Deliverable L:

Intellectual Property

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Introduction - Brendan

This is a short document researching three patents similar to our product, which are registered with the Canadian and American Patents office. This is intended to research whether or not the prototype is impeding the patent of any other products. The team researched similar products which included Bluetooth, navigation or physical beacons in their patents..

Product One

Mapsted is a hardware free indoor navigation software. It uses a pre imported map and a combination of WIFI, Bluetooth, Cellular, and GPS to help navigate a space. They have a Patent in Canada under the number CA 2991505. This patent is for the system of using multiple input sources on a network to achieve accurate positioning within a building. Our system is similar and different in a few ways. We also use Bluetooth and a pre imported map to provide accurate navigation. Where we differ is that we have hardware beacons that transmit the bluetooth, Mapsted does not. Also Mapsted uses WIFI and GPS. Mapsted also uses the sensors within the users device to predict trajectory, and direction. Our system uses constant feedback between the user and the nearest bluetooth beacon to achieve this. Overall they have a similar design concept to Mapsted but we do not impede on any of their 33 Canadian Patents.

Product Two (https://www.freepatentsonline.com/y2014/0324341.html)

“Systems, Methods, And Software For Providing Wayfinding Orientation And Wayfinding Data To Blind Travelers” is a patent filed in the United States under the application number US20140324341A1. The patent is for a navigational data system using a server that connects to the users device in order to receive the users geographical location and their desired first and second landmark. The server then searches its predetermined database to retrieve the wayfinding instructions and then guides visually impared travelers from the first landmark to the second through audible or text given instructions. Our product is similar to this system as we use an app to connect the users mobile device to our beacons but their system uses wifi and a predetermined database of instructions to give wayfinding instructions. Our system also uses a pre-imported map to provide visual directions on the app screen while their system has no visual instructions other than text. From the research done about this patent it is apparent that this patent is tailored more for building to building outside navigation while our product is specifically tailored for navigating the close confines of the library. This little difference means our system must communicate constantly with our beacons in order to make sure our users are navigating along the proper path as there is little room for error in navigating close confines while the researched product just reads or displays their instructions. Overall our product is quite similar to the patent researched but we do not impede any of their 22 patents.

Product Three

’BLUETOOTH RECEIVING APPARATUS, BLUETOOTH POSITIONING SYSTEM AND BLUETOOTH POSITIONING METHOD‘ is a patent filed in the United States. It provides a Bluetooth receiving apparatus, a Bluetooth positioning system and a Bluetooth positioning method. They have a Patent in the United States under Application number 20200044693. This system mainly uses the apparatus for performing indoor positioning by combining Bluetooth and power carriers, the wireless Bluetooth positioning information is transmitted to the positioning server in a form of power carriers, to calculate a coordinate position for positioning. Our system is similar and different in a few ways. We use a similar way to transfer information between users and beacons by Bluetooth. However, we use a pre imported map to determine the beacon closest to the user to determine the location. But in this patent, The signal received by the beacon is converted by the device and transmitted to the processor through the power grid to obtain the position information. And then feedback to the user. Overall we have a similar design concept to this patent but we do not impede on any of their Patents.

Conclusion - Brendan

In brief, the team looked at three patents that are similar to our product. The first, Mapstead, a Bluetooth based navigation system that uses predetermined paths to navigate spaces. Next, we looked at a patent which navigation system which uses GPS coordinates of their initial position and their desired destination. Finally, we saw a Bluetooth receiving apparatus that is specifically designed for the navigation of its users in indoor spaces. Overall, while each of these patens are similar to the functionality of our prototype, our work does not impede with the patents, and therefore we remain legally feasible.