------------ Problem Statement ------------

Parking garages today currently operate without any computerized system. They usually require employees to walk around and manually check the occupancy of individual spots. The owners are concerned that they are not maximizing profit due the inefficient managements of parking spots. While some parking garages already monitor occupancy using a sensor system that keeps a tally of how many vehicles enter and leave the parking structures, this implementation can be taken a step further to further increase automation and efficiency.

Our solution is to take existing parking garages and incorporate a system that assigns the drivers parking spots to optimize the space in the garage. We also wanted to implement a valet service such that we can remove the problem of driving around and looking for the spot for the garages' customers. This will also provide a more personal experience that will attract customers. Our advanced system will also ease the jobs of the valet such that all they need to focus on is parking and obtaining the car making the process faster and more efficient.

-------------- How It Works --------------

1) A customer can make a reservation beforehand, guaranteeing a parking spot or on the spot, as they arrive at the garage.

2) When the customer arrives, a license plate reader will notify the system and it will check if the customer has a reservation or not.

- If the customer has a reservation then he can proceed to security check

- If the customer doesn't have a reservation then he will select the time he would like to park, input his phone number, and swipe his license to obtain security information to keep his car as safe as possible. Then, he will proceed to security check

3) At the security check, the advanced camera system will take photos at six different angles to record the state the car came in.

4) The valet will obtain the keys and provide the customer with a ticket number to obtain his car.

5) The valet will park the car in the spot assigned by the system

6) The system will notify a valet to obtain the car when needed and will return it to the customer

---------------- Why us? -----------------

Our sophisticated website allows customers to easily create and manage their accounts, make reservations online, and can even let the manager mange his parking garage anywhere he has internet access.

Our unique Valet Assistant Interface can speed up the process of information collection and will provide the customers with excellent ease of use. Android and Apple versions will be available.

---------- System Requirements ----------

Hardware Requirements:

- Tablet (7" min): Use as the Valet Assistant Interface
- LED Display: for outside to show vacancy of the garage
- Cameras: 10MP for security check
- Driver's License Reader: to quickly obtain information with one swipe
- License Plate Reader: 10MP min to read the plate
- Database: 100GB at least
- Hard-Drive: 50Gb at least
- Server: to process the information
- Internet Connection: 2Mbps at least

Features:

- Valet Assistant Interface
  - Provides an easy to use interface to quickly collect information and provide notifications to the valet
  - Apple and Android capabilities
- Garage Management System
  - Assigns lot numbers for maximum occupancy
- Professional Website
  - Create reservations online
- Online Garage Management Tools
  - Manage your garage almost anywhere

Group #: 5

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