

MICHIGAN STATE

UNIVERSITY

Alpha Presentation Ford Accelerate Monitor

The Capstone Experience

Team Ford

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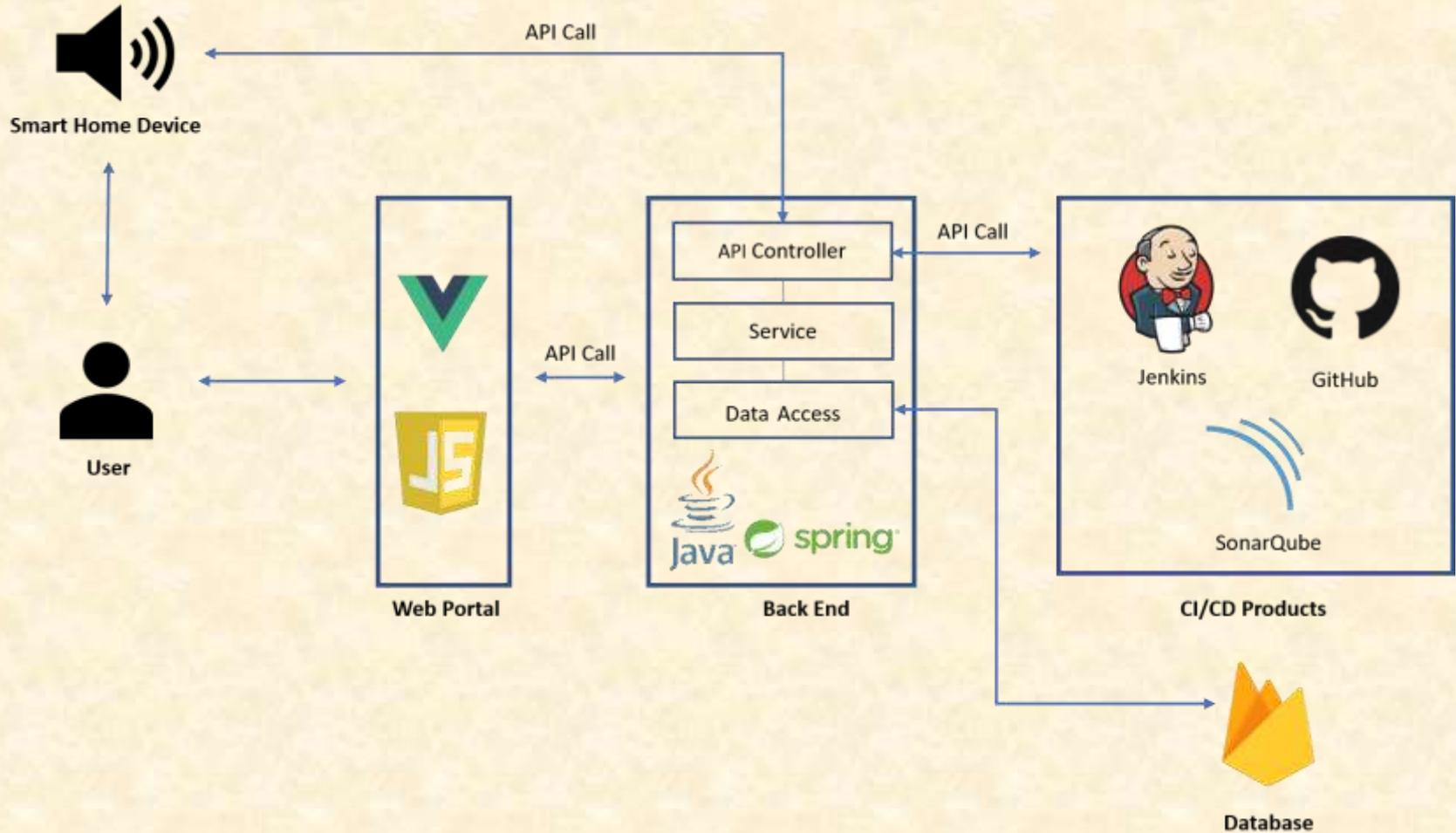
*From Students...
...to Professionals*

