EV Charging Station

IT832: Blockchain Technologies and Applications- Decentralization and Smart Contracts

Assignment I
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A charging station charges vehicles from many manufacturers with various batteries and charging capacities, boosting the demand for EVs and ensuring their dependability.

The lack of charging stations is the main factor in why consumers don't favour electric vehicles. There is perpetual worry about what might occur if the car's battery runs out. People needed easier and quicker ways to get to the nearest charging station when a vehicle's battery runs out.

A customer request-driven app that provides results based on user desire has been developed. To provide users with the best and top results when they need a charging station, we took into account the following factors:

The top stations that are closest to the user will be displayed, and if any of the top stations are within the same distance, the results will be displayed based on price, unit, and rating.

⇒ **Price Per Unit:** If the user chooses this option, the top stations with the lowest prices will be displayed. Only that price or stations with lower prices will be displayed for user input.

⇒ If the user only wants to see **fast charging stations**, they can choose this option; otherwise, all types of charging stations will be displayed.

⇒ **Other Company Charging Station**: The consumer has this option if they wish to use a charging station from a different company or if they don't mind either.
Here, we're presuming that the EV is a TATA vehicle.

⇒ **Rating**: Based on user feedback, all charging stations are rated. If a user only wants to use the top-rated stations, he or she can choose this option. In cases when the price and distance are equal, the top stations are chosen based on this factor.

We created a straightforward, user-friendly interface that requires little user interaction and is straightforward to use.

Results in terms of graphs based on User input :

(Remaining range, Preference(less cost/less distance) ,Fast Charging Support, Other than TATA charging station)

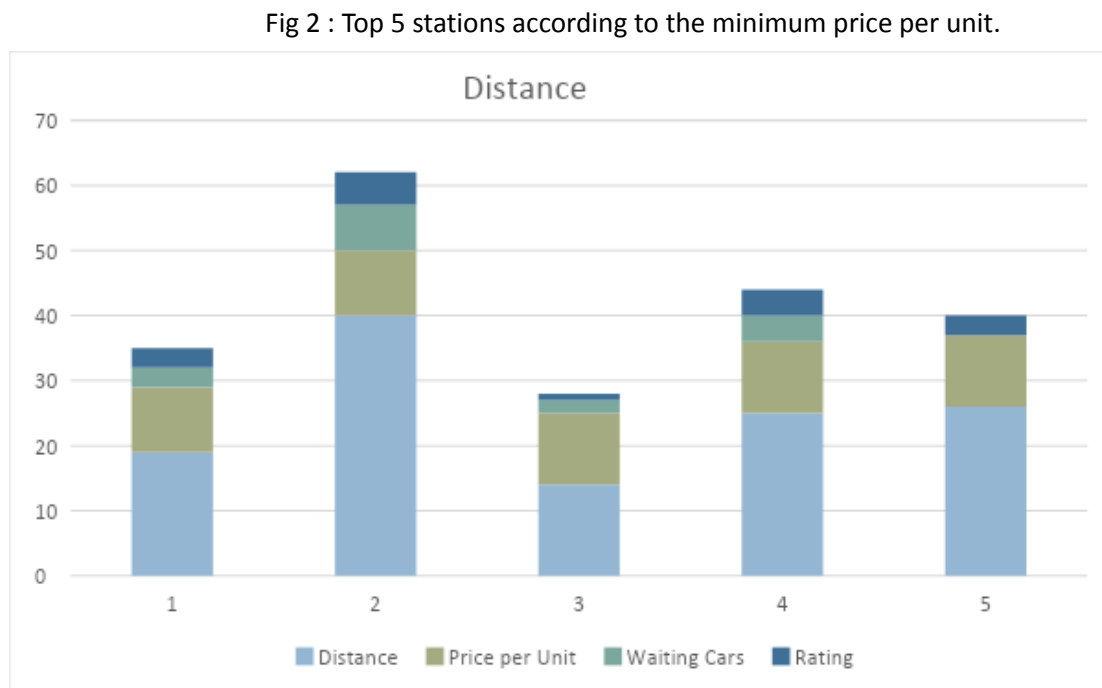Fig 1 : Top 5 stations according to the minimum distance.

