**Sea Addicts**



**Brock Butler**

**Mapping Module Evaluation and Development Notes**

**Document History and Distribution**

1. Revision History

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| --- | --- | --- | --- |
| Revision # | Revision Date | **Description of Change** | **Author** |
| 1 | **04/08/2013** | Original Write-up | Thomas Nelson |
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1. Distribution

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| --- | --- | --- |
| Recipient Name | Recipient Organization | **Distribution Method** |
| Vladimir Wojcik | Brock University | Physical Submission |
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# Introduction

The mapping module for the application is responsible for all location based needs. This module has three main components; developing a searchable graph of the school of all rooms on the third floor Mackenzie Chown, estimate and return the user’s location, and search for directions. This component of the brock butler application is to calculate and return raw data to the interface for display for the user.

**1.1 Objectives**

The overall objective of this module is to develop a system that is functional on the third floor of the Mackenzie Chown building.

**1.2 Reference Material**

The following documents will be used as references for the creation of this document

* Phase Plan
* Standards Document
* Scope Document
* System Design Document
* Use Case Diagrams
* Use Case Documents
* UML Class Diagrams

# RESEARCH

The mapping module for the application is responsible for all location based needs. This module has three main components; developing a searchable graph of the school of all rooms on the third floor Mackenzie Chown, estimate and return the user’s location, and search for directions. This component of the brock butler application is to calculate and return raw data to the interface for display for the user.

**2.1 User Location**

The largest and most complex component of this module is acquiring a user position. Android provides location services through GPS, Radio, and Wi-Fi. After testing it was confirmed that these methods are not reliable in an indoor environment like Brock University, clearly a new method was needed.

A new method of generating a user position indoors was required and so the most attractive choice was using the schools wireless network. Brock University runs an Aruba Network meaning that there is hundreds of wireless access points scattered around the school. After reading numerous papers on the subject of user location based on radio signals it was apparent that the setup of Brock’s network would make trilateration or triangulation impossible. A new method of comparing current wireless access points to a database was the solution.

**2.2 Path Generation**

The next component of this module to cover is the ability to generate routes between the user and a desired location for navigation purposes.

**2.3 Android**

* The final area of research to cover was the Android Development Enviroment.