

MICHIGAN STATE

UNIVERSITY

Beta Presentation

Ford Accelerate Monitor

The Capstone Experience

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Fall 2020



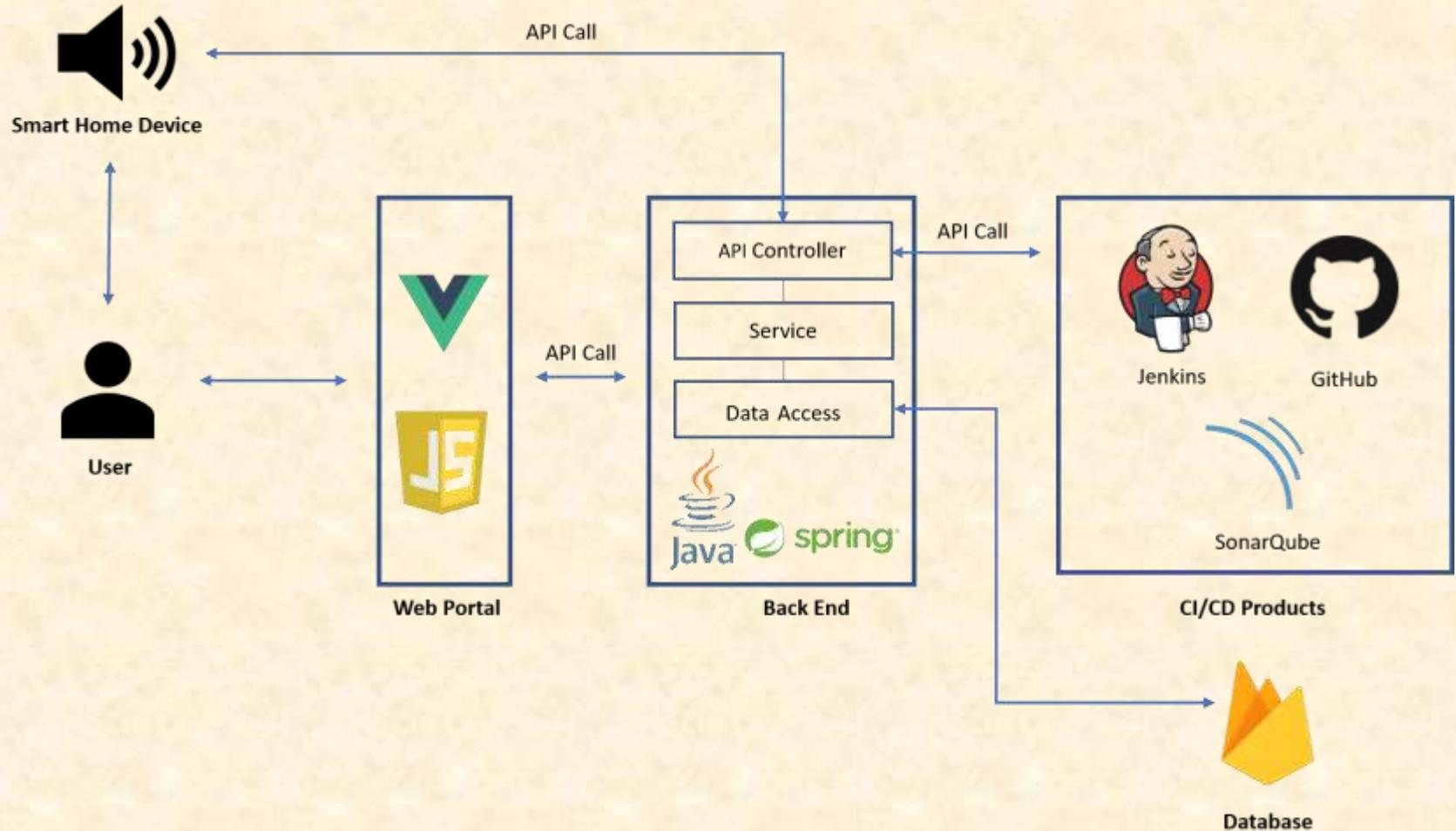
*From Students...
...to Professionals*

Project Overview

- Web Portal
 - Register teams, projects and products
 - Statistics dashboard
- 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