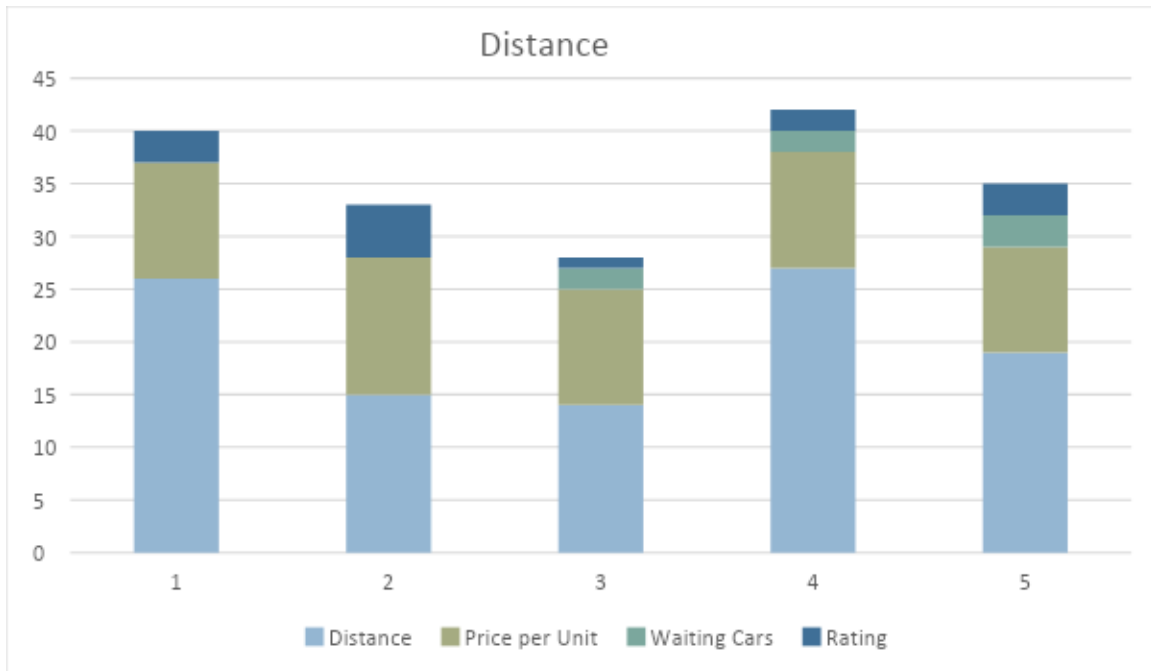Fig 2 : Top 5 stations according to the minimum price per unit.

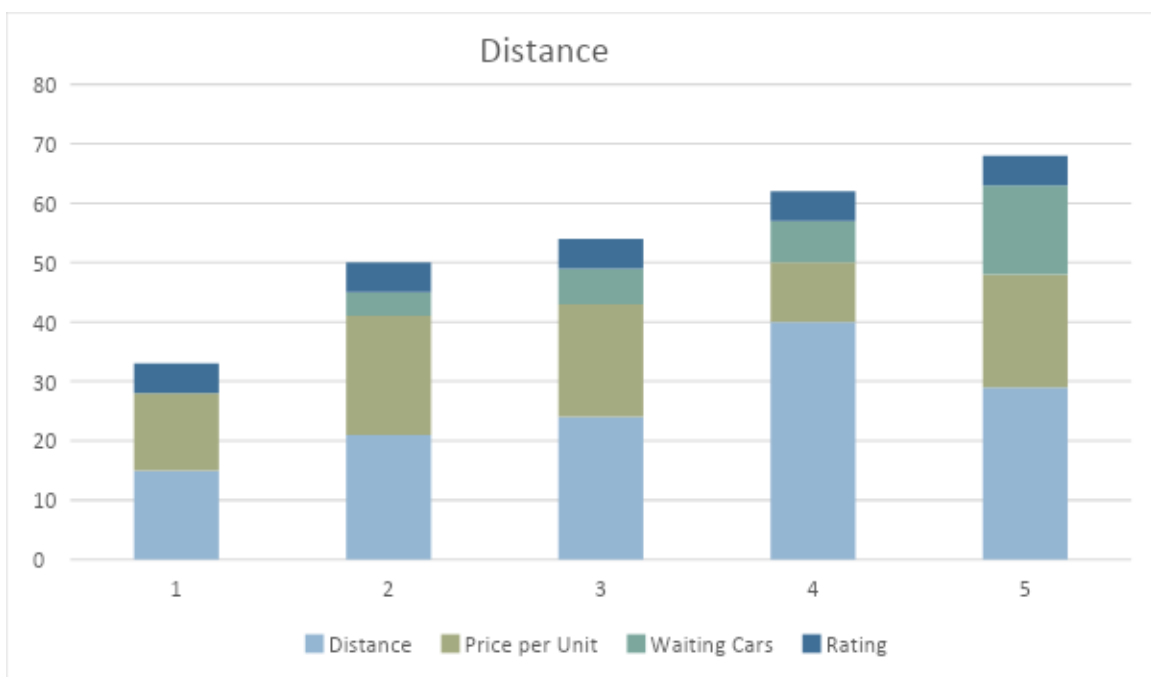Fig 3: Top 5 stations according to minimum waiting.

