Real Time Department Occupation
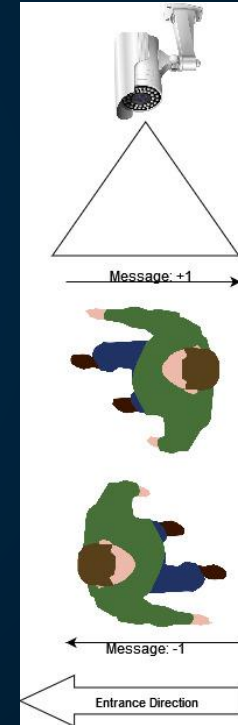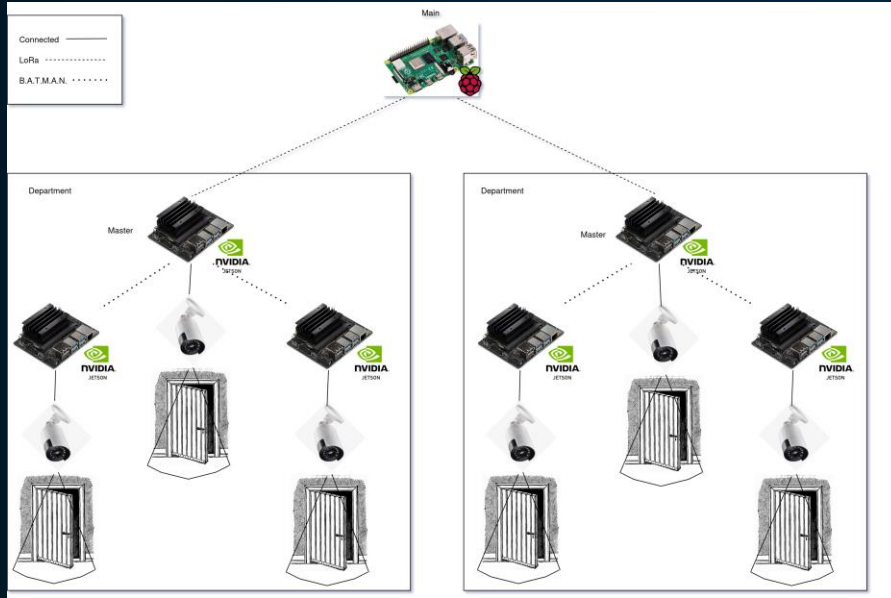
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OBJECTIVES

➢ The goal is to count the number of people currently in a department.

➢ This information could be useful for department management and statistics, as well as for students who want to know how busy the library is, for example.

➢ To count people, cameras will be installed at each entrance to the department. These cameras will have a top-down view.

➢ Each department will have its own counter to keep track of the number of people coming in and out.

➢ A dashboard will display the real-time count of people in each department.

➢ A central Raspberry Pi will receive the count data from each department.

➢ B.A.T.M.A.N. protocol will be used for communication within each department (short-range).

