

PHASE 1: Problem Definition and Design Thinking

Project Definition: The project involves integrating IoT sensors into public transportation vehicles to monitor ridership, track locations, and predict arrival times. The goal is to provide real-time transit information to the public through a public platform, enhancing the efficiency and quality of public transportation services. This project includes defining objectives, designing the IoT sensor system, developing the real-time transit information platform, and integrating them using IoT technology and Python.

DESIGN THINKING: The use of technology such as the Internet of Things (IoT) can make data collecting and

analysis easier. This paper presents the design and development of a smart public transport management system (TMS) to increase system capacity and enhance passenger safety and comfort while lowering costs and risks.

The proposed system is an electronic device that is placed in a public bus. This device can acquire data from sensors and send it to a cloud server in real-time. The data available on the cloud can be fetched allowing the management to monitor the status of the buses. It will also help commuters plan their trips in an efficient way by tracking the location of the bus.

The data can also be analyzed using different analysis and visualization tools. The resultant information can be used to enhance and optimize the services offered by the company. The entire system has been tested thoroughly in real-time and it has proven to function successfully.