Luxury Car Rental Reservation App

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Overview:

This project outlines a Luxury Car Rental Reservation Application that will utilize a relational database for information management alongside a front-end client facing application to streamline the UX of stakeholders and actors participating in this system.

Objective:

To create a database that will be utilized via the front-end client facing application to serve the client with specific relational information regarding the client-server broker model or via model view controller model. The database will ease the management of the fleet of automobile assets and optimize their utilization by the customer with the aid of this front-end application alongside its back-end relational database.

Goals and Motivations:

The primary bare minimum goal and motivation is to meet the outlined objective(s) mentioned above. This can include but will not be limited to designing an effective UI/UX so information can be easily read, write, and managed by all appropriate stakeholders and active users in the system. Conveying the bare necessary and needed information to the user on-demand at the touch of a button will ensure a smooth UI/UX flow while enforcing high quality user-accessibility and user-experience.

Foreseen Problems and Resolutions:

The database can be expected to be tampered with intentional or not and must be able to withstand a high load capacity especially under peak times. This will require high-availability clustering and load balancers to smooth network and traffic flow which can easily be accomplished by deploying the application image within a cloud containerization network such as Kubernetes or one of its microvariants, microk8s, or other Docker-like cloud deployment technologies. The database must be able to utilize the primary keys and associated foreign keys to assign each available automobile asset to their designated drivers and customers.

The database will also need to account for when customers utilize the asset longer than the reservation contract terminates and thereby acting accordingly to accommodate all other affected clients with their reservation while ensuring that notifications and fees are enforced to ensure strict adherence to the originally indicated reservation contract. The database will also have to be capable of overwriting certain customer information freely at the request of the customer. It is entirely possible this project will encounter additional problems asides from the mentioned above that will necessitate the need to address them.

Related Work:

The database system will be benchmarked against the current industry standard Uber Technologies such as Uber and UberX. Some proposed differences between existing projects and ours will be towards the enhanced focus on User-Experience (UX), and ease of user access via minimal necessary user interaction.