

# CS 528: Final Project Presentation

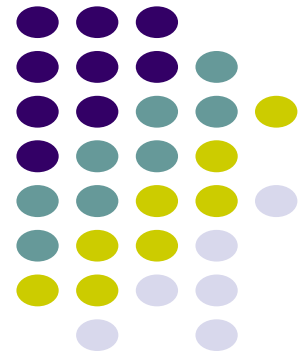
## trackle

track your vehicle



Arun Vadivel  
Kiran Mohan  
Neha Mahajan

*Computer Science Department  
Worcester Polytechnic Institute (WPI)*



# 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

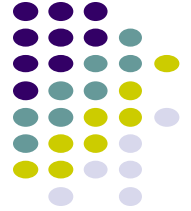


## trackle

- 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

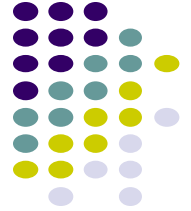
- Camera Intent

## Parking History

- SQLite Database

# Summary

## Proposed vs Achieved



Feature	Proposed	Achieved
Auto-Tag	✓	✓
Manual-Tag	✓	✓
History DB	✓	✓
Photos & Notes	✓	✓
Cost Calculation	✓	✓
Time Expiration Alert	✓	✗
ETA & Estimated Distance	✗	✓
Dynamic Path Change	✗	✓
Power efficiency	✗	✓
Shortcut to Email Developers	✗	✓



# Implementation Statistics



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



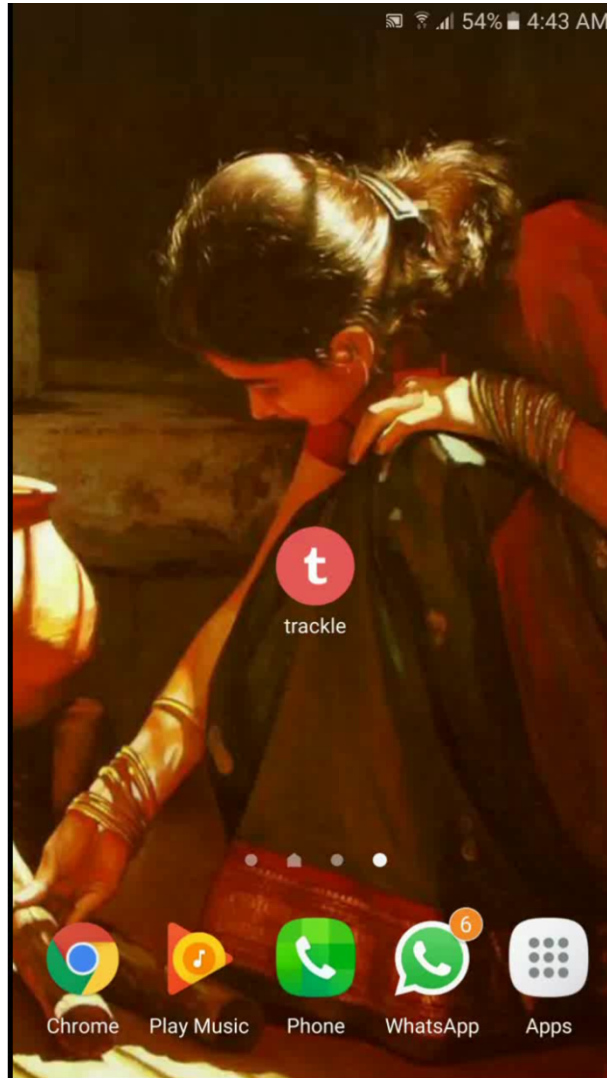
# Future Enhancements



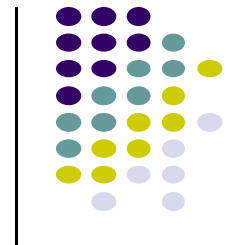
- Using Cloud Storage (Amazon Web Services) to store parking history data with a dedicated user login
- Perform predictive analytics on stored and real time streaming data, to predict parking availability and traffic at different location at any time
- Integrate with Automobile Manufacturers, Google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



# Video



# Demonstration





# References



1. <http://www.insurance.com/auto-insurance/driving-embarrassments.html>
2. Sarfraz Nawaz, Christos Efstratiou, Cecilia Mascolo. Smart Driving Systems for the Daily Drive, IEEE Computer Society
3. <https://play.google.com/store/apps/details?id=il.talent.parking&hl=en>
4. <https://developers.google.com/>
5. <http://android.stackexchange.com/>



**Thank You!**

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**Questions?**

