

# A Full-Stack System Framework for Rollercoaster Tracking

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# Project Task

“Count the rides that have been ridden”

- Counters
- Notepad
- Excel Spreadsheets
- Existing app



# Literature Review - Existing Systems

	Feature	Coaster Counter	Ridecount Worldwide	Coaster-Count.com	ridecount .com	Existing System	This Project
<b>A</b>	Ride availability & custom rides		✓		✓	✓	✓
	iOS, Android & Web						✓
	Statistics	✓					✓
	Leader boards			✓	✓		✓
	User accounts			✓	✓		✓
<b>B</b>	Ride recommendation						✓
<b>C</b>	Automatic Geolocation ride identification					Not all day	✓

# Literature Review - Usability

- User interface design
- Ride & park availability
  - Custom rides & parks
- Cross platform
  - iOS / Android / Web
- User accounts
- Statistics & Leader boards
  - Engagement of users



# Literature Review - Recommendations

User 1:



User 2:



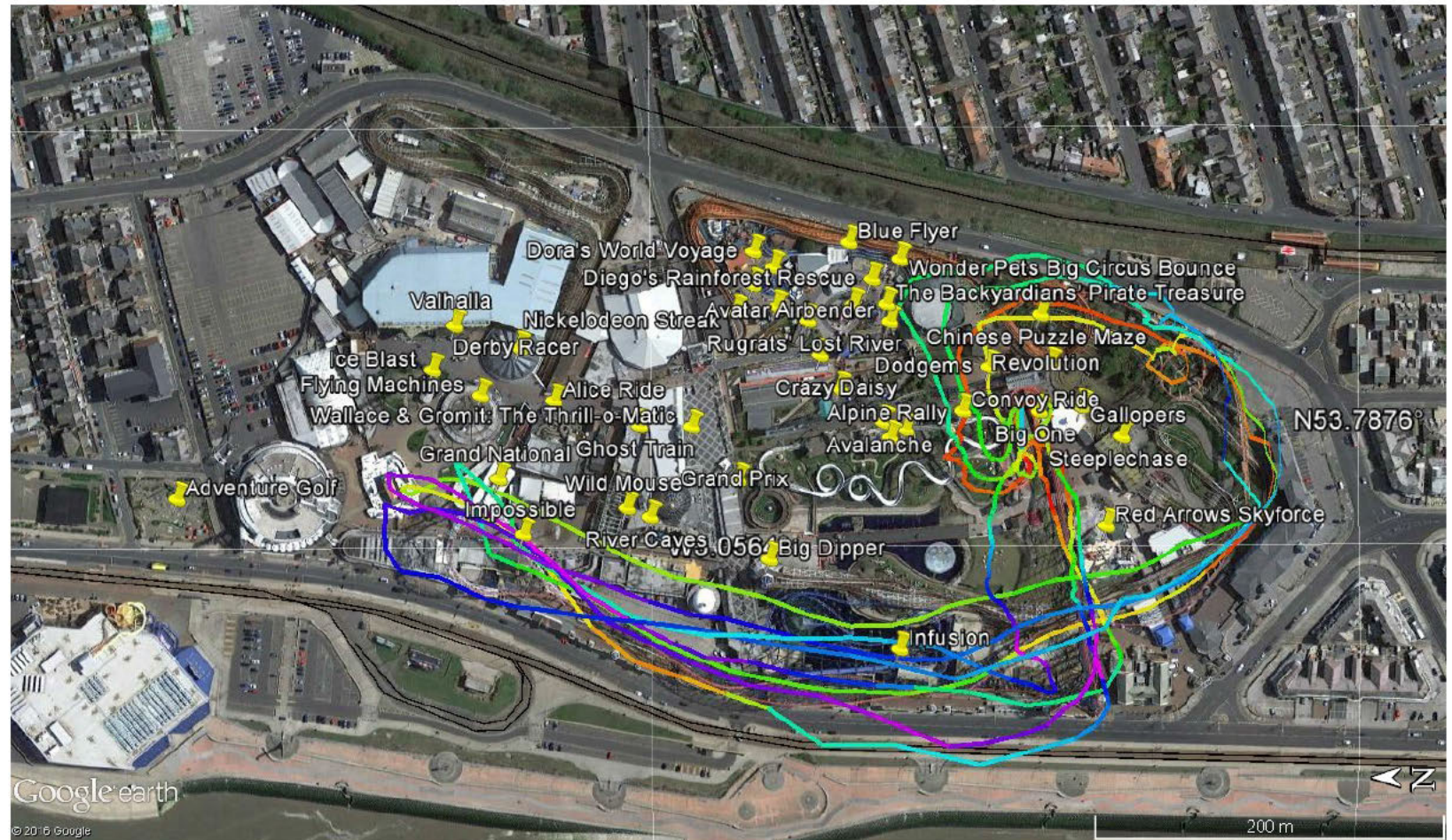
User 3:



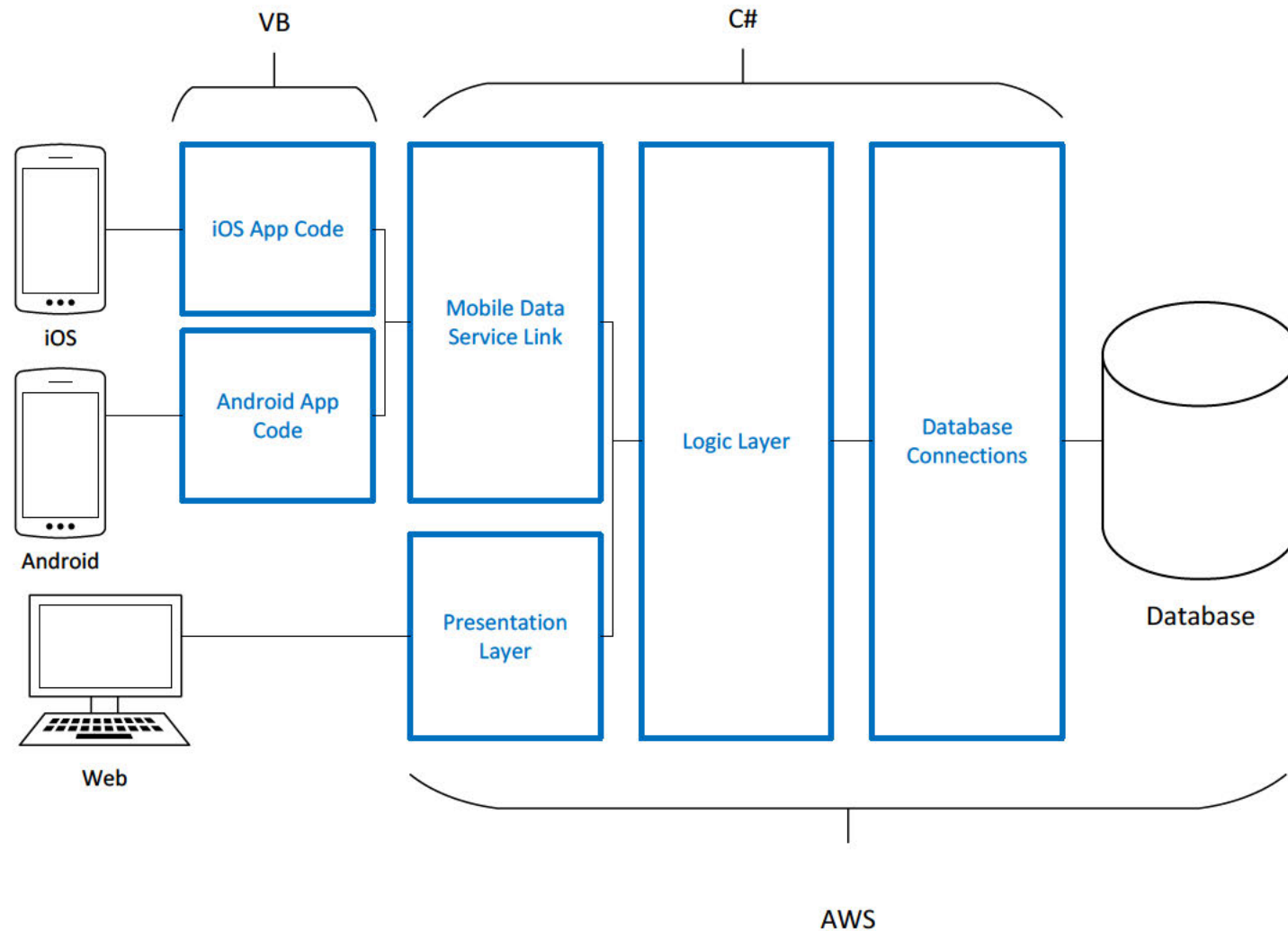


# Literature Review - Geolocation

- Recognise rides automatically
- Keep phone in pocket
- Low power location
- Start high power location tracking when needed



