MICHIGAN STATE
U N I V E R S I T Y

Alpha Presentation
Alexa – What's my work schedule look like?

The Capstone Experience

Team Union Pacific

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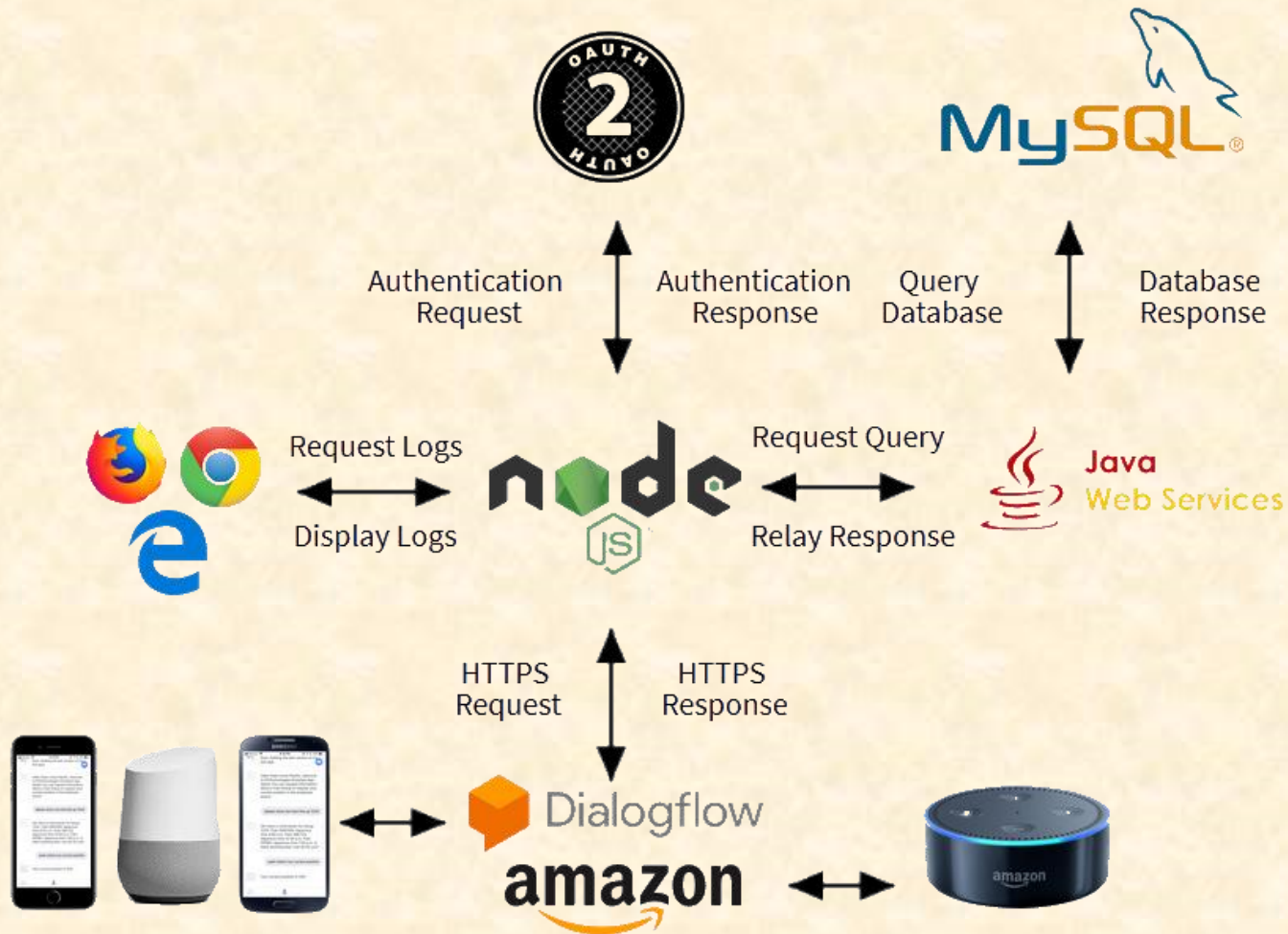Austin McGee