portal x +

localhost:8885/Team

Team Sign in

Team Homepage

REGISTER A PROJECT

Project List

- Web Portal
- Search Service
- Accelerate Monitor

Delete selected project

Delete all the projects

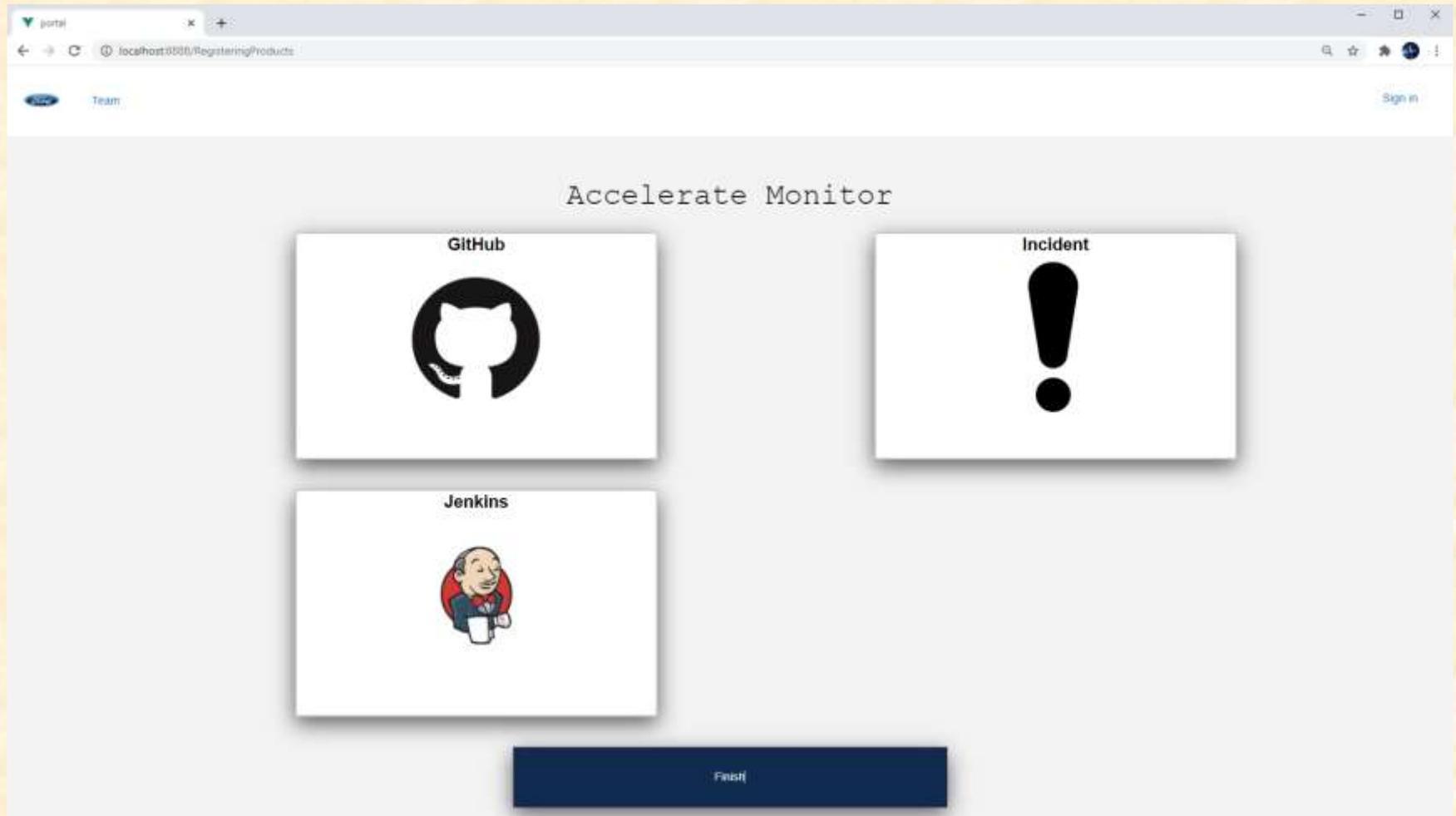
Project Information of: Accelerate Monitor

GitHub 	Jenkins 
Incident 	

[Show Details >](#)



