Introduction

Navigating through large campuses can be an overwhelming task, especially for parents that are entering the campus to attend parent-teacher conferences or talks. The SHSID campus covers an area larger than 200 thousand square meters, and this enormous size can cause frustrations for parents that are not familiar with the campus. Many parents struggle to find the route to the building they want to go to or cannot find the exit gate afterwards.

To address this issue, this project aims to develop a campus navigator specifically SHSID parents, which can assist them in finding their way through the campus. The user will be able to choose a starting point (a school gate or a school building) and an end point (another school gate or school building), and the program will show the most effective route to move from the starting point to the ending point. A 2D map will be shown, and the path will be traced on the map. Along with the traced map, there will be route details shown, which are the specific path directions, e.g., “turn right after 3 blocks”. This program is created in the form of a WeChat Mini Program, thus accessible for users both on iPhone and Android without the need of installing an additional app.

The program functions by recording each building’s neighbor building and the distance to each neighboring building. Since there is no traffic inside the campus, the time needed is directly proportional to the total distance. By using the Bellman-Ford algorithm, it is possible to find the shortest path from the starting point to the ending point. which is the most efficient route.