ParkNow: Real Time parking tracker using crowdsourced data

CMPE 295B

Project Abstract

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[Dec 2021]

ABSTRACT

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Nowadays, it is very hard to find parking spaces and even harder in peak times at facilities such as universities, tourist spots and sports venues. According to the study published by INRIX, the impact of inefficient parking search is costing the US economy more than 72 billion annually accounting for wastage of time, fuel and emissions. A parking lot management system includes counting the number of parked vehicles, monitoring the changes of the parked vehicles over the time, and identifying the stalls available. The need for such an efficient parking lot management system has never felt more urgent as the impact of the pandemic has increased the usage of personal vehicles compared to public commute.

Today's existing top rated parking applications such as SpotHero, ParkMobile face a lot of challenges due to the unreliable real time information. Thus, they mainly focus on providing a parking ticket at a dedicated parking lot and not the free public parking spaces. Moreover, these applications rely on sensor data and require tight coupling with parking lot owners, incurring increased costs.

In this project, we propose a crowdsource data capture approach in combination with mobile phone GPS signals to provide accurate, reliable real-time parking availability information. The system uses this live data to display nearby parking locations to the user. Furthermore, this solution avoids the overhead of tie ups with parking lot owners and the dependency on any external sensor installation. Hence, the proposed solution will also benefit in lowering fuel consumption cost, saving user's precious time and reducing carbon footprint.