Bournemouth Blind Society is a local charity that helps those who have limited or no vision to continue their lives, and give them freedom they wouldn’t have otherwise, because of the unique needs of the people who rely on this charity, we have been tasked with created an application that addresses a few key points.

It needs to provide non visual guidance to assist with the navigation of an area or location, as the user base will be those who are visually impaired.

It needs to support users who are attempting to navigate a location for the first time, while also providing assistance for those who are revisiting.

And finally it shouldn’t just be available to be implemented at Chaseside, it should be extendable and adaptable for other locations where the more commonly used GPS solutions aren’t viable.

To develop our app we started by deciding on our development approach, we chose the agile method of scrum as it would give us the ability to monitor and track our progress effectively. We used this in conjunction with an online burn down list to track what we wanted to achieve and our progress throughout the development cycle.

When opening our app, 4sight, the user will have the ability to setup the app to their personal needs. Once set up these settings shouldn’t need to be changed, therefore allowing the user to start up the app whenever and have it ready to use. These options are taken to personalise how the app works and responds to certain situations.

When entering a new building the user will be able to check into the reception desk, where they can place their phone on a programmable NFC chip, or Bluetooth device for those who still use older devices. All the data they will need to set up the app for this location will be loaded, guest Wi-Fi details to allow free download of the maps and keep them updated, and the reception contact number to allow an SOS feature to be used in case of emergency. Once the map is downloaded reception can send the location over the same NFC, and the app will pick a route based on pre-selected user preferences.

The guidance preferences allow the user to choose whether they want to take either the quickest or safest route. Safe routes take into account the number of obstacles and the amount of people estimated to be using it, while the quickest route will get them there in the shortest amount of time.

The maps we use will be a combination of floor plans and a heat map made from data collected from CCTV cameras, Wi-Fi tracking, and triangulation suing iBeacons. From this was can learn about obstacles by seeing what areas people start avoiding and update the maps accordingly.