CS 528: Final Project Presentation

trackle

track your vehicle

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Motivation & Objective

- **Motivation:**
  - 52% of people forget where they parked
  - 200 man-years spent searching for parked vehicle

- **Objective:**
  - Develop an Android application that
    - Manually / Automatically saves the parked location of the user’s vehicle
    - Displays path to vehicle upon user request
Features

trackle

- Saves the location of user’s parked vehicle
- Displays shortest path & ETA back to vehicle
- Has Auto / Manual modes
- Saves history of parked locations
- Has capability to capture and store photos & notes
- Calculates parking cost
- Has a minimalistic UI design
- Reduced battery consumption
System Design

- **Auto Tagging**: Activity Recognition API
- **Route Display**: Maps API, Directions API, Fused Location Provider API
- **Location Address**: Geocoder API
- **Photos**: Camera Intent
- **Parking History**: SQLite Database
# Summary

## Proposed vs Achieved

<table>
<thead>
<tr>
<th>Feature</th>
<th>Proposed</th>
<th>Achieved</th>
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<tbody>
<tr>
<td>Auto-Tag</td>
<td>✔</td>
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<tr>
<td>Manual-Tag</td>
<td>✔</td>
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<tr>
<td>History DB</td>
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<tr>
<td>Photos &amp; Notes</td>
<td>✔</td>
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<tr>
<td>Cost Calculation</td>
<td>✔</td>
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<tr>
<td>Time Expiration Alert</td>
<td>✔</td>
<td>✗</td>
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<tr>
<td>ETA &amp; Estimated Distance</td>
<td>✗</td>
<td>✔</td>
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<tr>
<td>Dynamic Path Change</td>
<td>✗</td>
<td>✔</td>
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<tr>
<td>Power efficiency</td>
<td>✗</td>
<td>✔</td>
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<td>Shortcut to Email Developers</td>
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Implementation Statistics

- 2075 lines of Java code
- 14 Java class files
- 14 XML layout files
- 11 icons
Future Enhancements

- Using Cloud Storage (Amazon Web Services) to store parking history data with a dedicated user login
- Perform predictive analytics on stored and real time streaming data, to predict parking availability and traffic at different location at any time
- Integrate with Automobile Manufacturers, Google Maps and HERE Maps:
  - Live parking traffic updates at different locations
  - Live updates on parking fare
Video Demonstration
References

2. Sarfraz Nawaz, Christos Efstratiou, Cecilia Mascolo. Smart Driving Systems for the Daily Drive, IEEE Computer Society
Thank You!

Questions?