Project Overview

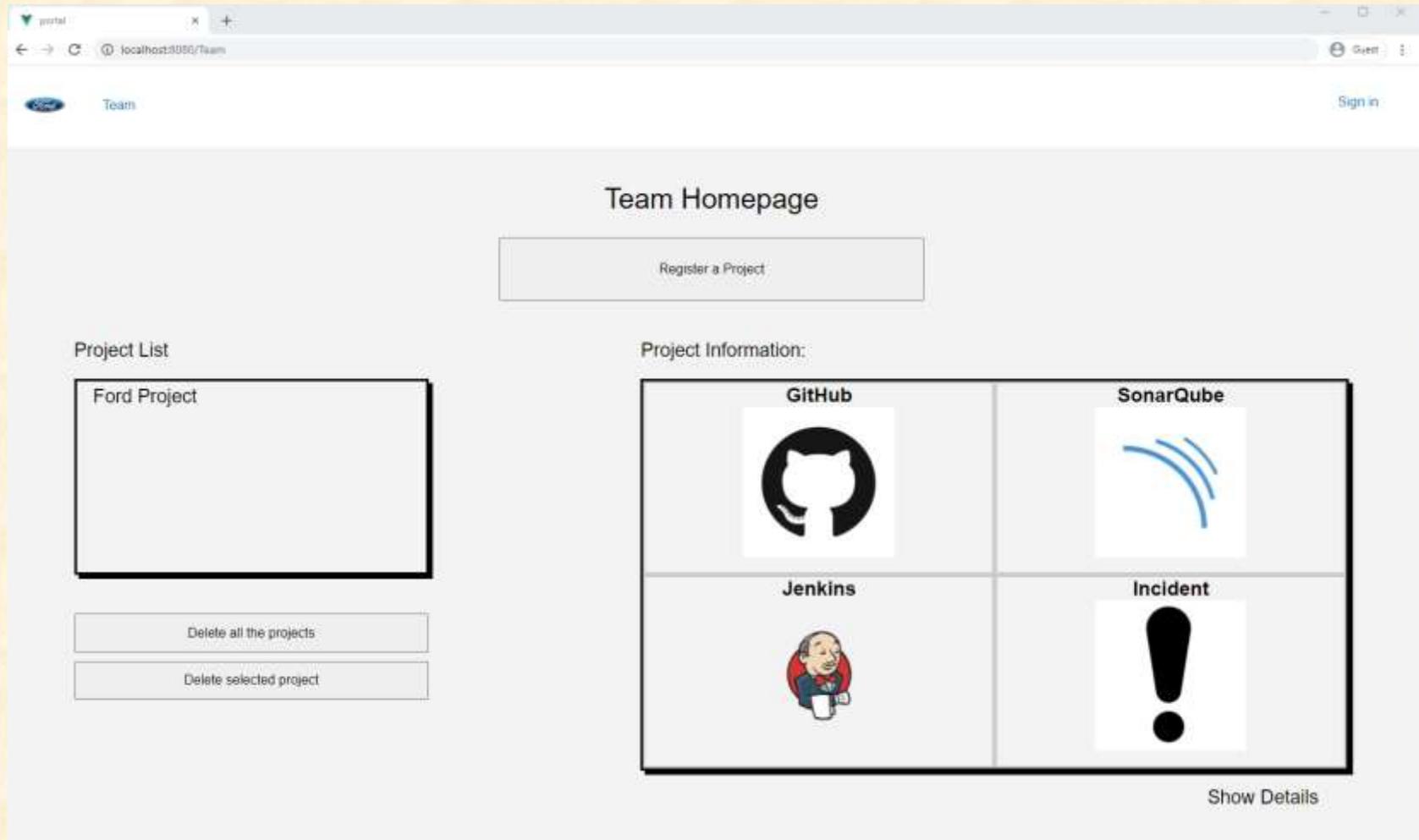
- Web Portal
 - Register teams, projects and products
 - Manage and edit information
- CI/CD Product Integration
 - Jenkins, GitHub, and SonarQube (stretch)
 - Software statistics calculated with data from products
- Smart Home Device Skill
 - Google Assistant and Alexa (stretch)
 - Retrieve software statistics for their team or project by asking structured questions