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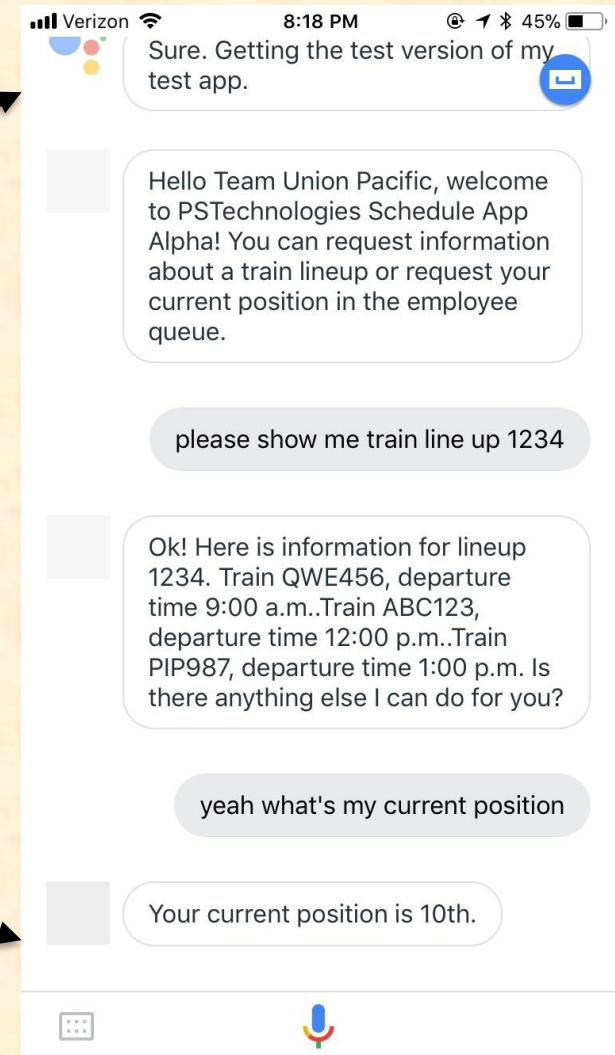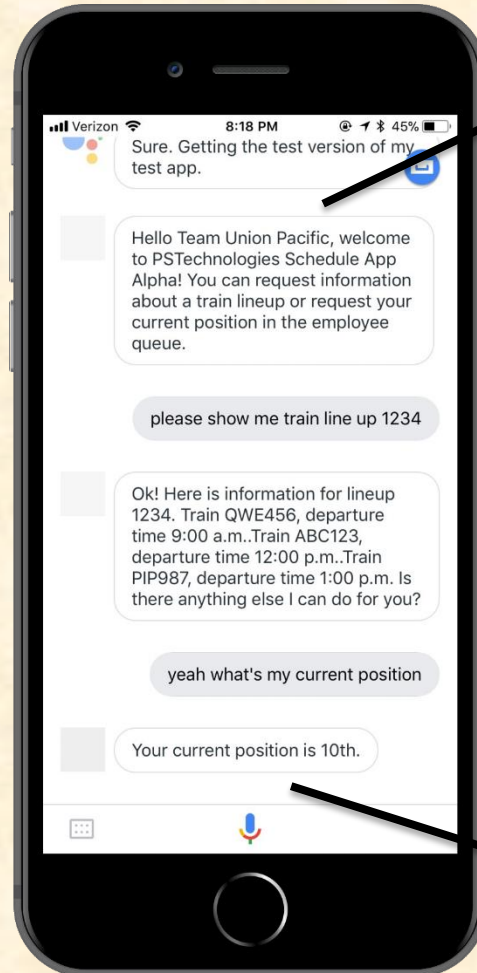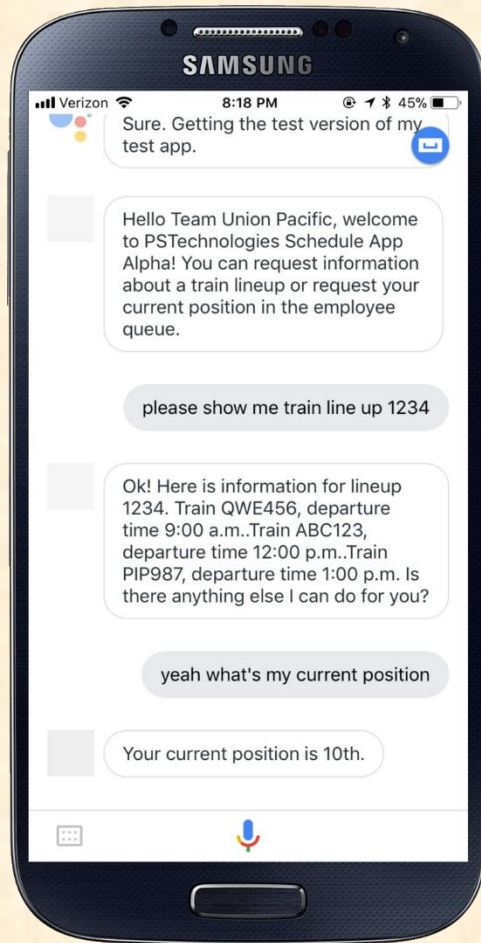Michigan State University
Spring 2018

