

COMP3550 2017

Project Descriptions

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Introduction

As part of the development of skills in web technologies, we have actively selected projects and opportunities to give students real-world development experience to ensure that the skills developed during their undergraduate degree is a close match to what they will encounter beyond graduation.

Note that due to the limited time in a semester, it is not expected that student teams will create fully functional and robust solutions. However, the purpose is to demonstrate the capabilities that web technologies can provide for solving identified problems.

Expected duration: 4 Weeks

Team size: 1 – 5 persons

Project 1 – Chemistry Student App

Description:

Over the last three years, the financial strain of Trinidad and Tobago has placed a greater need for the UWI to utilise its internal resources to solve its problems. It is within this context that the Department of Chemistry has asked DCIT to develop a mobile application that will facilitate more engagement among students. This application will focus on providing information to students. The app will assist in getting timely notices from lectures about changes in classes, lab times and assignment deadlines. It will also provide additional resources which allow students to gain an appreciation of Chemistry. The need for this solution is based on clear inefficiencies in the way that students are informed. Upon consultation, the students recommended the use of mobile applications on Android and iOS to help with this problem. This project attempts to demonstrate how web technologies can solve this problem. Initial details through consultation with the Department of Chemistry is provided in the document [SRChemApp](#).

Further details will be provided through meetings with a team of the academic staff of the Department of Chemistry and DCIT.

Technologies/Features:

1. PWA
2. Ionic v3 (Angular v4)
3. Firebase (authentication, database, push notifications, storage)
4. Analytics
5. Administrative interface
6. Compatibility with UWI

Additional Notes:

1. Rough deployment of PWA expected at the end of December 2017
2. Further refinement and additional features to be developed through final year project course
3. One of the key design considerations is that while it is being developed specifically for chemistry, the application/system should be able to accommodate
4. Testing to show compatibility with Android
5. Administrative interface can be either Front-end only with Firebase as backend or can be Django-based but hosting need to be worked out with UWI

Project 2 – Green Market

Description:

The Green Market, Santa Cruz, Trinidad and Tobago, <http://www.greenmarketsantacruz.com> has a good relationship with the University of the West Indies for developing an ICT strategy to promote the use of greener and healthier practices in Trinidad and Tobago. Their first successful partnership led to the creation of the market's Instagram page, <https://www.instagram.com/greenmarketsantacruz/>. Building on its success for the last accomplishment and its partnership with the AgriNeTT, the Green Market has asked us to assist with the potential to create a simple mobile application.

This project requires students to analyse the current responsive website services and provide a mobile application built with web technologies to develop more engagement with the customers of the green market. Due to this requirement of student ingenuity, very little specifications are given. However, the following are a set of questions to start defining the web application features.

1. What capabilities does a mobile device give that will create more meaningful engagement that a website
2. What features are available through mobile devices that are not available on a laptop/desktop computer.
3. What services can administrators of the system use to access the customers/patrons of the markets directly.
4. Can the system target specific interest of customers?

Technologies/Features:

1. Ionic v3 (Angular v4)
2. Firebase (authentication, push notifications,)
3. Administrative Interface
4. Utilize resources from website and Instagram

Additional Notes:

1. A strong advice is to build the system not tied to the green market, students should aim to build as a reusable solution
2. Administrative interface can be either Front-end only with Firebase as backend or can be Django-based but hosting solution need to be clearly defined

Project 3 – Personal Medical Information Management

Description:

Keeping track of medical personal medical history is still a challenge for many individuals. One proposed solution called “The Matrix of U” was conceptually developed to keep a track of medical information based on a set of dimensions.

The Matrix of U is the brain child of Ms. Lystra Mandley, who has approached Dr Bernard for assistance with creating a prototype to prove the possibility of the strategy for medical information management.

The project will provide a minimum viable product (MVP) of the idea to determine if there is potential for the idea to be successful.

Students in this project will be expected to meet with Ms Mandley, to identify features and with the assistance of the lecturer and tutor determine what is feasible for the given timeframe.

Technologies:

1. Django
2. Bootstrap/MDL for responsive design
3. Digital Ocean / Heroku for hosting

Additional Notes:

1. This project is a good representation of taking a customer’s/client’s domain perspective and translating into a product.

Project Grading

General Breakdown

Item	Mark
Presentation	10
Computer Science Concepts	
Scalability	5
Modularity	5
Efficiency of algorithms	5
Using Cloud Platform	10
Database Connectivity (RDBMS/ NoSQL)	10
Authentication	5
Session Management	5
Frameworks	10
Responsive design (mobile first)	10
Look and Feel (Professionalism)	15
Testability (test cases)	5
Documentation	5

Presentation Breakdown

Item	Mark
Computer Science Discussion	10
Problem Description	5
Extent to which problem was addressed	10
Solution Features highlighted	5
Demo (video/live)	10
Flow (Organization)	5
Voice	5
Clarity	5
Time usage	5
Development	5
Documentation	5
	70

Bonus

Item	Mark
Use of Git	5
Charts and Data Visualization	5
Production Ready (Justification)	5