# CS3072/CS3605 Final-year Project: Task 1 - Project Synopsis

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| **Student** **Number** | 1826113 | **Supervisor** | David Bell |
| **Programme** | Computer Science | **Specialism** | No Specialism |
| **Provisional Title** | Covid-19 Campus Overview | | |
| **Problem Definition** | | | |
| Security personnel on Brunel need to find a way to prioritize their resources in ensuring that everyone on campus is constantly following the Covid-19 social restrictions.  To check how many people are in groups just by using Minecraft to check the campus to see what the best path for Security officers is. | | | |
| **Aims and Objectives** | | | |
| To generate a digital twin environment in Minecraft.  To inject code to Minecraft for the digital twin to generate Brunel University as an environment.  To generate a digital twin without building manually in Minecraft.  To be able to link this digital twin to Kaseya.  To create comprehensible data that anyone could view in Minecraft.  For the data gathered to be clear to anyone viewing the generated campus map and can plot where to send security officials easily. | | | |
| **Background Sources** | | | |
| These first of these two sources follow the guideline of tracking a general population whilst the second focuses more so on pedestrians in a dense crowd, both of which seem quite applicable to this current task.  I could not find any sources personally on creating a digital twin in Minecraft specifically however I have found non-academic sources that plot this out in good detail.  <https://ieeexplore.ieee.org/document/6877947>  <https://ieeexplore.ieee.org/document/9010144> | | | |
| **Approach** | | | |
| I will be using Java as my coding language as this is what is most compatible with Minecraft as it is also developed using Java.  I will inject a google maps/street view data into a Minecraft world.dat file that would generate the campus map.  I will then connect the generated campus map to a tracking software that will then have a certain Minecraft block represent population and population concentrations. | | | |
| **Evaluation** | | | |
| There are several aspects in this evaluation whose outcome would determine the evaluation.  Does the Campus load up into Minecraft?  Does the Campus map on Minecraft track information? (Has Kaseya been connected correctly)  Is the information given by the Campus actually comprehensible to Campus security?  Another clear indicator to see if this has been successful or not depends on what data is gathered and testing said data for accuracy. | | | |