Project Overview

- Provide voice assistant applications for Google Assistant and Amazon Alexa to inform train drivers of their schedules

- iOS and Android mobile users can utilize the Google Assistant app

- Management has the ability to monitor usage statistics through a web application and generate pdf reports
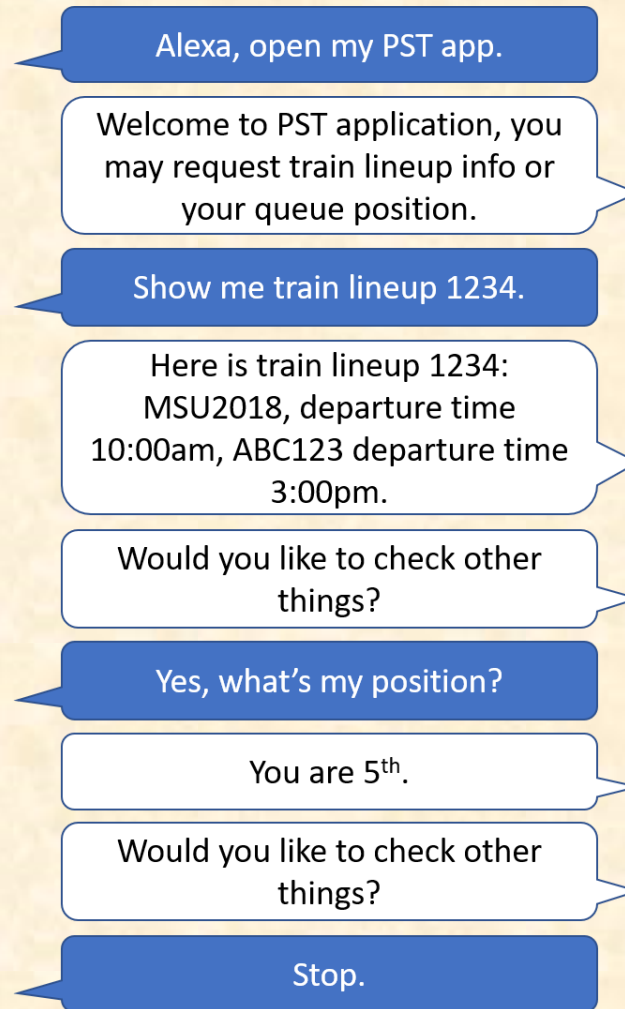
System Architecture

Sample Google Assistant Interaction

Sample Alexa Interaction

Alexa, open my PST app.

Welcome to PST application, you may request train lineup info or your queue position.

Show me train lineup 1234.

Here is train lineup 1234: MSU2018, departure time 10:00am, ABC123 departure time 3:00pm.

Would you like to check other things?

Yes, what's my position?

You are 5th.

Would you like to check other things?

Stop.

