**Chapter 1**

**Introduction**

Vehicle traffic congestion is a worldwide problem. In recent years, efforts have been made to introduce a method to reduce parking problems such as congestion, accidents and hazards.

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| Variety of occasions turn up when we visit various public places like Shopping malls, 5-star and 7-star hotels, multiplex cinema halls, etc. The difficulty we encounter at these places is finding the availability of parking space. Most of the times we need to traverse through multiple parking slots to find a free space for parking. The problem becomes more tedious if the parking are multi- stored. Thus the problem is time-consuming. This situation calls for the need for an automated parking system that not only regulates parking in a given area but also keeps the manual intervention to a minimum. Our proposed system presents an Autonomous car parking that regulates the number of cars that can be parked in a given space at any given time based on the parking space availability. When a car arrives at the entrance, it will be stopped at the main gate and provide a parking slip. This parking slip provide the full details about the vehicle parking. Like parking slot number, vehicle number, vehicle type, date, In time, amount for parking etc. .This will help the driver for easy parking to the given available space. |
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**Chapter 2**

**Literature survey**

Intelligence Vehicle Parking Management (Car parking system) is a system that is used to help managing cars in parking area in other to avoid congestion and arrange cars in an allocated position. The system also helps to track how many cars pass through the gate and the duration taken by each, and then it will calculate the amount of money a car should pay when exiting. Car parking system is being used in many congested area or location where there are many meeting point of people like where there are more than one shopping complex near to each other or where there is megamall or stadium. For example like Sunway pyramid, Lowyat and Timesqure, and Midvaley megamall all in Malaysia.

**Chapter 3**

**Problem Statement**

  Parking facilities has become a huge problem. There is lack of proper free spaces for parking due to increased unplanned housings in many places of the capital. There has been increase in the number of vehicles, but without sufficient parking spaces. Such growing number of small vehicles especially motorcycles and micro buses have created mess in the city including the increase in traffic jam. Another challenge due to the increased number of vehicles is undisciplined driving, which created obstacle for the traffic management system. To improve all these, there is a need to create enough parking spaces.

**Chapter 4**

**Existing System**

* Existing parking system consist of many disadvantages. The system only provide the Entrance to the parking area not provide the parking slot
* The car owner search the parking slot after entering to the parking area. It will take time to find the slot
* The car owner have no idea about the parking area is fill or not. His responsibility to find the parking slot and park his vehicle safely
* The owner need to remain the parking slot for his vehicle parked.
* Difficult to find his vehicle from a large area of parking after complete his shopping
* Safety for the vehicle is less

**Chapter 5**

**Proposed System**

* The admin side from the parking entrance provide the parking slip to the vehicles owner it provide the full details like Vehicle type, Vehicle number , Date, In Time, Parking Slot..etc
* Provide Different Parking areas for different Vehicle type, four wheelers need more area for parking than two wheelers. It will helps to park more vehicles
* The admin side know about the parking status. If the parking area is fill admin block the entrance.
* Admin has to check the available slot in any time
* No need to remained the parking slot. It is to be printed in the parking slip
* It’s easy to find the vehicle from a large area of parking using the parking slip
* Parking will take less time and safety is high
* Validate the Admin before entering to the application
* Admin Can take the detailed report of parked vehicle
* Only two field is filled to the Admin side remaining 5 field generate automatically. It will easy to the admin for printing parking slip fast.
* It’s very easy for carrying

**5.1 Modules**

The system after careful analysis has been identified to be presented with the following modules:

**The modules involved are:**

1. Parking manager
2. Vehicle category
3. Availability checking
4. Park slip print
5. Un check the Slot
6. Parked Vehicle detail

**5.1.1 Parking manager:-**

* Admin Login – It will provide an authorized admin to access the application
* All the details are added from the admin module, like vehicle details, date, time etc.
* Available location are checked in and the location printed in to the parking slip
* Collision of vehicle in same location is not happened

**5.1.2 Vehicle category:-**

* It will provide different parking location for different type of vehicle
* Four wheelers need more area for parking than two wheelers. So admin provide different parking location for different type of vehicle It will helps to park more vehicles
* It’s easy to find the vehicle from a large area of parking

**5.1.3 Availability checking:-**

* Admin can check the available parking slot using availability checking button
* The admin side know about the parking status. If the parking area is fill admin block the entrance
* If a vehicle is out from the parking area. The admin un check the slot. So the slot is available for next vehicle
* Admin can check the parked vehicles details at any time using the help of filled slots
* All the vehicle details will save to the database so we can access the data at any time

**5.1.4 Park slip print:-**

* The admin provide a parking slip to the car owners. It will include all details like vehicle type, vehicles number, date, time, parking slot, amount for parking etc..
* The slip will help the vehicle owner for easy parking of the vehicle
* No need to remained the parking slot. It is to be printed in the parking slip

**5.1.5 Uncheck the slot:-**

* The parking slip will be collected in the exit location. Then admin uncheck the location and make the location free for next vehicle

**5.1.6 Reports:-**

* When a parking slip is generated for a vehicle. All the data in to the slip is stored in to the database. In the report page have we collect all vehicles numbers? Using the vehicles number we access each data

**5.1.7 Parked vehicle detail:-**

* Using this Application we can check the details of parked vehicle. When we click on to the status button it will display all the selected slots. Using the selected slot number we can check the vehicle details

**Chapter 6**

**System Requirements**

**6.1 Functional Requirements:-**

* Graphical User interface with the User.

**6.2 Software Requirements:-**

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| TOOLS | 1. Android Development Tools 2. Android SDK and Eclipse Plug-ins for Android ADT (*Resent versions*). |
| Operating System | 1. Windows 7 2. Windows XP 3. Windows 8 |
| Technologies and Languages | 1. Android 2. Java 3. XML |
| Debugger and Emulator | 1. Android Dalvik Debug Monitor service 2. Android Emulator(Android Virtual Device) |

* 1. **Hardware Requirements:-**

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| Processor | Pentium IV or higher |
| RAM | 256 MB |
| Space on Hard Disk | minimum 512MB |
| Minimum space to execute | 1.0 MB |