

# CAPSTONE PROJECT

## STAGE 3: PROTOTYPING

<b>Project</b>	Mentorship Knowledge Base (MeKB)
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# 1. PROGRESS REPORT

## 1.1. Task Activities During The Report Period

### Use Cases

This task was completed by Brian. This involved looking into what was the desired output of the website. After our meeting with Gary Stewart, we concluded on what use cases should be included. From the use cases that we had defined, the Mentee is able to log in and ask a question which is then stored in a database, a mentor is also able to sign in and given the different roles they are assigned in the database the login can detect that a mentor as logged in and the mentor can view the question in the database. In the prototype, the uploading of content and attachments is not functional yet including the ability to contact a tutor directly. The administrator has also not yet been incorporated.

### Analysis Class Model

This task was completed by Shivaan. This task involved a full understanding of the use cases and an overview of what was expected of the site from our initial meeting on the 18th of August. The design was first done on paper and then moved to a digital version. A revision of class diagrams was first done.

### Interactive Diagram

This task was completed by Aluwani. The first activity was figuring out which diagram actually suited out project best and a sequence diagram was chosen. The class diagram and use case diagram were used to complete the sequence of events. Lastly one had to discover any loops and how to represent the amount of conditions involved; this involved learning new ways to represent the info - as there was no conventional way of representing the diagram.

### Project Plan

This was completed by Shivaan and Aluwani. In this section we had to first use all the information from previous meetings with stakeholders on what task was due when, and the depth of each required task. We had to establish a software to use as we did not have the same operating systems. We had to consult with experienced individuals to establish realistic and attainable goals on completing the project plan.

### Test Plans

This was completed by Brian. The use cases generated helped complete this section and find out what had to be included and tested. The tests that were covered in the prototype were tested. There were however aspects that could not be tested as they were not included in our prototype. Tests successfully concluded include: creating a profile and asking a question. The search functionality was not implemented. We could also not test the uploading of content but again this was because we were using a vertical prototype approach and successfully testing only the key areas in our prototype.

## **1.2. Planned Activities For The Next Report Period**

### **Creation of Registration and Login Functionality**

Users should be able to create password protected profiles i.e. users should be able to register onto the site and subsequently login using a username and password

### **Building of User Interface and Navigation abilities to allow for Browsing**

All users(Mentors, Mentees and Site Managers) should be able to browse the questions, answers and resources. They should be able to easily navigate between pages or site sections

### **Feature to Filter Resource and Answer content by Category**

All users should be able to filter content by the category entered using a Keyword search. Eg. Examinations.

### **Search Functionality created to filter search results according to selected criteria**

Users should be able to search for specific information and filter the results of the search by keywords, category, time and number of upvotes

### **Mentee Question-Asking Platform set up**

Mentees should be able to rate answers and resources to indicate relevance and/or usefulness by upvoting and be able to both post questions anonymously and view responses to previously asked questions. Mentees should also be able to contact (or request answers) from specific mentors.

### **Separation of System into different views according to type of User**

Mentors; Mentees and Site managers should each be provided with a different, overall view of the User Interface; suited to their purpose and needs.

### **Mentor Answering Platform setup**

Mentors should be able to view a list of unanswered questions. There should be functionality to tag, edit and post answers to questions.

### **Uploading and deleting functionality implemented for use by Site manager**

Site managers should be able to upload content/resources to the site and delete irrelevant or inappropriate questions, answers, resources. They should be able to delete user profiles - if these users are inactive( eg.Mentor graduated or Mentee became mentor) or persistently post inappropriate content.

### **Creation of Reporting Facilities**

Mentor and mentees should be able to contact the site manager if there are issues with the resources; web application interface, questions or answers posted.

## **1.3. Problems**

### **Inability to access Visual Studio in the lab**

The visual studio was not available in the labs as the department. We would have needed to install it and without admin privileges we would not be able to add any plugins to the application as we wished. This meant having to rely on the Commerce labs which were reserved for commerce students; which again caused accessibility concerns.

### **Restrictions to a specific operating system**

Not all the users were using Windows. This meant Mac users would have to install a VirtualBox; which is not ideal as the programs would run slowly and would require a large amount of storage. VirtualBox was also not ideal for a device with a small SSD.

This also meant no access to Visio and MS Project. To work from home it was best to use open source platforms which do not have very strong features and usability.

### **Establishing a guaranteed connection to the database**

It took well over a day to complete the task of designing and interacting with the database successfully. Most of the problems were caused by the lack of experience in the .NET environment. Most of the functions for our prototype depended on this; as we were aiming to create an Evolutionary; Vertical prototype.

### **Inability to successfully use our repo**

Setting up a repo was simple enough but pushing data was a feature that was not working for all our machines. We had to resort to alternative means like using Google Drive and at times using pair programming; to get the work done. This meant meeting at scheduled times and sacrificing a lot of other responsibilities.

### **The crashing of a members laptop**

We had a very unfortunate incident where one of our member's computer was failing to run and install the required software. This happened the day before and it put more weight on other members (as this was at a critical stage in the project). The planning was okay but some of the functionality we had hoped to include in our prototype, had to be reduced or not included.

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# Prototype

## **Choice**

We decided to do a primarily vertical, evolutionary prototype that mainly focuses on the Ask a Question and Answer a Question use cases documented in the Stage 2 document and will allow access and retrieval of resources in the database. The prototype has (minimal) GUI elements to enable basic interaction with the application to the extent of performing the 2 aforementioned use cases.

## **Justification**

The justification as to why we chose an evolutionary prototype is because we want to be able to reuse the code and not have to spend time setting up another code base when we could be using that time to otherwise improve on functionality. We are also new to using Visual Studio, so learning a prototyping tool and then have to start again with Visual Studio would not be an effective use of time.