3.6 Other Requirements

Low Resource Consumption

NavUP will be running on mobile devices, due to the small amount of resources some of these devices may have, unnecessary resource use on the front-end of the system should be avoided.

3.3 Quality Requirements

A system of the complexity and scale of NavUP must meet specific quality requirements such

as:

1. Performance - the system must handle a possibility of over 50000 users simultaneously and

still perform the core functionality without failure.

2. Reliability - the system should perform its functionality reliably, most importantly the

navigational requirements.

3. Usability - the system should be easy to use while sporting an aesthetic and ergonomic

interface.

4. Integrability - the system should allow for additional features and modules to be added

easily.

3.4 Access Channel Requirements

From the typical user's perspective, approximately 60000 students and staff, the NavUP system

will largely be focused on mobile devices such as Android or iOS smartphones. These devices,

will make use of location services and internet capabilities to send and receive data to and from

access channels and servers using mobile data, Wi-Fi signals, crowdsourcing and geolocation

systems such as GPS and GIS. The campus Wi-Fi network will be the main form of system

access as the signal strength covers most of the large area the University spans, and will help

location accuracy indoors where the mobile devices may struggle to find decent mobile and

location based signals.

3.5 Integration Requirements

The NavUP system will be implemented simultaneously by all the students enrolled in COS

301, it is therefore imperative that the system complies to a low coupling and high cohesion

standard.

3.6 Architecture Constraints

The clients have specified the use of technologies such as GIS, UI/UX, Mobile Development

(Android/iOS), Real-time Data Analysis, Data Streaming and Persistence, and a large focus on

the use of Wi-Fi Networking to boost the system's accuracy. A module that supplies targeted

delivery of information was also requested hence an intelligent program is also required.