Overview

- ParkNet is a database management website designed for efficient and effective markup of parking spots.
- The website uses elements of Google Maps along with its own features to form a simple and streamlined user interface.
- Ultimately, the goal of the ParkNet project is to create a tool that can direct drivers to the nearest empty parking spot.

Motivation

- **Urban traffic congestion**
  30% of traffic in cities generated by drivers looking for parking [1]
- **Rising potential**
  Rapidly increasing number of mobile navigation users [2]
- **Existing technology**
  Location services are gradually becoming more precise [3]
- **Available resources**
  Google Maps provides detailed satellite and street view images.

Methodology

- Google Maps JavaScript API v3
- Selective loading: satellite view is divided into rectangular zones, one of which can be selected and operated on at a time
- JSON calls made to PHP files, which interact with the database to load, change, add, or delete markers and zones
- Several commenting and annotating tools allow users to accurately map out a variety of traffic features.

Applications & Future Work

- **Integration with ultrasonic technology**
  → Automatic detection of other cars when driving by
  → Real-time information on parking spot availability
  → Crowd-sourced data collection
- **Continued improvement of markup tools**
  → Time-dependent parking spots
- **Mobile application development**
  → Using phones to direct drivers to empty spots.

Tools & Features

- Color-coded zone designation
- Marker type differentiation
- Bulk marker addition and deletion
- Street tagging and annotation

References

2. Goss, P. Mobile navigation use increases by 57%
3. Kahn, J. Apple improves Location Services in iOS 8