

For an idea to take form one needs to acquire and utilise the appropriate tools. There are various forms of technologies that will be incorporated in the creation of the NavUP system. They will range software components that support the web based system to the different programming languages that will be used to develop the application in its native operating systems.

Web technology

- 1) AJAX can be used for seamless information retrieval from the server if the device makes a requests for any information from the server.
- 2) Node can be used server side in replacement of Apache from the AMP stack for a more dynamic server side request environment.
- 3) Java script will be as it is can easily be integrated into any Node features.
- 4) Mongo DB can be used for dynamic database storage methods.

Connectivity

- 1) The system will rely heavily on a wireless connection which will be used to connect to the server locally.
- 2) If no wireless connection is available, the mobile connection of the phone can be used to take its place and connect to the server instead.
- 3) The server needs to cater for both 2.4 GHz and 5 GHz wireless connection bands.
- 4) Catering for all the various wireless network protocols to ensure that the maximum number device can connect.
- 5) The server needs to send information relative to the transfer rate speeds available based on the client connection type thus, the server will not become a bottleneck.

Operating Systems

- 1) Android development for the application can be done so in a Java environment utilising all of the interface elements java can provide for the operating system.
- 2) IOS development can be done through swift to stick as close as possible to the native operating system environment.
- 3) Libraries can be included from the various programming languages used to relieve some of the tedious coding (such as the built in data structures in Java).

Cellular Hardware

- 1) Hardware optimisation will be focused on ARM processors however, Intel processors will also need to be considered as some tablets do make use of that central processing unit platform.