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Goldsmiths Map App – Design

**Intro**

The campus had a reputation of being hard to navigate which became somewhat of a running joke for Students, Teachers and

**Aim**

In the initial stages of development, it was decided first and foremost the app had to help users navigate the Richard Hoggart Building itself, which was the primary feature of what the group would call its core build, with the rest of the campus as a lower priority. As Eduroam can be erratic at times depending on the user’s location, it was decided to allow the app to function offline. Also considering time constraints and other logistical limitations, the app would be developed exclusively for android devices using android studio, this would compliment the group’s course’s focus on the java programming language and decrease the amount of work needed. A rudimentary A\* algorithm would be used to navigate between the campus rooms. Once the basics were in place, accessibility had come up as a legitimate issue for navigating the campus: When it came to programming, the application had to account for those who had difficulty using stairs, so a function for filtering out stairs and emphasising lifts and ramps was coded in.

All the user would have to do is find and select which room they were in, and which room they wanted to go to and toggle the accessibility filter. The route between the rooms would be displayed with a line guiding the user from one room to another.

**Alterations**

Very little changed in the time between developing the core idea to the proposed implementation. But of the few changes, a prominent one was the decision to add a feature to freely view and look around the map.

Fire exit access was added as another filter option in addition to accessibility

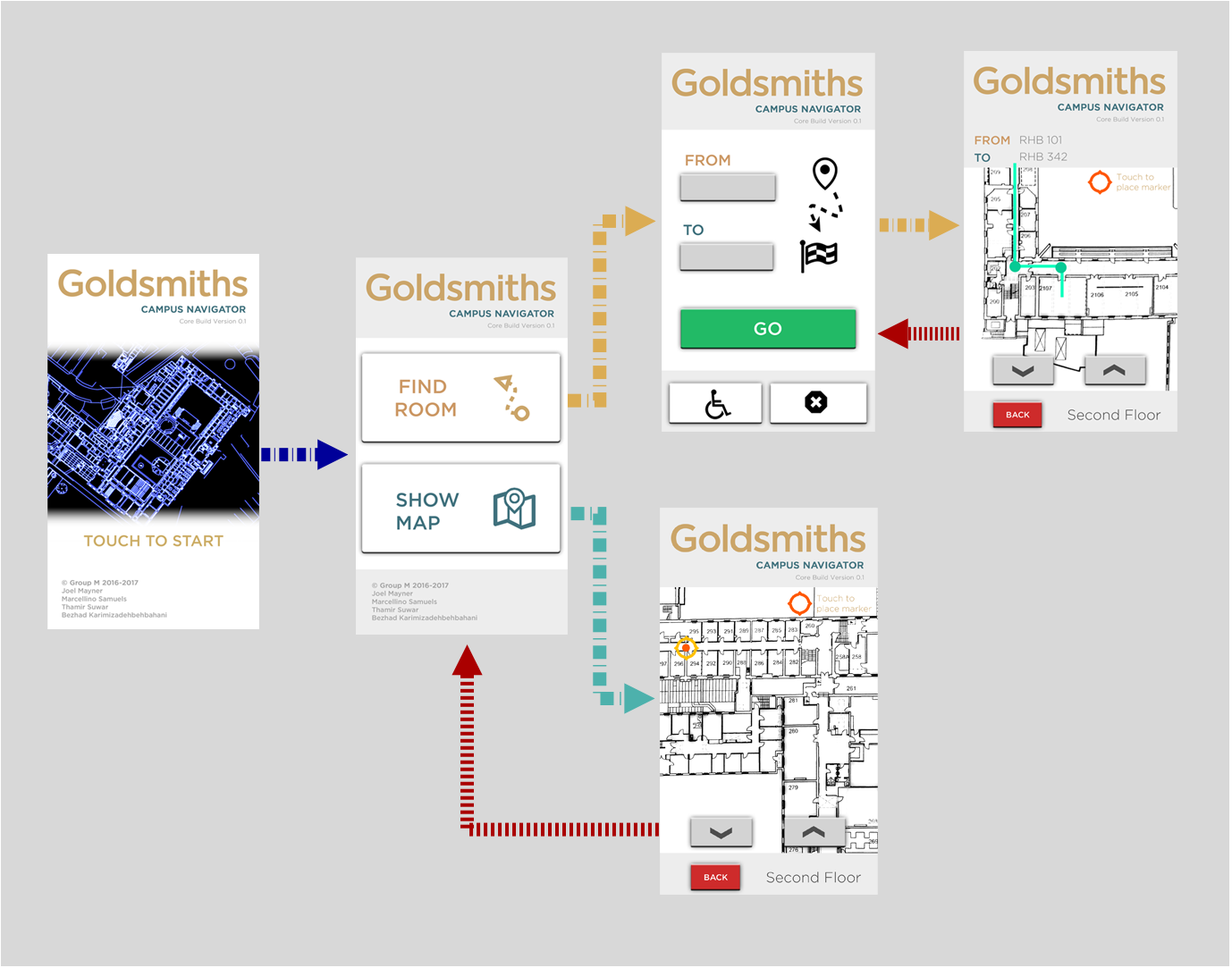
**Core**

RHB, A\*, filters, Android, campus overview map (for navigating to other buildings)

**Addendum**

GPS, room bookings implementation, map layouts for other buildings

**Development**



The design was intended to be clear and simple. The colour scheme was designed to complement the university’s font colour (with help from <http://paletton.com/> for reference) All the icons were open source and chosen for their recognisability. The user can pan and zoom in and out while viewing the map.

The map assets were sourced from visual studies and other departments.

**Implementation**

Considering external logistical limitations, developing for the android development studio was challenging, not just due to the groups unfamiliarity with the development studio but especially because of its reliance on the interactions between xml and java code across numerous files, the footprint of a single function, class or “activity” was considerable and was at best a seemingly insurmountable balancing act, the footprint included a need to register its existence in every other file in disparate locations within the project directory. This was compounded by several inconsistencies and errors within the Development environment itself such as vanishing import statements and an unintuitive xml graphical UI where adding a single feature unleashed a deluge of over-automated pre-sets which greatly restricted what lines could be added or removed without causing an error. Adding to this was the lacklustre assistance online complicated by the vast differences between numerous android generations which greatly limited the amount of useful information that could be found.

**References**

<http://paletton.com/>

**https://www.iconfinder.com/**