Parking management system using information gathering and data collection technique

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Abstract: The main aim of this project is to reduce the traffic in the parking place. Normally we can see in the multiplexes, cinema halls, large industries, and function halls there is problem they have to go and search which line is empty and which line having place to park the vehicle, for parking then they need workers for parking in correct position it is the money consumed process. So, to avoid this problem Car Parking System project is implemented. Our system is developed to overcome the shortcomings of the existing system which creates loss of resources and is orthodox. The parking management system uses data collection and information gathering technique i.e. QR code to give a unique identity to the user and to encode the user data in QR code which would help the user in allocation of his vehicle. The database of availability of parking spots and records of total car parked is managed by using cloud computing system.

***Keywords*:Parking, Location, User, Client, Navigation, Allocation, QR code, Car**

I.   INTRODUCTION

India is facing a new problem nowadays – lack of sufficient parking space. With families getting smaller and the total number of motor vehicles exceeding the total number of heads per family, the parking scenario is woefully falling short of the current requirements in the country. The situation is such that on any given working day approximately 40% of the roads in urban India are taken up for just parking the cars. The problem has been further exacerbated by the fact that nowadays even people from low income group are able to own cars. The number of families with cars has become much more than what the country is able to manage

As it is, the cities in India are highly congested and on top of that the parked cars claim a lot of space that could otherwise be used in a better way. Thanks to poor, and at times zero, navigability, Indian cities are regarded as some of the worst options for living. One can also add the issue of pollution to this mix and understand the enormity of the crisis. In this context it needs to be understood that the Indian cities, with the possible exception of Chandigarh, were never planned in such a way so as to accommodate a deluge of cars as is the situation now. The apathy of present-day urban planners has only made the situation worse [1].
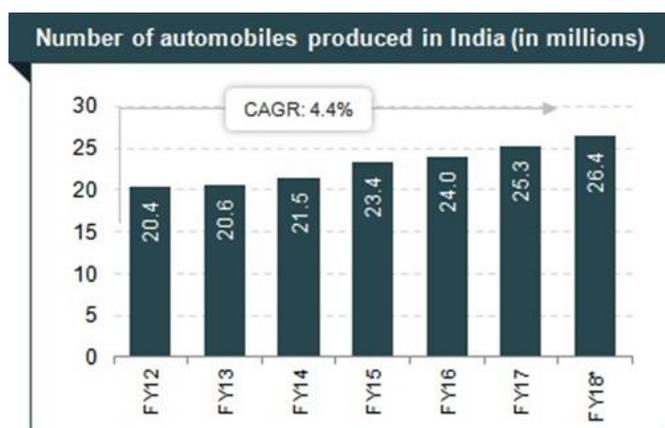

Figure 1

II. Literature Survey

In yet another problem regarding traffic and congestion in South Mumbai, the Brihanmumbai Municipal Corporation's effort to make additional parking space in Colaba, Churchgate and Nariman Point available under its new parking policy have hit another roadblock. Despite receiving 28 applications for no-objection certificates for on-street parking, the traffic department has so far given only two permissions as the chaos continues.

1. According to a civic official, the reason behind this delay is the timing the parking is available — residential parking slots are available from 8 am to 8 pm only, reported DNA.

2. The traffic snarls and problems has so far received plenty of complaints. Of the total 28 applications — 19 housing societies and nine commercial establishments — only one each has been granted an NOC currently. A senior civic official from the A ward, on condition of anonymity, said that despite an impressive response from residents, there is delay in implementation due to lack of clarity. "If vehicles are found parked along the road even after 8 am, there is no clarity on what happens to them," said the civic official, further adding that though the traffic department can tow them away, it might not be feasible on a regular basis. "If the civic body tows away vehicles, where will we keep them?" said the official. Initially, the resident's association of A-ward had also raised questions and demanded clarity in the policy and had written to the BMC chief, but had not received a favourable reply regarding their problems[2].

III. METHODOLOGY

Following block diagram is the overview of our system which provides the short overview of our system.
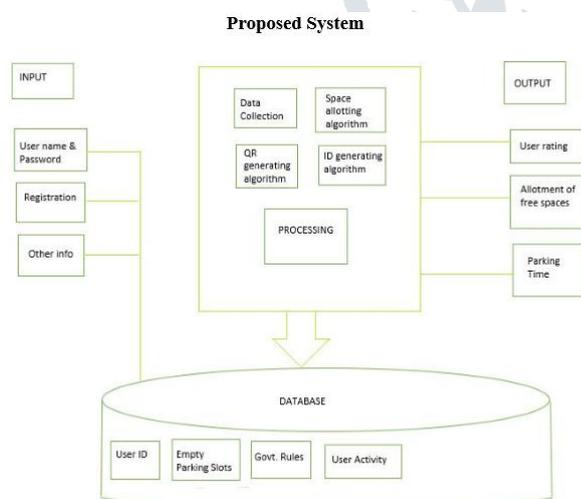

Figure 2. Block Diagram

As shown in block diagram, different tasks of each entity of our proposed system is defined. For each entity our proposed system has different set of input and respective output for that input.