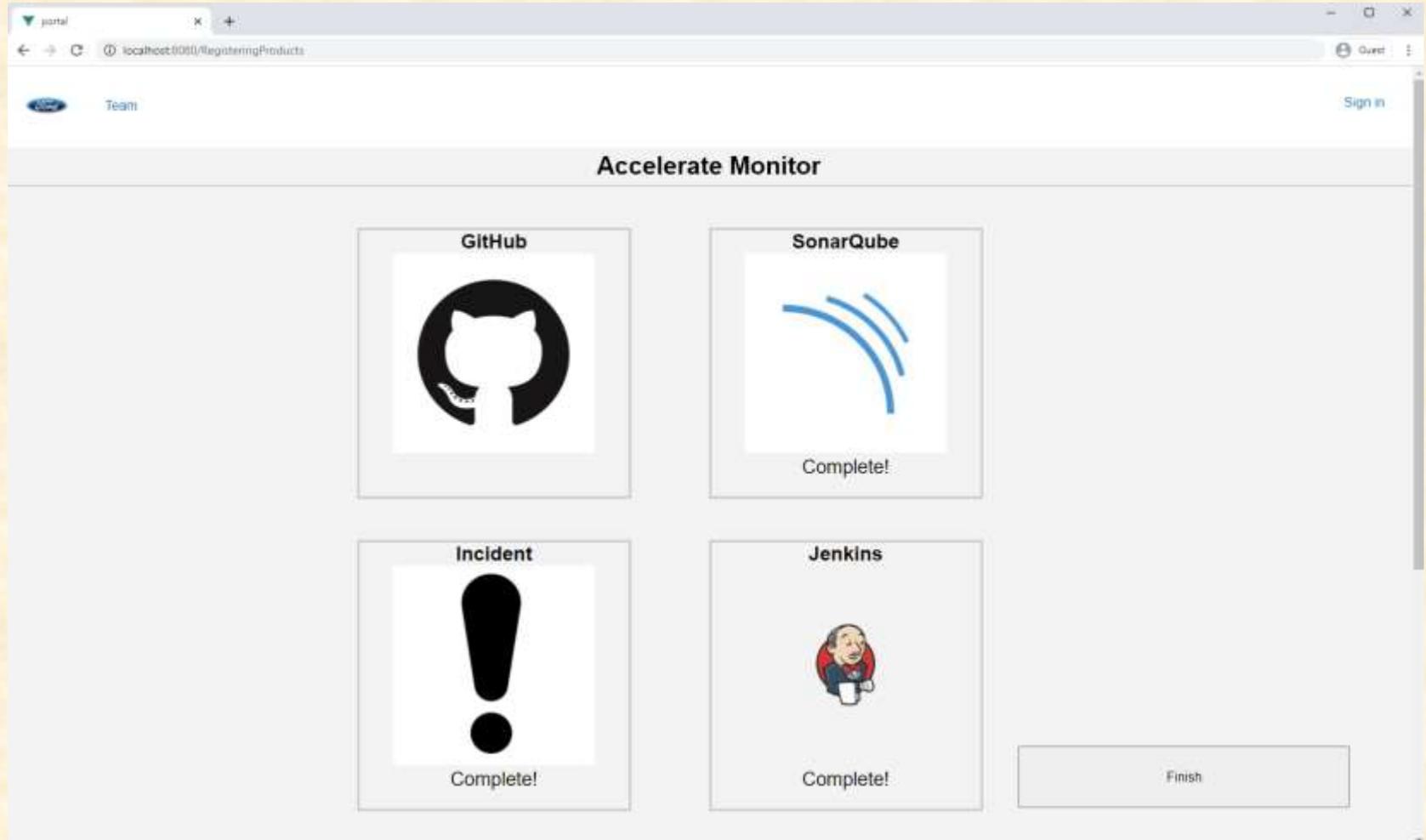
System Architecture



Team Homepage



Registering Products



GitHub Registration

portal x +

localhost:5080/register

Team Sign in

GitHub Registration

To register the GitHub repository used for your project, enter the following information:

Accelerate Monitor

https://github.com/accelerateMonitor

Ford

teamford2020

Save Return

SonarQube
Complete!

Incident
Complete!

Jenkins
Complete!



Project Information

The screenshot shows a web browser window with the URL `localhost:8080/team`. The page title is "Team Homepage". At the top left is a "Team" logo and at the top right is a "Sign in" link. A central button labeled "Register a Project" is visible. Below this, the page is divided into two main sections: "Project List" and "Project Information".

Project List

- Ford Project
Accelerate Monitor

Buttons below the list:

- Delete all the projects
- Delete selected project

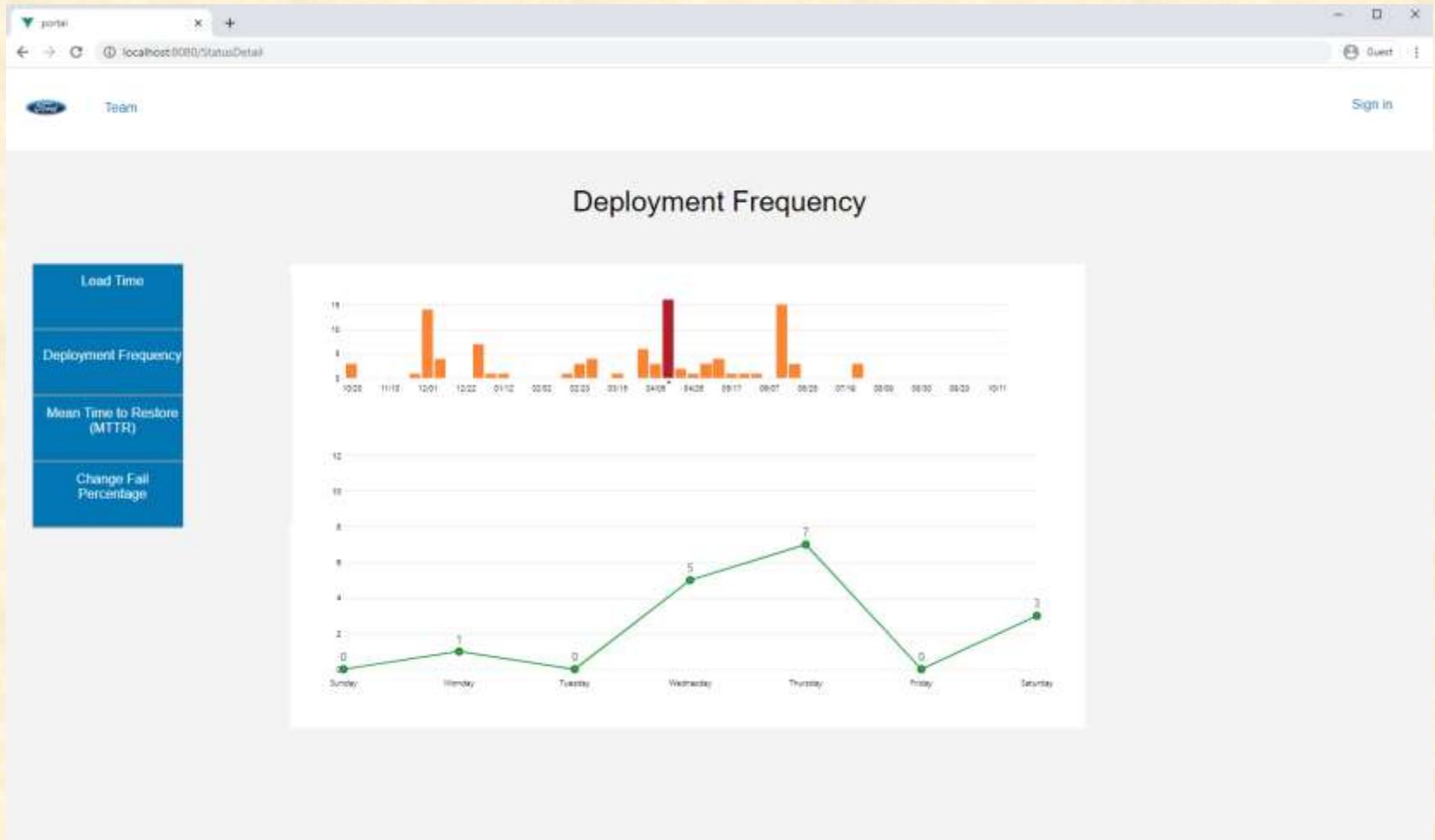
Project Information:

<p><u>RePo Name:</u> Accelerate Monitor</p> <p><u>Repo URL:</u> https://github.com/accelerateMonitor</p> <p><u>Username:</u> Ford</p> <p><u>Authentication Token:</u> teamford2020</p>	<p><u>Instance Name:</u> SonarQube Accelerate Monitor</p> <p><u>Project URL:</u> https://www.sonarqube.org/</p> <p><u>Authentication Token:</u> sonarqubeford</p>
<p><u>Job Name:</u> Jenkins Accelerate Monitor</p> <p><u>Project URL:</u> https://app.circleci.com/projects/AccelerateMonitor</p> <p><u>Authentication Token:</u> JenkinsFord</p>	<p><u>Options:</u> Spring actuator health endpoint</p>

Show Details



Deployment Frequency Statistics



Remaining Statistics

- Accelerate
 - Mean time to restore (MTTR)
 - Change fail percentage
 - Lead time
- Other
 - Build frequency
 - Commit frequency by team member



Mean Time To Restore

```
+ ... -MJmyGMQw13DmrcjBotJ
- ... -MJnSzk0j-2bECEiXlrP
  |----- date: "2020-10-16 18:11:42 EDT"
  |----- projectName: "incident-test"
  |----- status: "Down"
- ... -MJnXDDk7pRR-arsk9LK
  |----- date: "2020-10-16 18:30:10 EDT"
  |----- projectName: "incident-test"
  |----- status: "Restored"
+ ... -MJwLZC50GaE9kLERGUc
```

Down Record

Restored Record

Incident Record in Database



Lead Time

<code>-MJiM5VRAhBv5tGhh_pz</code>	
<code>commitID: "ad5f42a9725cf221fe2c6057dedf5c090a5143cc"</code>	← Commit SHA
<code>date: "2020-09-16 23:11:05 EDT"</code>	← Build Timestamp
<code>deployment: true</code>	← Deployment?
<code>env: "PROD"</code>	← Environment
<code>projectName: "jenkins-test"</code>	← Registered Name
<code>status: "FAILURE"</code>	← Build Result

Build Record in Database



Change Fail Percentage

-MJiM5VRAhBv5tGhh_pz

commitID: "ad5f42a9725cf221fe2c6057dedf5c090a5143cc"

Commit SHA

date: "2020-09-16 23:11:05 EDT"

Build Timestamp

deployment: true

Deployment?

env: "PROD"

Environment

projectName: "jenkins-test"

Registered Name

status: "FAILURE"

Build Result

Build Record in Database



What's left to do?

- Calculate remaining accelerate statistics
- Testing with Ford pre-production data
- Build failure notification
- Continue to refine UX of web portal
- Stretch goals
 - Create software statistics dashboard in web portal
 - Integrate SonarQube statistics
 - Add Alexa compatibility



Questions?

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