Ganivi campus map

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The main idea of the project is to improve navigation in the 11th building of TSU(Ganivi). It is not rare that students do not know where their lecture room is located. The situation is especially hard for first year students. In the long searching process they are made to either rely on their intuition or ask for help for every other passerby. The mentioned classic occasion discomforts the searcher as well as their helper.

Similar but not as severe problem is not knowing the location of academic personal. That issue is very often even in the case of senior students.

Our project aims to solve previously mentioned problems. As a result we created a simple web page, where Ganivi's 2D map is depicted with all its floors. Usable options include:

1. A box containing 2 fields, where the student will be able input the willing starting and ending rooms' numbers. The program will not only show the location of destined room but also draw the shortest path to get there.
2. A box, where in case of entering professor's first and last name the program will show the location of their room on the map. It has the logic of insignificant error correction as well.
3. The additional option for more convenience. It allows student to enter uni.tsu.ge credentials and see their personal schedule for the semester.

The backend side is primarily written in Java using Spring Boot framework. Frontend side is using Javascript's framework – React. The shortest path functionality is based on Dijkstra's algorithm. We use that to calculate minimal path between two points and then displaying it on the frontend side. For minimizing the delay and increasing the speed and efficiency of the web page we use database, which plays a crucial role. It stores already calculated minimal paths and reuses them when needed. There also is the information about the location of academic personal. Fetching student's personal schedule from uni.tsu.ge is implemented with code written in Python.