ParkSaver

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Project's Goal:

Find a solution for the parking problem in big cities.
Clients can pay in advanced for a private parking spot of an individual who lives in that city, that way the parking spot's owner benefits from renting his spot when it's empty and the lessee gets a decent parking spot with minimum time waste, costs and effort.

Introduction:

The business model of ParkSaver company is based on the "Joined Economics" principal. The company produces a cellphone application that allows communication between drivers and parking spot's owners. These days, there's a lack of parking spots and their costs are extremely high. When a person is traveling for a meeting, concert and so on he might have to pay a huge amount of money and waste time for finding a decent parking spot. We would like to make it easier for individuals to search for parking places.

The project's objectives are:

1. Parking spot's owner can rent out his spot in specific hours he chooses to, therefore gain an income. In addition, there will be less road congestion and the cost of public parking lots will decrease.
2. The lessee will receive a comfortable solution for finding a decent parking spot and will save money and precious time in the process.

Design Considerations:

With the ParkSaver application, each owner of a parking spot can publicize it, showing up on our map. In such way, drivers can look for the closest parking spot, rent it and pay for it through the app, the price for the parking spot will be displayed on the map. In addition, we manage a user's rating system that provides motivation for fitting behavior of the renters and the lessees.

The algorithm is based on 3 components:

1. Shortest route from the desired destination.
2. The cost of the parking spot.
3. Ratings of the parking spot's owner.

Selected Approach:

Our main mission was to enable easy access between lessee and owner - renting or leasing a parking spot. That's why we chose to develop an app that anyone can always carry with in his pocket. The app is GPS based - when the user looks for a parking spot, it offers him a cheap close one, including details of cost and the relevant hours, everything in one application.

Solution Description:

Our implementation is composed of an android cellphone application, that was written in its Back-End part by Node.js using Express server, Android using Java in its Front-End, and Firebase database service. Our server is deployed on Firebase database service which provides API for the application by retrieving data from Firebase. In the main screen, on the Front-End, we have the user's interface of 'Google Maps' which presents the parking spots on the map using 'Google Maps' API.