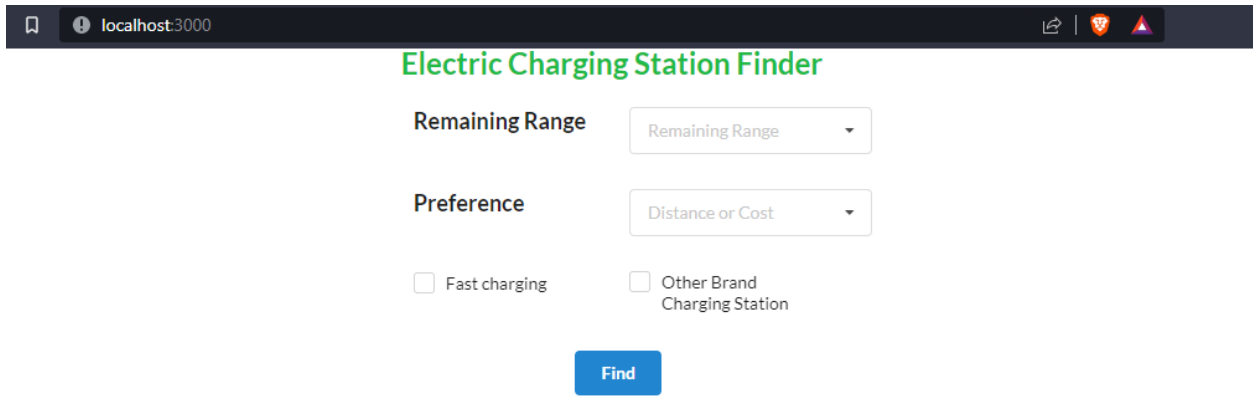Fig 4 : Top 5 stations according to the maximum rating.

Screenshots :
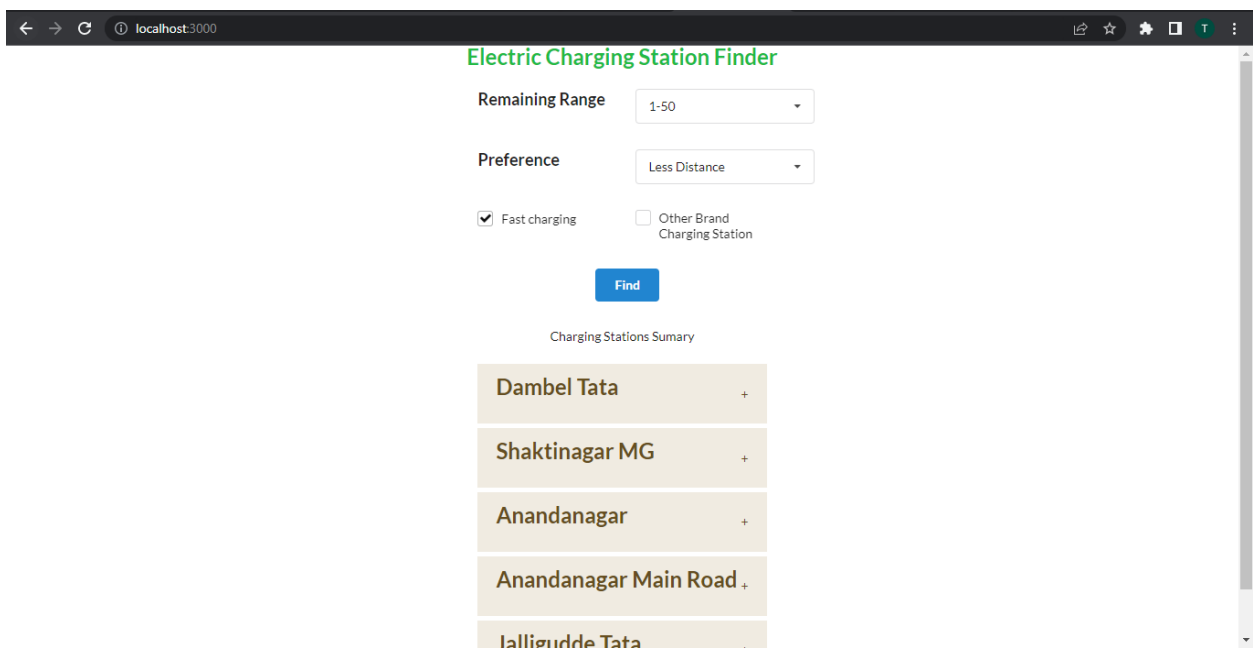
Inputs given to front end :

Result based on User Input :

Here list contains all EV charging stations that a consumer can prefer to go based on their preference.
To get more details about EV station use needs to click on "+" icon.