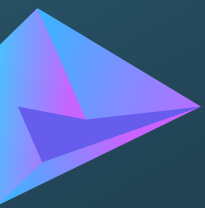# Minimum
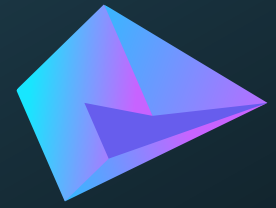# Path Finder

# Our Team

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Project Brief

The name of the project we've been working on is Minimum Path Finder. In this project, we've made use of Graph data structure, Arraylist data structure, Hash map data structure, and queue data structure. In this project, we've also extensively made use of Djikstra's algorithm which is a key part of our project since this algorithm is used to find the shortest path between the source and the destination. We've made use of the PMPML map for the same in which using the graph data structure we've taken the start destination as the source and the drop-off point as the destination and also we've taken the weights as the distance between the source and the destination and also we've taken the price required to travel from the source to the destination as the weight . We've taken Google Maps as a reference for our project because google map is an application of Graph data structure. The extensive and frequent use of google maps in our day-to-day life was what made us choose this topic as our project.
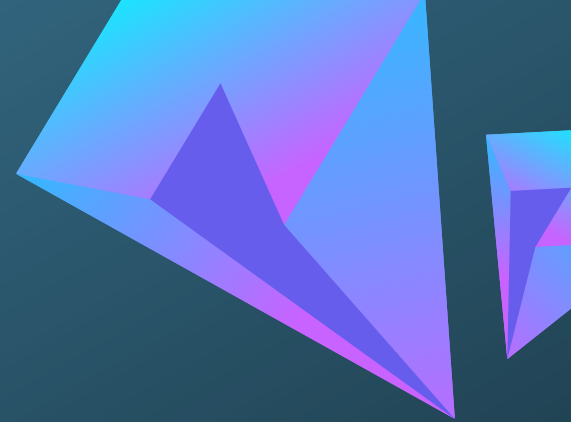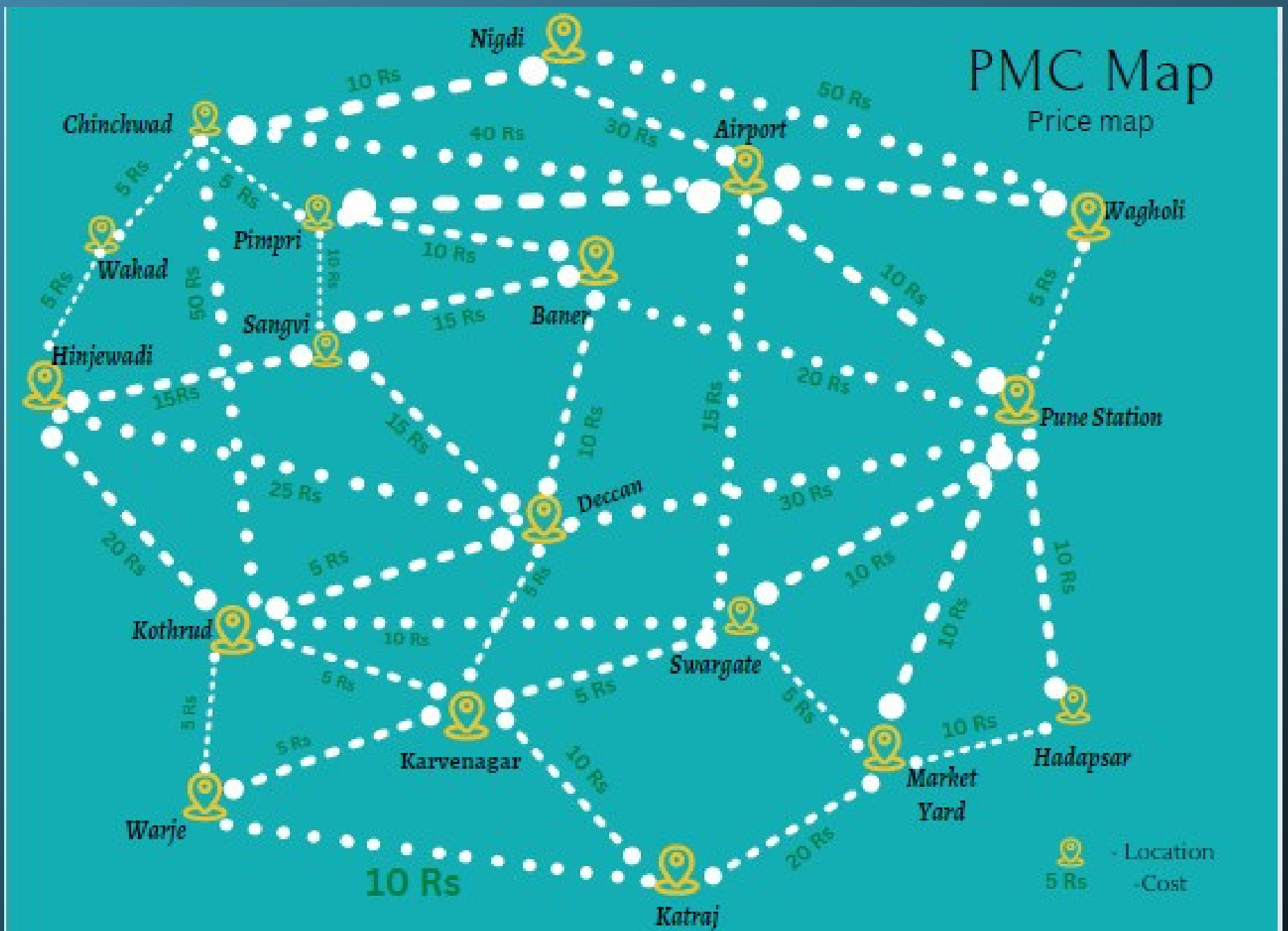
Data Structures Used
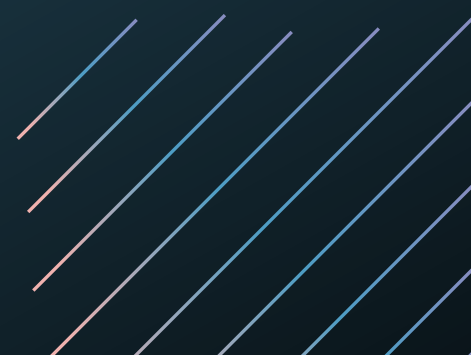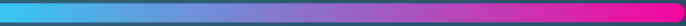
- Graph
- Queue
- Arraylist
- Hashmap

PMC Map
Distance map

Graph of Distance

PMC Map
Price map
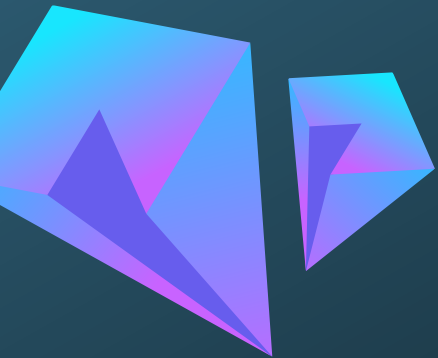
Graph of Cost

Why did we select these Data Structures for the project ?

The reason behind choosing graphs as a key data structure for our project is because of the extensive and crucial applications of this data structure, which has become a pivotal application in our prosaic life. A graph is a non-linear data structure consisting of vertices and edges ,the vertices are sometimes also referred to as nodes and the edges are lines or arcs that connect any two nodes in a graph more formally a graph is composed of a set of vertices v and a set of edges e. Graphs are used to represent networks so we have used graph data structure to represent the network of PMPML bus routes here our vertices are the bus stops and the edges are routes connecting the bus stops.

Thank You