Product Registration Hub



GitHub Registration Page

portal

localhost:8085/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

Incident

Jenkins



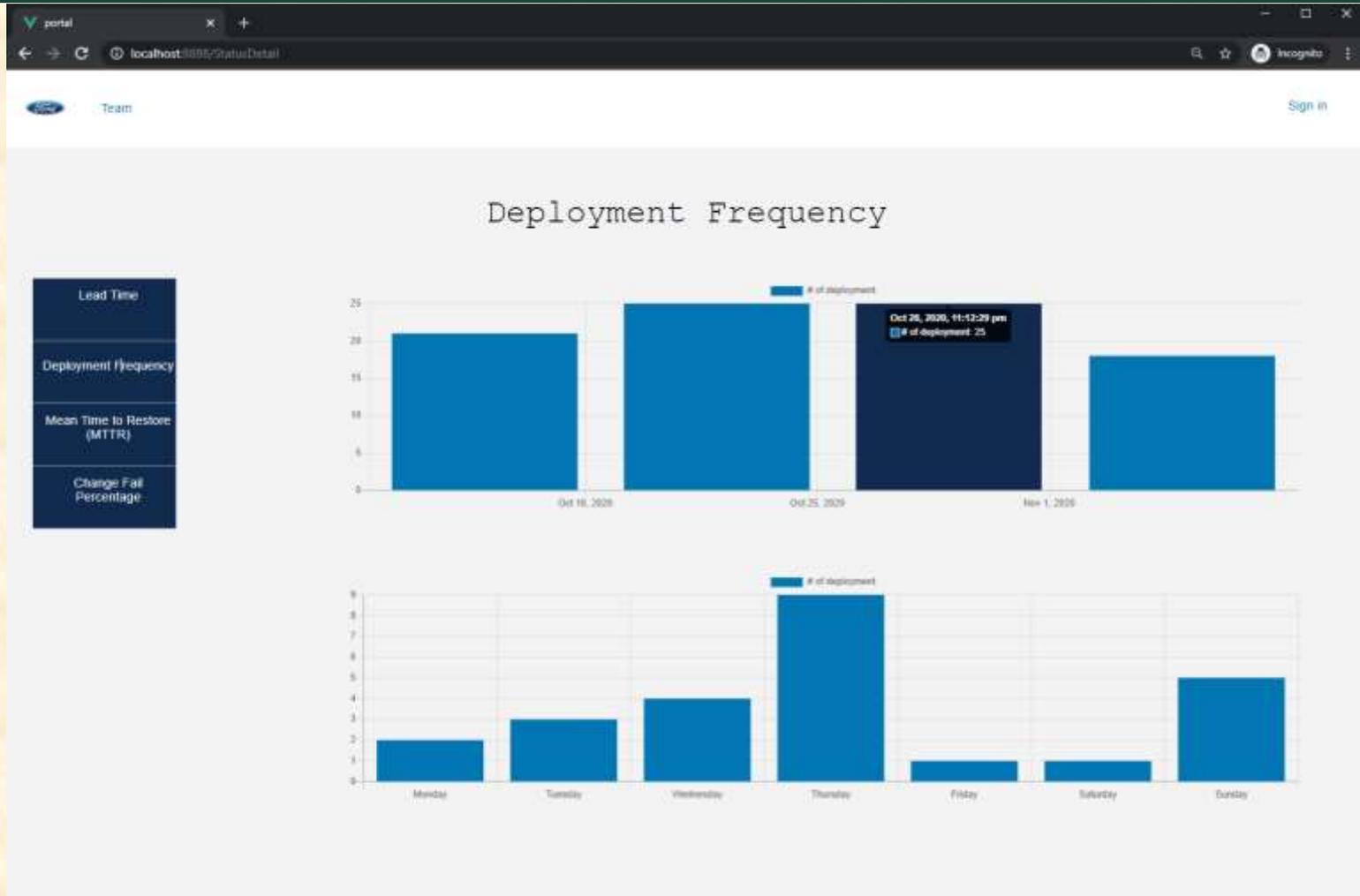
Deployment Frequency Calculation

<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



Deployment Frequency Graph



Mean Time To Restore Calculation

The screenshot displays a list of incident records in a database. The records are grouped into two categories:

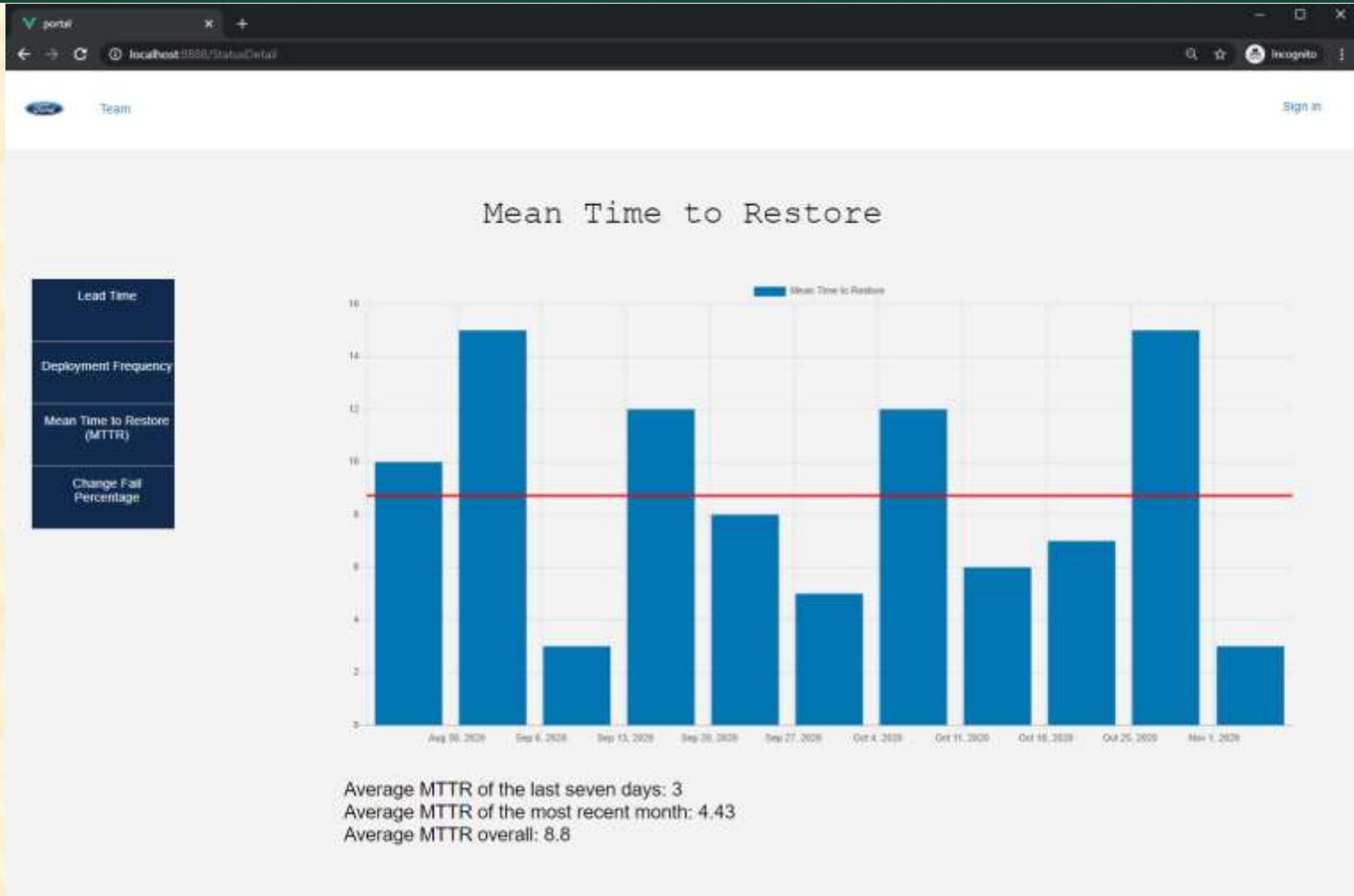
- Down Record:** This group includes the record with ID `-MJnSzk0j-2bECEiXlrP`. Its `date` is `"2020-10-16 18:11:42 EDT"`, `projectName` is `"incident-test"`, and `status` is `"Down"`.
- Restored Record:** This group includes the record with ID `-MJnXDDk7pRR-arsk9LK`. Its `date` is `"2020-10-16 18:30:10 EDT"`, `projectName` is `"incident-test"`, and `status` is `"Restored"`.

Other records shown include `-MJmyGMQw13DmrcjBotJ` (expanded) and `-MJwLZC50GaE9kLERGUc` (collapsed).

Incident Record in Database



Mean Time To Restore Graph



Lead Time Calculation

```
1600867462000:cfp-test-1
├── commitID: "b852af55b7a61a3838bdc70acbefa1981e316029"
├── date: "2020-09-23 09:24:22 EDT"
├── deployment: true
├── env: "PROD"
├── projectName: "cfp-test-1"
└── status: "SUCCESS"
```