In this section we are going to study some features of our system, implementation plan of our system and overview of our system using some labeled charts[5].

A. *Flow chart*

The working flow of whole system is shown below. From starting with registration to doctor appointment can be seen in the flow diagram. We can also see some of the conditional functions in the system as shown below. Figure 3 shows the work flow diagram(flowchart) of the system [3][4].
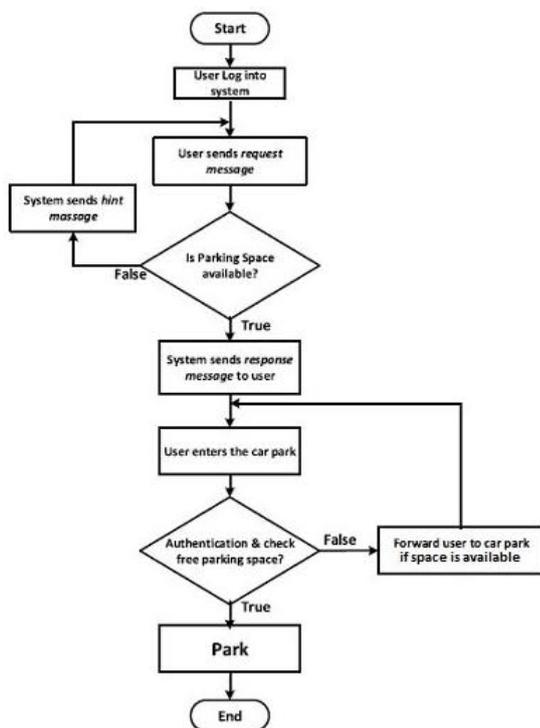

Figure 3. Flowchart

B. *Data Flow Diagram (DFD)*

It shows the major actors involved in the system which includes Patients, and Doctors. It also shows how the data flow isperformed from one entity/actor to the other.

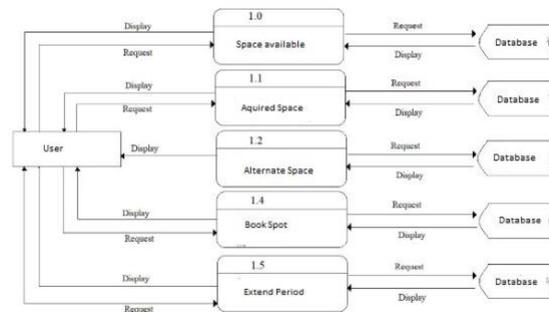Level 0 DFD

Figure 4. Level 0 DFD

Figure 5. Level 1 DFD

1. User

User performs basic actions in our system which includes registration in *"Parking management system* through a registration page in the android application which is mandatory only used if patients wants to store its personal information and car details. After the registration if patient will provide its desired parking location and the app will process and provide navigation.

2. Admin

It is the entity which is responsible for allocation acceptance and report suggestion. Admin usually accepts or rejects the allocation based on the availability of parking space. User can also see the location of nearby parking space based in nearby area[6][7][8].

IV. RESULT AND DISCUSSION

The current existing system is outdated, it has major safety issues. The objective of our system is to provide an optimized and a better way to solve user queries and generate effective solutions related to parking. Our aim is to navigate the user to save their time caused by the unnecessary currying around in search of parking and to maintain a robust database for the parking services to reduce morality issues and to increase their efficiency.

V. CONCLUSION AND FUTURE SCOPE

Through balanced understanding within the team members we have been successful in designing planning and documenting the application and website called "Parking management system using information gathering and data collection technique" We have acutely studied, analysed and planned the features and function of the system.

Focusing mainly on guiding users with the most ease and helping them park near to their destination park.

As we are focusing on making the website and the application. The main concept of while developing the application was the usefulness of the application towards the mass using tech to get to know the available parking spaces. The website is being developed so that it will help the parking space providers to lease it for all the ease it has been providing to the commuters.

So, our main motive is to make ease in finding parking spaces for people not being familiar with the neighbourhood by developing the application and the website.

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