The elevator application is a multithreaded program written in Java to simulate people moving amongst a building, all using the elevator. On start the elevator idles at floor 5 of the building until it is called by a user. Once the elevator is called it begins to travel to where it was called so the passenger can enter. After the passenger is on the elevator they select the button for the floor they wish to travel to and the elevator takes them to the floor so they can get off.

The algorithm used for the elevator considers destination floors and the floor the elevator is called from to choose the shortest path for all passengers of the elevator. The elevator utilizes a queue system to keep track of all requested passenger calls, checking to ensure the shortest path for each call is made. The elevator and the passenger classes are synchronized methods and each include error handling and processing.