Scope Document & Specification of Requirements

Team: Sea Addicts
Project Proposal: Brock Maps
Date: January 31, 2013

Overview:

This document lays out the general proposal of our Brock Maps application. The application itself is a combination of a localized positioning system, personal assistant and an agenda. This document covers the context, objectives, and features of our application.

Context:

Brock Maps is being developed to fill a need to ease the life of students at Brock University. For a first year student or even returning student, university can be a complicated lifestyle. Finding rooms, remembering schedules and assignment due dates can be a stressing matter when under a heavy workload. Brock Maps will be utilize a combination of school navigation, agenda, and memos to be an all in one program for a student to plan out their school routines. With added functionality to navigate a student to a desired location within the school or do a virtual tour of the school like Google Street View. This application will keep a students class, and assignment schedule and place reminders and convenient times to ensure the student will be able to appropriate time responsibly.

Objectives:

The system will use school maps to guide the user to any location(s) desired by the user. The user will also have the option to view a list of important locations in a tour functionality for new students. The user will be able to dictate a required location via text input or voice input. After input the application will navigate the use to the desired location or provide a virtual tour similar to Google Street View. The application will also be able to provide an optimal route should the user need to go to multiple destinations. If the user is doing a virtual tour or navigation they have the option to select and read information on key locations

The system will be able to automatically and manually alter a schedule for the user. This agenda will be used to track classes, assignments, test and extracurricular involvement at the school. The application will provide timely reminders to the student about tests, and assignments and motivate the user to start production or studying. In the agenda the user will be able to manually and automatically log assignment and test marks and be able to gauge their time management.

Features Behind Objectives:

- User location through GPS and Wi-Fi based militarization
- Virtual tour through stringing images of rooms/ hallways together interactively
- Voice recognition through Android 4.0+ frameworks
- Database of key locations and previous locations and information about them
- preset guided virtual tours for new students
- most efficient route from current location to desired location(s)
- database to store student timetable this will be edited manually or automatically based on user preferences
- ability to pull schedule and marks from Brock account
- manually add marks, courses and extracurricular activities

Requirements:

- SQLite database to store locations, signal strength tables, agenda, and marks
- Maps of Brock campus
- images of rooms and hallways at incremental locations for virtual tour
- MAC address, signal strengths/received signal strengths from each wireless router
- Android capable device with OS 4.0+ for testing and development

Acceptance Criteria:

- Application is capable of obtaining current location within Mackenzie Chown to an accuracy of 5-10 metres
- Application will provide a virtual tour of the Mackenzie Chown 3rd floor
  - User will be able to interact with the virtual tour through touch selection on the android device
  - Touching doors will enter a room
  - Touching parts of hallways will move up and down hallways
- The application will be able to manage courses and relevant material to course work
  - the scheduler will populate the built-in calendar of the android device
  - Courses are capable of being added manually or automatically
  - Course marks can be added manually, a progress mark will be calculated automatically
  - User will be able to add Professor/TA contact information such as email, room number, and phone extension
- User will be able to navigate and control the application through both voice and touch inputs
- A tutorial/help section will be present for the user to learn voice commands and basic app functionality

Roles:

Each team member will be taking up general programming and documentation roles as well as their designated role. Any code, testing, or documentation will be overseen and improved by the leaders of these fields and ultimately the Team leader.

Team Leader: Is also the Chief Designer / Programmer. S/he is the chief technical manager, responsible for Analysis & Design, Change Control, Data Control, Reviews, Modeling, User Documentation, writes critical components, assigns work to others.

Deputy Leader: Is the deputy of Team Leader, assists her/him in the assigned duties. Understands everything and is ready at any time to take over as the Coordinator.

Test Leader: Acts as test designer and implements major tests. Responsible for System Testing, Acceptance testing, Site Testing. Understands everything and is ready at any time to take over as Deputy Coordinator.

Test Programmer: Collaborates with Test Leader in developing test suite.

Technical Librarian: Cares for the Development Support Library; is a full team member, Prepares inputs, runs software, files outputs, files versions of S/W and files documentation (both hardcopy and in machine-readable form).

Technical Writer: Assists Team Leader in preparing the necessary documentation, reports, user manuals, etc.

General Programmer: of needed specializations: GUI, DBMS, testing, etc. Responsible for detailed design, coding, component testing, integration testing, program documentation.

Team Members:
Taras Mychaskiw - team leader / test programmer
James Grisdale - technical librarian / general programmer
Matthew Menonkariyil - technical writer / general programmer
Thomas Nelson - lead programmer / test leader
Vince Pascuzzi - deputy leader / technical librarian
Lachlan Plant - test leader / technical writer

Team Organization:
This project will be developed using the agile development framework SCRUM. The human resources allocated to this project are broken into 3 groups, each dealing with a separate part of the development. The following teams will be meeting twice weekly.

Thomas & Taras – Maps Team:
This team will be responsible for the Mapping and Tour modules.

James, Vince, & Matthew – Interface Team:
This team will be responsible for the Schedular and Interface modules.

Taras & Lachlan – Testing Team:
This team will be responsible for all tests and testing documentation.

Application Modules
The following is a list of the individual modules of this application and there respective requirements.

Interface Module:
The interface module will be designing and developing the user interface and creating the supporting help documentation on the application functionality. This module will be finalized last as it requires all the other modules for full functionality.

Schedular Module:
This module will be responsible for all aspects of the users courseload. It will be pulling class schedules and marks from myBrocku.ca, give the user the ability to input marks and due dates for all assignments and give accumulative course marks. The schedular will also input course calendar into Android's native calendar application.

Tour Module:
The tour module will give the user the ability to virtually explore brock university at their desired pace. This module will display and let the user explore all halways and classrooms.

Mapping Module:
This module will be a navigational aid to the user by providing a map of the university and display the users location as well as a desired route to a destination.