2.1 Product Perspective

Similar to existing navigation applications such as: google maps, apple maps and waze, NavUP is a standalone mobile application that acts as a campus navigation system which will be open for all students to use. It encompasses all technologies which will be required for the necessary functionality as described in the product functions section.

The application will be implemented using relevant hardware interfaces such as, but not neccesarily, WiFi, Cellular Data and GPS. Implementation of the hardware interfaces will require already existing software interfaces/OS interfaces to access data from the hardware interfaces relating to the main functionality of the NavUP application.

The NavUP will have to use communication interfaces to determine traffic and the best routes to follow, these communication interfaces will work through the required hardware interfaces. The main operations of the application will work through the user interface which will work through all the underlying required technologies. These operations include: navigating to a class, showing where to go, describing where and what it is you’re going to. The DBMS will have to be manually maintained with class and event data or somehow interfaced with an existing DBMS or DSS that the university already has.

2.5 Assumptions and Dependencies

Since the NavUP system is being created for mobile devices, it is assumed that all those who require the application, will have access to a mobile device. It is then assumed that these devices will have the required capabilities necessary to run the application. Such dependencies include built in WiFi, GPS and cellular connectivity as well as the required data/airtime.

Assumed users will be registered students of the University of Pretoria thereby having access to their modules and class data for navigating when required with minimal input from the user. This depends on access to students data for the DBMS.

In terms of the usability of the application, it is assumed that users will have knowledge regarding how to use mobile devices and applications on such devices.

The assumption relating to accuracy includes the belief that the application will be up to date with the latest information in terms of venues, landmarks and events. This assumes that there will always be someone maintaining and updating the applications data, or a DBMS that is interfaced with the university DBMS.

An assumption in terms of the systems performance includes the idea that it will still be able to function when a large amount of users are making use of the application at the same time. This depends on server capacity as well as solid code structures that are efficient as well as safe.