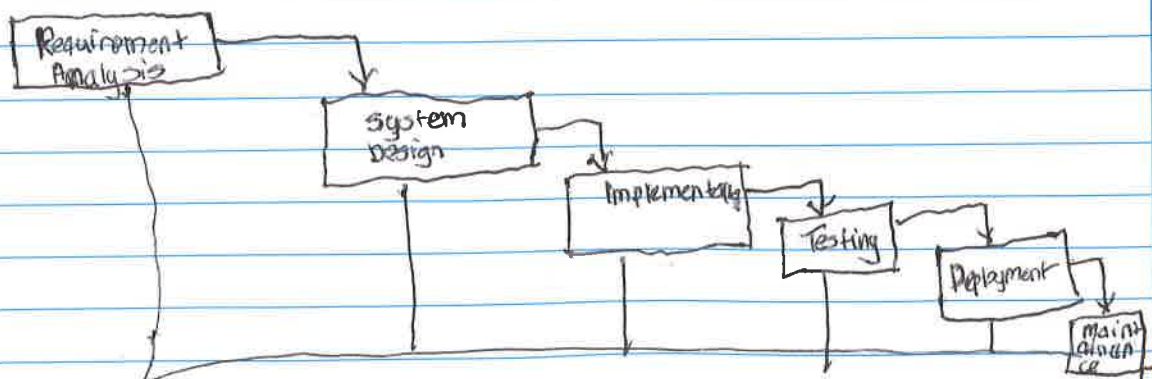
The third phase of the water-fall model is the implementation. This is the stage where the coding is done for the application. Using the inputs from the system design, the system is first developed in small groups that are known as units and they are integrated in the next phase. Each of the units are developed and tested for their functionality and this is known as unit testing.

The fourth phase of the model is the integration and testing. ~~of each unit. After the~~ All of the units that are developed in the implementation phase are integrated into a system after the testing of each unit. After the integration the entire system is tested for any faults and failures.

The ~~development~~ deployment of the system, is the phase that follows integration and testing. After the functional and non-functional testing is carried out, the product is deployed into the customer environment or the market.

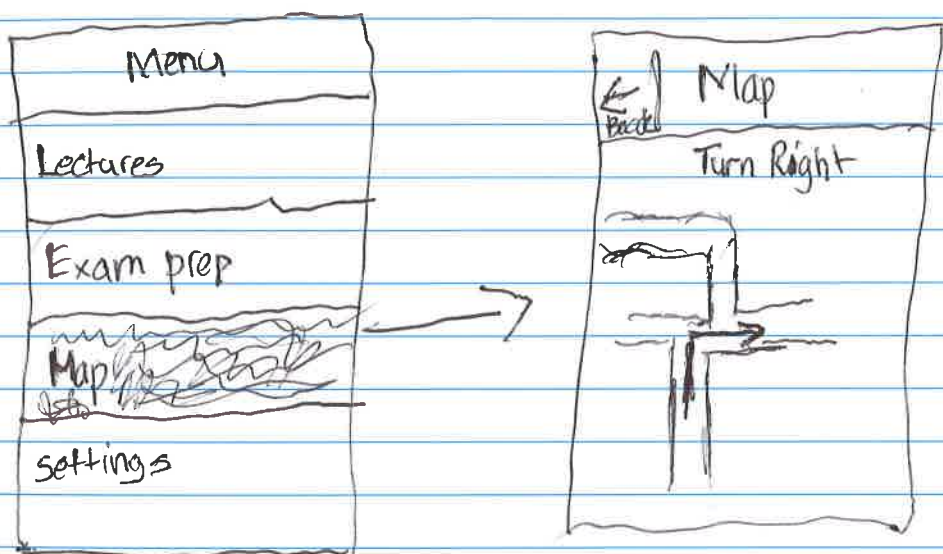
The last phase of the model is the system maintenance. If the clients come across any issues, patches are released. In order to enhance the application better versions are released and maintenance is also done to deliver changes for the customers.

Waterfall model



Some relevant points but too much on software development & not enough on evaluation.

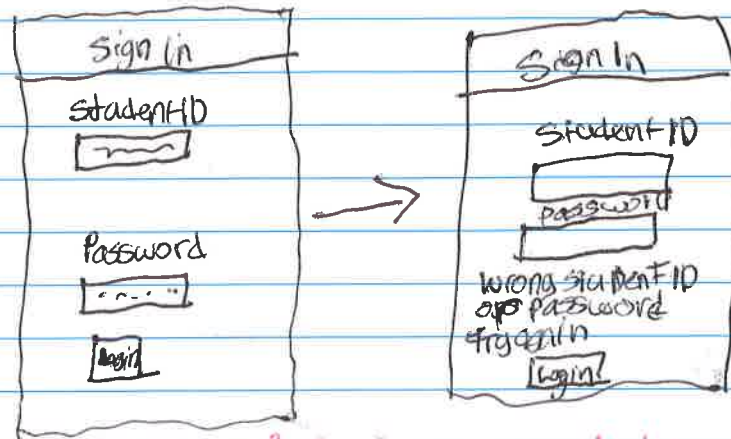
3a) There are many elements from Dix's guidelines that can be applied to the proposed application. Starting with Learnability, a part of learnability that can be used in the application is predictability. This allows the user to be able to predict the results of their actions. This would be very useful when it comes to the proposed application because the user wouldn't want to come across any unpleasant surprises when using the application. An example would be when the user is navigating through the menu and they select an option on the menu, this option could be 'map' for instance and the user's prediction would be that the 'map' page will open as shown in the image below.



Dix's Guidelines

Another part of ~~learnability~~ that can be used in the application is Flexibility. Multi-threading comes under flexibility and this is an element that most applications need. Multi-threading can be used to allow the user to interact with more than one task at a time. For this particular application it can be used to stop the application from closing down when a message or phone call comes in, the application should allow all operations to run at the same time.

Robustness is the last element of Dix's usability guidelines and it focuses on things like recoverability. Recoverability is the ability of the user to take corrective action when ~~it~~ an error has been recognized. For example if the user entered the wrong student ID or password when signing in an error message would be displayed as shown in the drawing below. This lets the user know that they went wrong somewhere.



High level guidelines applied with examples

- b) Accessibility - ~~Hint about the more detailed guidelines~~
 Accessibility settings can be added to the settings section to suit different users. There are principles like the perceivable principle and within this principle there is a guideline that can be applied in the application which is ^{distinguishability} ~~adaptability~~. This ~~creates~~ makes it easier for the user to see and hear content including separating foreground ^{from} ~~and~~ background. There could be students that are colour blind making use of the app so the colour and the text would need to be changed to suit them. There could also be students with hearing disabilities and this application would need sound for those students.

Brief discussion.

4a) The usability of mobile maps depends ^{a lot} on the interaction with the map. With the design of the map the interaction and the visualisation of the information, technological challenges like interaction limitations of the device (speech or touchscreen). Some times the connection of the phone to the internet is very important for the zooming and panning because it makes it smooth. A slow connection can cause the phone to freeze and the user also wouldn't be able to tell which location they are in. A slow connection can be resolved because applications like google maps allow the user to see what is coming up when navigating despite having no connection or a slow connection. In some case it is hard to use maps on a small screen because when touching to pan the map the page that the map is on also moves taking the map away which can be frustrating for users.

A few points made

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