➢ LORA technology will be used to communicate with the central Raspberry Pi (long-range).
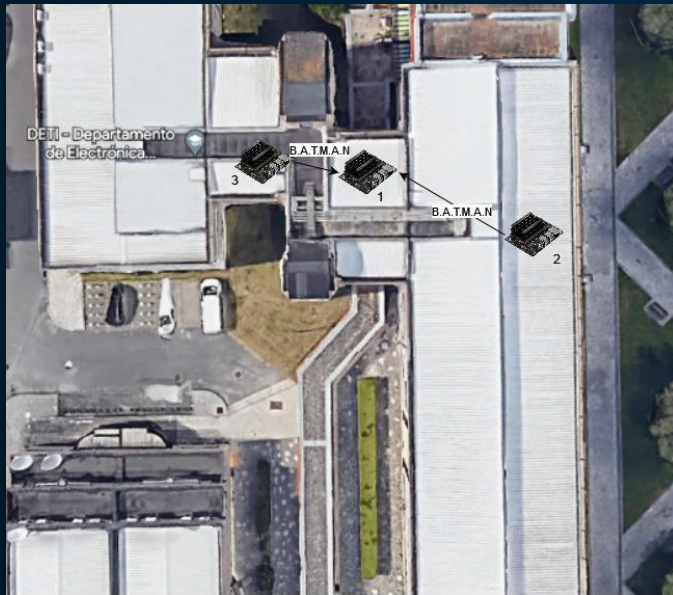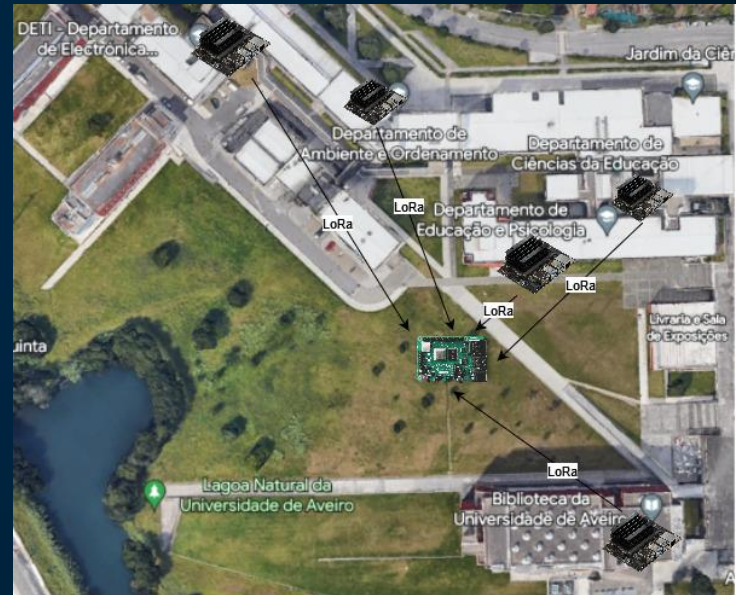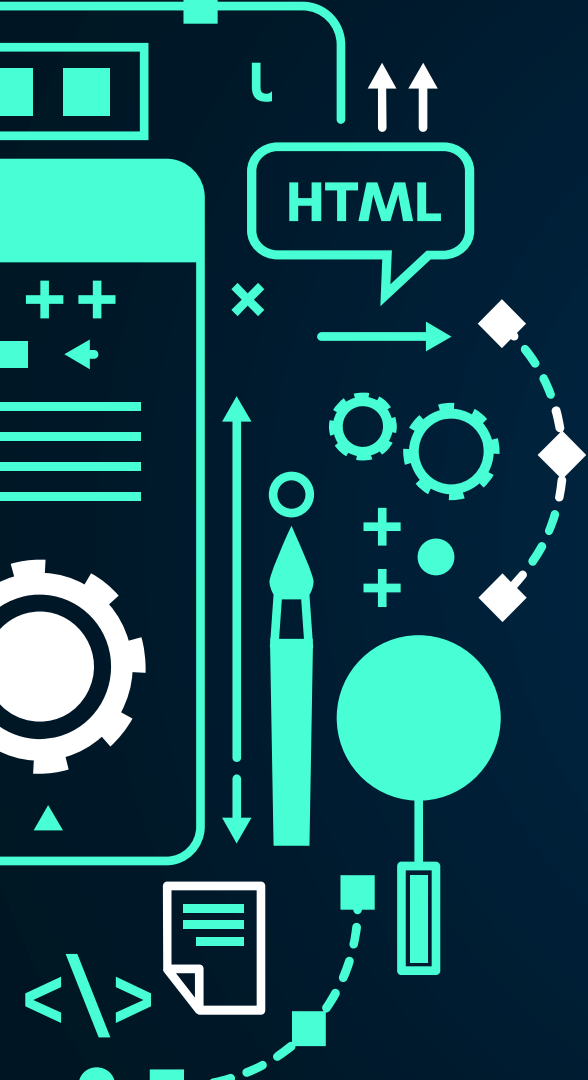
ARCHITECTURE

LAYOUT

DETI

UNIVERSIDADE

Legend:
1 – contains the counter and can update it
2 and 3 – only send their updates

TIMELINE

➤ Jetson equipped with a camera will detect people entering and exiting a department.
➤ The Jetsons in each department will be connected using the B.A.T.M.A.N. protocol.
➤ One Jetson per department will function as the counter and receive updates from the other Jetsons and itself.
➤ The Jetson with the department counter will communicate with a Raspberry Pi via LoRa technology.
➤ The Raspberry Pi will keep track of the counts for all departments and display them on a dashboard.

THANKS!

Does anyone have any questions?