

CAMPUS NAVIGATION SYSTEM

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University students will likely resonate with my experience. Upon entering university, I anticipated a setup similar to boarding school, with seamless transitions between locations. However, the reality differed significantly—each class took place in a distinct building, adding complexity to navigating the diverse campus. As a freshman, this presented overwhelming challenges. Juggling concerns about grades, socializing, and overall life, the last thing one needs is the additional stress of being late to class or struggling to locate exam venues. This led to the inception of the Campus Navigation System, born out of a desire to assist fellow students facing the same predicament. Whether newcomers or those unfamiliar with certain locations, the aim was to spare them the time-consuming task of searching the entire campus for a single class.

The journey to realize this idea became more tangible when I joined the Openskies fellows in December 2022. Despite not having a background in computer science, my studies in land surveying inspired me to integrate mapping skills. The goal was to create a portable solution, using maps to help individuals visualize campus layouts digitally. Thus, the Campus Navigation System came into existence. In my final year of university, I created a comprehensive map of the entire campus, detailing the locations of classes and offices. Employing surveying tools like the theodolite and total station, I took measurements and used ArcGIS to craft a map. Further, I generated individual shape files for the data and integrated it into code using Leaflet within Visual Studio Code.

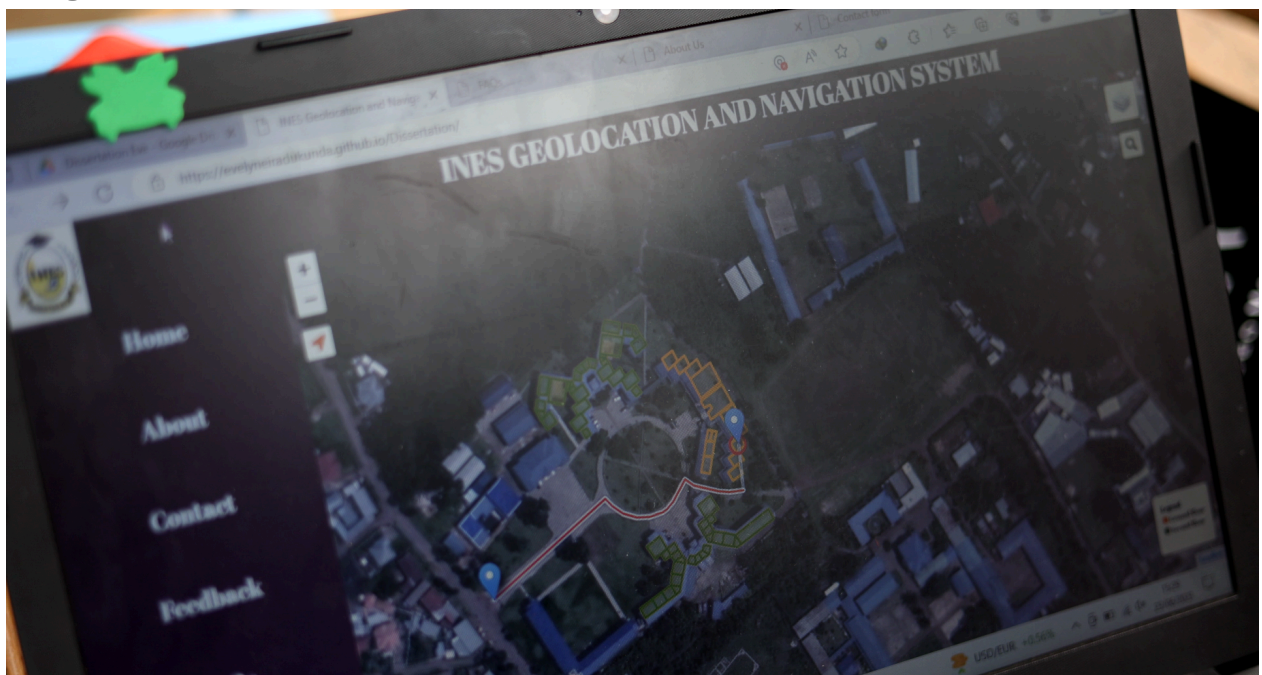


Figure1: This is the map that I created for my university INES (Institut D'enseignement Superieur)

Utilizing Github and numerous tutorials on YouTube, I successfully developed a functional website. This platform enables students on any campus to search for classes similar to using Google Maps. The system provides precise information, indicating the specific floor and building of the class, along with the shortest path to reach it.