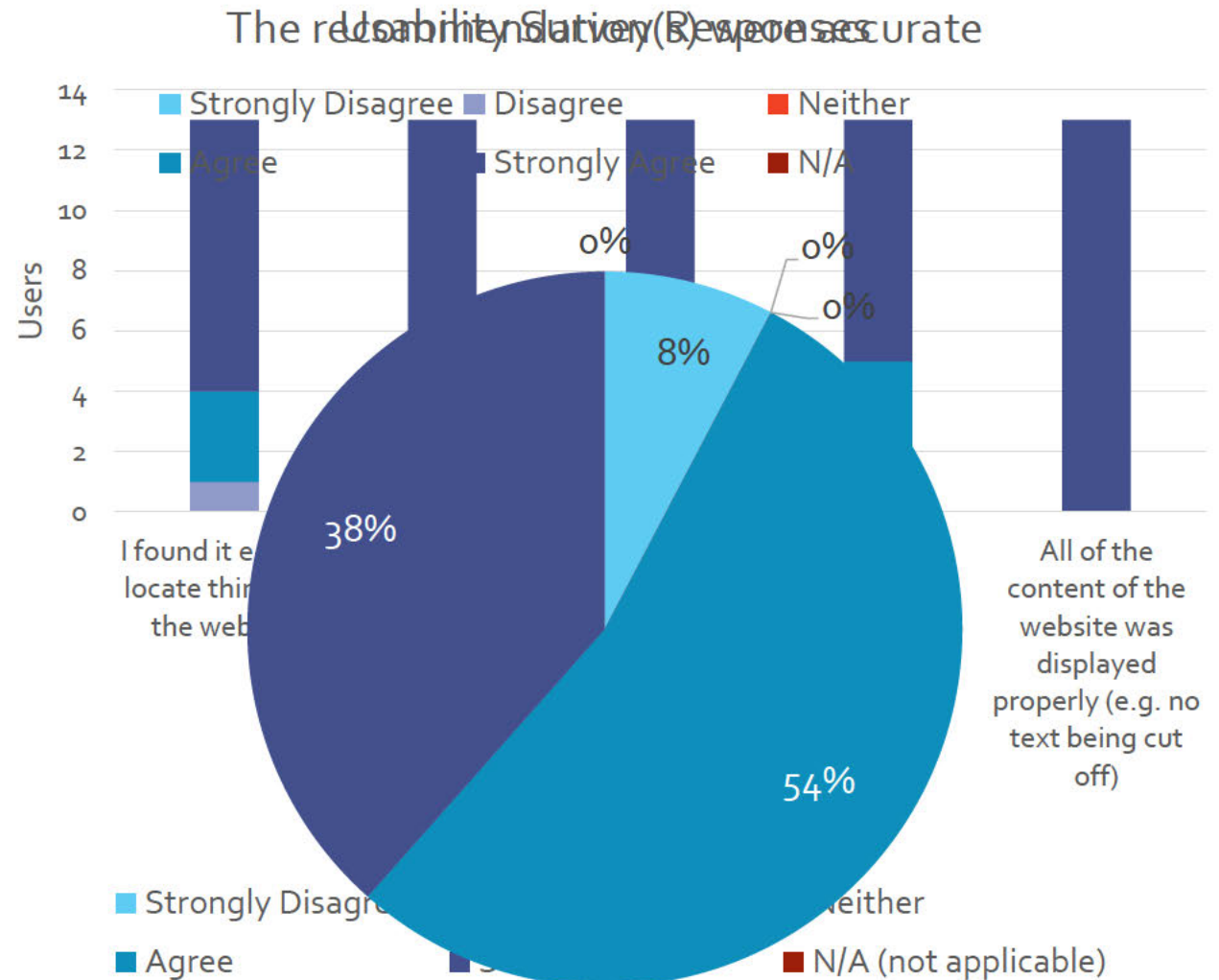
# System Architecture





# Testing & Evaluation

- Software testing
  - Unit tests – 82 tests, all pass
  - Load, integration, website tests
- Geolocation testing – 75% accurate at Alton Towers
  - 8% battery drain on Android
- User evaluation
  - Usability
  - Ride recommendation accuracy – 92% positive





# Conclusion

Large scale system for rollercoaster enthusiasts

- **Unique features:** recommendations, geolocation
- **Combined features:** Leader board, statistics, custom rides/parks, cross platform, cross device user accounts.
- Driven by topics and concepts from research

Future work:

- More features and improvements: Servers, more statistics
- Use framework in other apps
- Other recommendation features - geolocation

# VIDEO DEMONSTRATION

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<https://www.youtube.com/>



# WEBSITE DEMONSTRATION

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<http://52.36.214.194/>