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Final Project Presentation

Introduction

Boston is a populated urban city, like most the urban cities, Boston encounters problems like heavy traffic and lack of parking spots. In order to improve the space for park, the proposal automatic parking garage which is a mechanical system designed to minimize the space of parking could be review.

Main Objective

- In general, our design will be built to improve the lack of parking spots in Boston area by the construction of an Automatic Parking Lot Building and Parking Lots Underground.

Summary of The Prototype

- Our design solution is the parking system. Basically, this parking system has 2 floors or even 3 depending on how many spots you want in your parking; and the size of it’s appropriate size of a car. Each system will be placed at each spot of large foot-print parking; then we end up with the amount of cars can park on the parking will be increased double or triple- depend on how many floors do we have on each system.

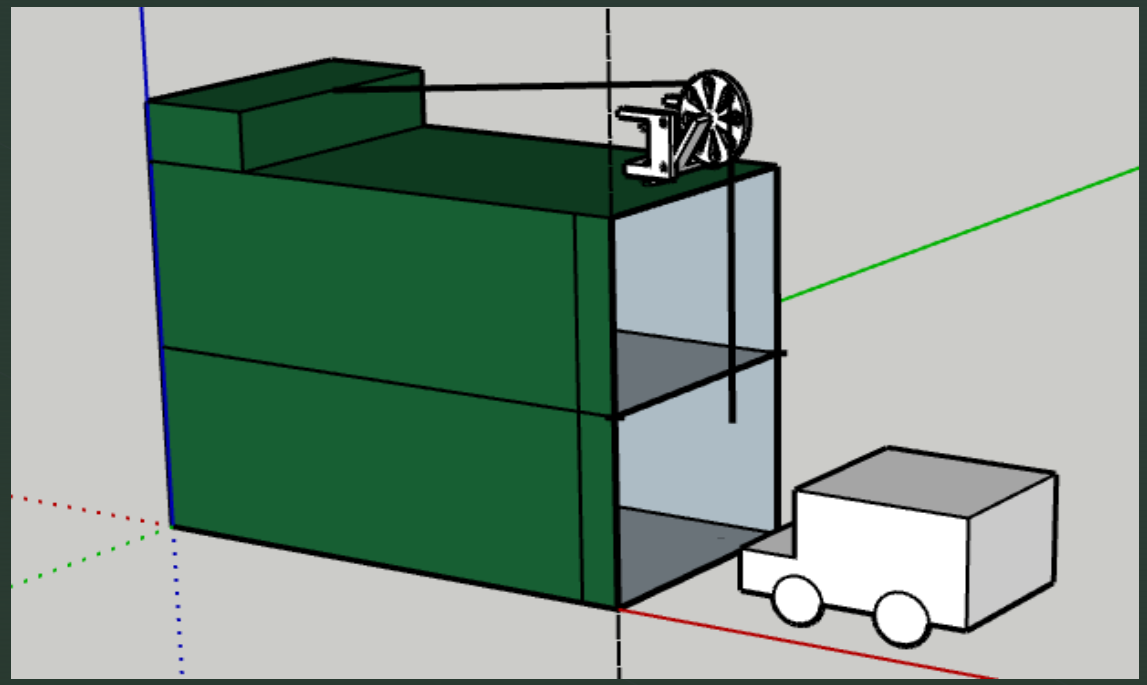
Size Analysis

- Average size of parking spot: 3x6, 18 square meters
- Average Height of an SUV: 2 meters
- Actual system:
  - 2.5 Meter(height)
  - 3.5 meters(width)
  - 6.5 (length)

Prototype size and measurement

- Length: 32.5cm
- Width: 17.5 cm
- Height: 25 cm

AutoCad



Prototype

Prototype

Pulley on top, draws the wire which attached to the platform on the bottom will carry the car up to the second level.

Cost

- Below building above grade (200 parking space, small)
  - Parking garage- Building cost: 6,750,000 Cost per space: 33,750
  - Automatic garage- Building cost; 6,125,000 Cost per space: 30,625
- Below building below grade (same as above)
  - Parking garage- Building cost 9,450,000 Cost per space: 47,250
  - Automatic garage- Building cost 7,025,000 Cost per space: 35,125

Cost

- Freestanding above grade (200 parking space, small)

Parking garage- Building cost 3,200,000

-Cost per space 16,000

Automatic garage- Building cost 5,225,000

- Cost per space 26, 125

Result

- So over all the cost of the automatic system in the Below building is lower than the regular one, it also has better efficiency.
- A automatic system would save lots of time
  - Example: the system will find a parking for you, you won't have to look for a parking.

Result

- Safety
  - For example: for ladies and elders to go out at night, they won’t have to walk in some strange or dangerous places after parking their cars. The automatic garage also has surveillance cameras to ensure people’s safety and property.

Ethical considerations

- We have to make sure the prototype safe to use and so therefore it should not cause harm to people using touching it. The real project too will save people money on parking since the payment for the parking system is in the rent and so it will benefit the people for using it, financially. The real system also promotes safety since it avoids people from parking on the street which could lead to accidents.

Reference/Citation

(17.24.050 Parking Facility Layout and Dimensions.,qcode.us/codes/temecula/view.php?topic=17-17_24-17_24_050.)

(Full-Size SUVs and Cargo Room.” SUV - New SUVs - Cars.com,www.cars.com/go/crp/buyingGuides/Story.jsp?section=SUV&story=2010suvCargo&subject=stories&referer=&year=New.)

Reference/Citation

- https://en.wikipedia.org/wiki/Automated_parking_system#Space_saving