Java Web Service Execution

```
mcmill39@cse498-TeamUnionPacific:/var/www/web-app/html/java_ws/trainlineup$ java -cp
../ trainlineup.TrainLineupPublisher
WS Status = true
```

```
mcmill39@cse498-TeamUnionPacific:/var/www/web-app/html/java_ws/JWS_Test$ node in
dex.js
{ lineupId: 1234,
  columns: [ 'TrainId', 'DepartureTime', 'Name', 'LineupId' ],
  rows:
   [ [ '1', '09:00:00', 'qwe456', '1234' ],
     [ '2', '12:00:00', 'abc123', '1234' ],
     [ '3', '13:00:00', 'pip987', '1234' ] ] }
```
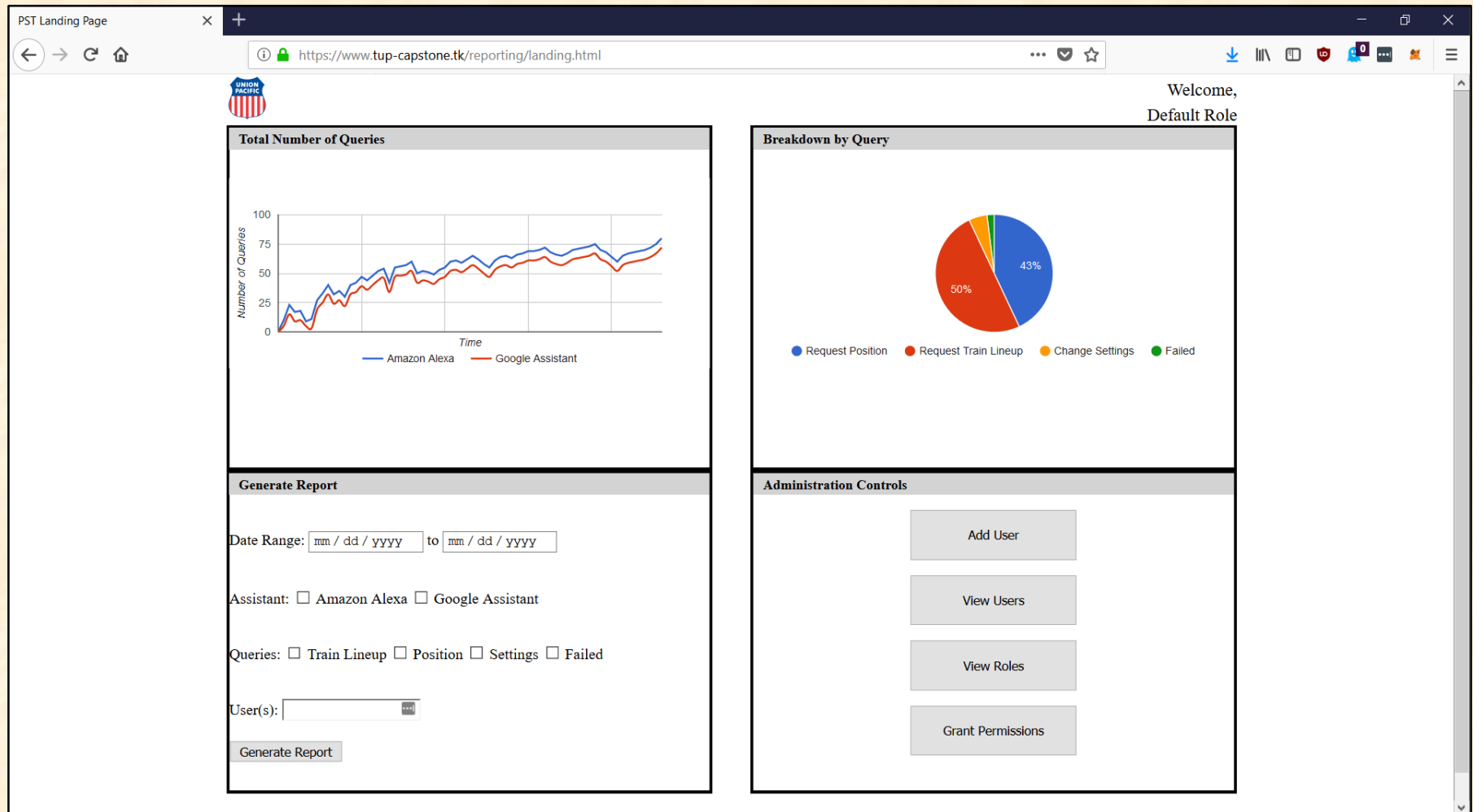
```
mcmill39@cse498-TeamUnionPacific:/var/www/web-app/html/java_ws/trainlineup$ java -cp
../ trainlineup.TrainLineupPublisher
WS Status = true
Connection Succeeded!
```

Web App Reporting Page Mock

Web App Reporting Page Alpha

Alexa Dialog Processing

Alexa Dialog Processing

Alexa Skills Kit: Processing a request

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What's left to do?

- Implement OAuth with assistants
- Publish java web service so always running and accessible from any machine
- Connect web services to assistants to retrieve live information
- Log each usage of voice assistants for reporting
- Implement custom user settings for assistants (time format and username preference)

Questions?