

M.Sc. in IT – Enterprise Application Development
2020 - Year 01 – Semester 02
SE5070 – Enterprise Mobility

Assignment

Objective	: The objective of this project is to demonstrate the knowledge and the expertise of mobile application development.
Percentage of overall	: 30%
Duration	: 08 Week (<i>Take home assignment</i>)
Assignment Type	: Individual
Deadline	: 23 rd October 2019
Assignment created by	: Lasitha Petthawadu

Project Submission

Project document needs to be submitted to Moodle as a softcopy with a link to the source code on Github. Students are expected to submit a recorded video demonstration of the assessment alongside answers to the question provided by the lecturer. The recorded video needs to be submitted on the said deadline no delayed to it would be accepted.

Assignment Outline

With the current pandemic situation, students are required to formulate a mobile project idea which will fall under one of the following areas.

0. Ensuring Safety
1. Tourism Upliftment
2. Telemedicine healthcare

To figure out your project topic a student needs to take their index number and add all the numbers of the index number (calculate digit sum) and find the modulus by 3, the resulting number would denote your respective project area.

Once the project area is identified, students are required to come up with a mobile project idea in this area. When formulating the project idea keep in mind on the time duration and focus on identifying features that represent the following

- Students can use any compile to native framework for development (React Native, Flutter, NativeScript) or even native android or IOS
- The project should interact with a backend service. Some of the choices for the backend could be, Google Firebase (<https://firebase.google.com/>) or even a custom backend to serve the data needed by the application.
- The application should support offline capabilities.
 - Students can decide whether the application is fully going to support offline data access or if its partial offline data access.
- The application needs to focus on constraint design algorithms and principles.
- Integration of native hardware of choice (Camera, GPS, Gyro)

- Should have one or more custom control/component(s) implemented by the student himself (This doesn't mean that the entire application components need to be custom components! Students can use a component library of choice. But there should be custom components developed by the student as well, as part of the application).

Assignment Submissions

A project document needs to be prepared outlining the following;

- The calculation of the digit sum of the index number and the project area based off of it.
- An overview of the project idea and the features.
- The architecture and design of the application.
 - Outline major decisions taken when designing the application.
 - Outline how data flow and interaction works between layers (Make use of the knowledge from lectures.)
 - Outline how the source is organized and structured in the application and explain why it is done so.
- How offline access works in the application and techniques used.
- Outline of the constraint design algorithms and principles.
- Outline of how native hardware integrates to the
- Outline of the UI/UX flow with screenshots of the application.
- Outline of the custom components and how it functions. Explain the properties and events defined in the component(s).

Presentation and Viva

- Prepare for a 5-minute presentation
(Students need to be prepared before the presentation with their laptops and have the project setup and running)
 - Outline of the idea
 - Demo of the mobile application.
 - Code walkthrough

Evaluation Criteria

The project would be evaluated based on the following criteria. Make sure to distribute the effort wisely based on the weightage of the criteria outlined below.

Criteria	Weightage
Uniqueness and creativeness of the project Idea in the assigned domain area. <ul style="list-style-type: none"> • Able to rationalize why the idea is worth-while. • Documentation submitted 	15%
Solidness of the implementation <ul style="list-style-type: none"> • Source code structuring and in-depth understanding of how data flow works in the application. • Application Design, decisions made. • Offline Data access implementation. • Constrained app design principles. 	50%

<ul style="list-style-type: none"> • Completeness of the application. 	
Richness of the User experience and the Navigation <ul style="list-style-type: none"> • Rational behind UI/UX selections and flows. • Components used and Custom UI components implemented. 	20%
Recorded Presentation and the solution (Soft-skills) <ul style="list-style-type: none"> • Confidence in the work done • Communication Skills • Intuitive thinking 	15%

Assignment Guidelines/Code of conduct

Students are expected to adhere to the following guidelines.

Constraints:

1. Should any plagiarism be identified during viva, the assignment will be zeroed
2. Students are encouraged to help others and to support batch mates. However, if done so, please mention who you helped and what type of help was provided, along with their index number of the student so that the student would be excluded from plagiarism.