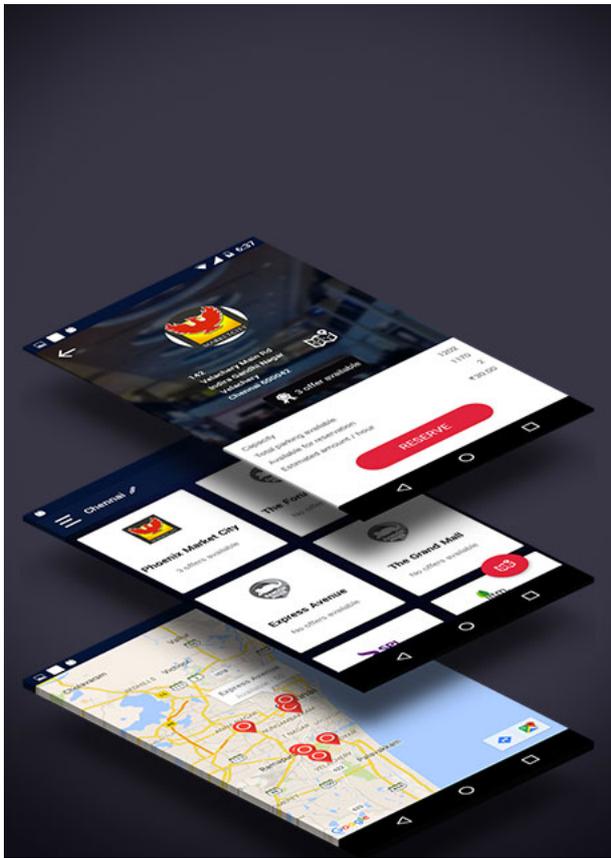


Parking Reservation Mobile Application - Random Mouse



Opportunity & Challenge

In metropolitan areas, parking management influences drivers search time and cost for parking spaces, parking revenue, and traffic congestion. The parking industry generates billions of dollars in annual revenue in the United States alone, and parking regulations may affect people's concerns about traffic congestion, air pollution, drivers' frustration about parking searching, and municipal objectives.

A recent study shows, in a business or commercial cities, vehicles looking for parking burn 47,000 gallons of petrol and produced 730 tons of carbon dioxide, which is equivalent of 38 trips around the world. Clearly, the problems associated with parking imposes significant societal costs, both economically and ecologically.

Approach

A smart parking system, computing devices (e.g., smart phones, wireless sensors and personal laptops) turn progressively smaller, cheaper and more powerful. As a result, mobile and pervasive computing is becoming an

indispensable component in the distributed networked computing infrastructures.

It provides us a powerful platform to compute real-time information from physical world (physical part), as well as communicate with people (cyber part). In this thesis, the objective of smart parking system is to develop technologies which will help to build a mobile and real-time computing system which make the computing and communication capabilities fully play, and elegantly integrated with users.

Solution

We install vehicle detection sensor on the floor of each parking slot in a parking area, be it indoor or outdoor. The sensors detect the presence of a vehicle, when the vehicle comes over it. Vehicle presence information is sent to our gateway, wirelessly. The gateway updates our cloud server through the internet. Vehicle presence data is mapped onto the floor plan of the parking area and brought to our mobile app and cloud-based software platform. Commuters can use the mobile app to look for real-time parking availability, reserve parking space and also remember where they have parked. The cloud based platform provides analytics that helps the operator and city traffic administrators, manage the parking effectively, perform an accurate audit and generate more revenue.

Outcome

Easy navigation to free available parking space. Real-time parking availability information is provided through mobile app. Faster turnaround of available spaces means increased revenue. Dramatically reduce parking space search time. Savings on fuel and tires. Commuter data and statistics can be used for better planning. Robust features such as reserved premium parking, parking space bookmarks etc can be added. Additional revenue generation. Trouble - free parking