Efficient Mall Vehicle Management model

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Abstract of the Project:

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The proposed Efficient Mall Vehicle Management model is a solution aimed at mitigating the widespread problem of time wastage and frustration associated with parking in crowded mall environments. As urbanization and vehicular traffic continue to surge, this issue has intensified, leading to traffic congestion, environmental concerns, and diminished productivity. To combat these challenges, this model uses data structures and algorithms to efficiently oversee available parking spaces within a mall setting.

The program commences by collecting user input, encompassing desired parking duration, vehicle type (ranging from 2-wheelers to regular cars), and any special requirements, including handicapped parking. Subsequently, it employs data structures like priority queues and linked lists to maintain a real-time database of parking slot availability throughout the mall. Utilizing this database, the model rapidly identifies optimal parking slots, taking into account proximity, vehicle size, and availability.

Furthermore, this model incorporates a billing system that calculates parking fees based on the duration of usage, which will be assessed when the user exits the mall. By automating the parking assignment process, our model aspires to streamline the mall parking experience, reducing congestion, and enhancing urban mobility within the mall premises. It not only saves valuable time for mall-goers but also contributes to creating a more sustainable and efficient mall environment. Additionally, customers can conveniently locate their parked vehicles and receive parking slot assignments upon entering the mall, ensuring a hassle-free and organized parking experience for all.