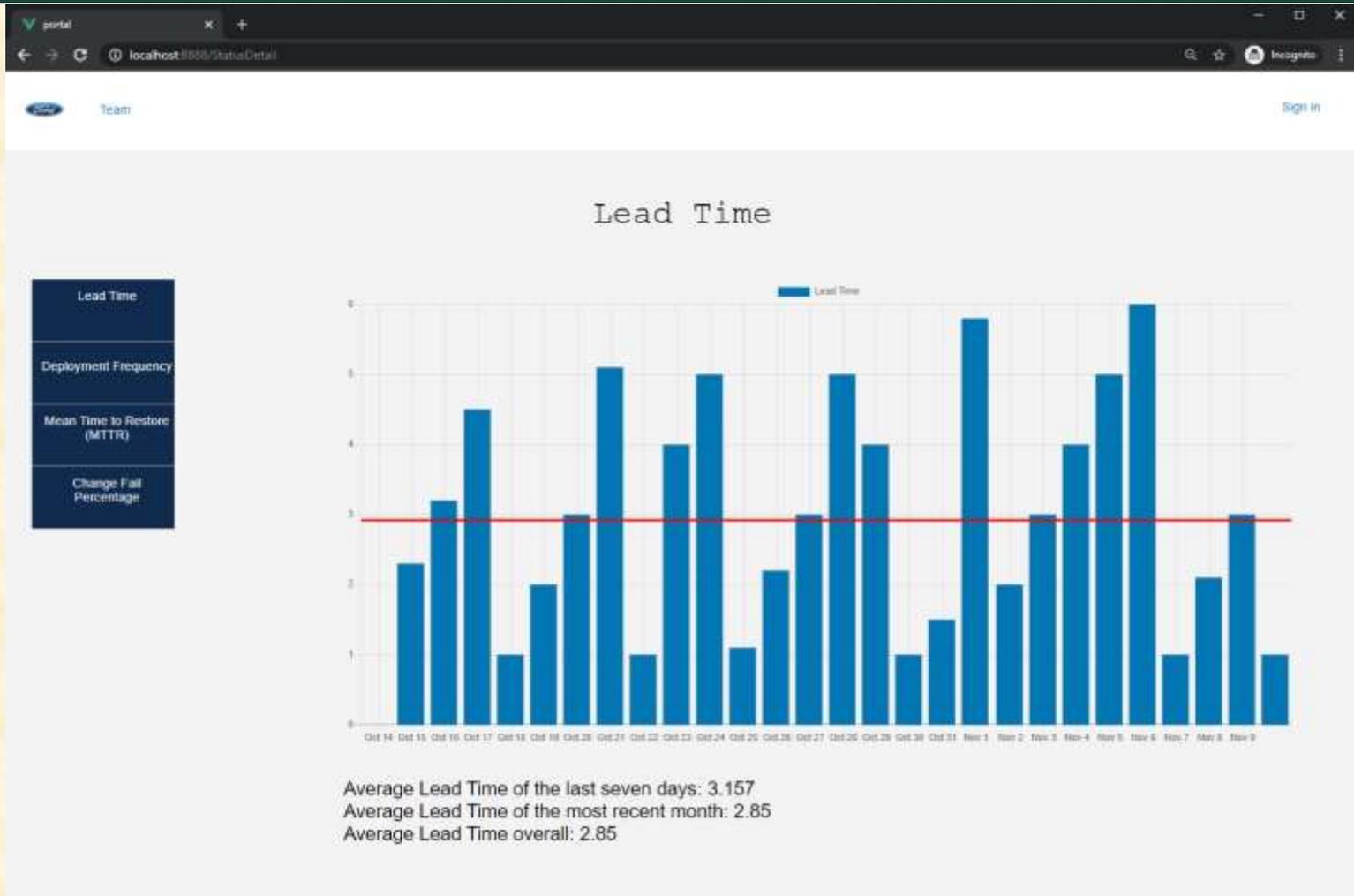
Build Record in Database

```
1600868470000:cfp-test-1
├── date: "2020-09-23T09:41:10Z"
├── projectName: "cfp-test-1"
├── sha: "b852af55b7a61a3838bdc70acbefa1981e316029"
└── user: "elekom"
```

Commit Record in Database



Lead Time Graph



Change Fail Percentage Calculation

```
}, {  
  "commitID" : "7479125b4eecddef373d25e704553393e18aec0ed",  
  "date" : "2020-09-20 19:32:46 UTC",  
  "deployment" : "true",  
  "env" : "PROD",  
  "projectName" : "cfp-test-4",  
  "status" : "SUCCESS"  
}, {  
  "commitID" : "f1d78e3fd4a558e07e8a5cfa7928dbb9dc5bcd87",  
  "date" : "2020-09-21 01:54:38 UTC",  
  "deployment" : "true",  
  "env" : "PROD",  
  "projectName" : "cfp-test-4",  
  "status" : "SUCCESS"  
}, {  
  "commitID" : "7479125b4eecddef373d25e704553393e18aec0ed",  
  "date" : "2020-09-21 03:00:22 UTC",  
  "deployment" : "true",  
  "env" : "PROD",  
  "projectName" : "cfp-test-4",  
  "status" : "SUCCESS"  
}, {
```

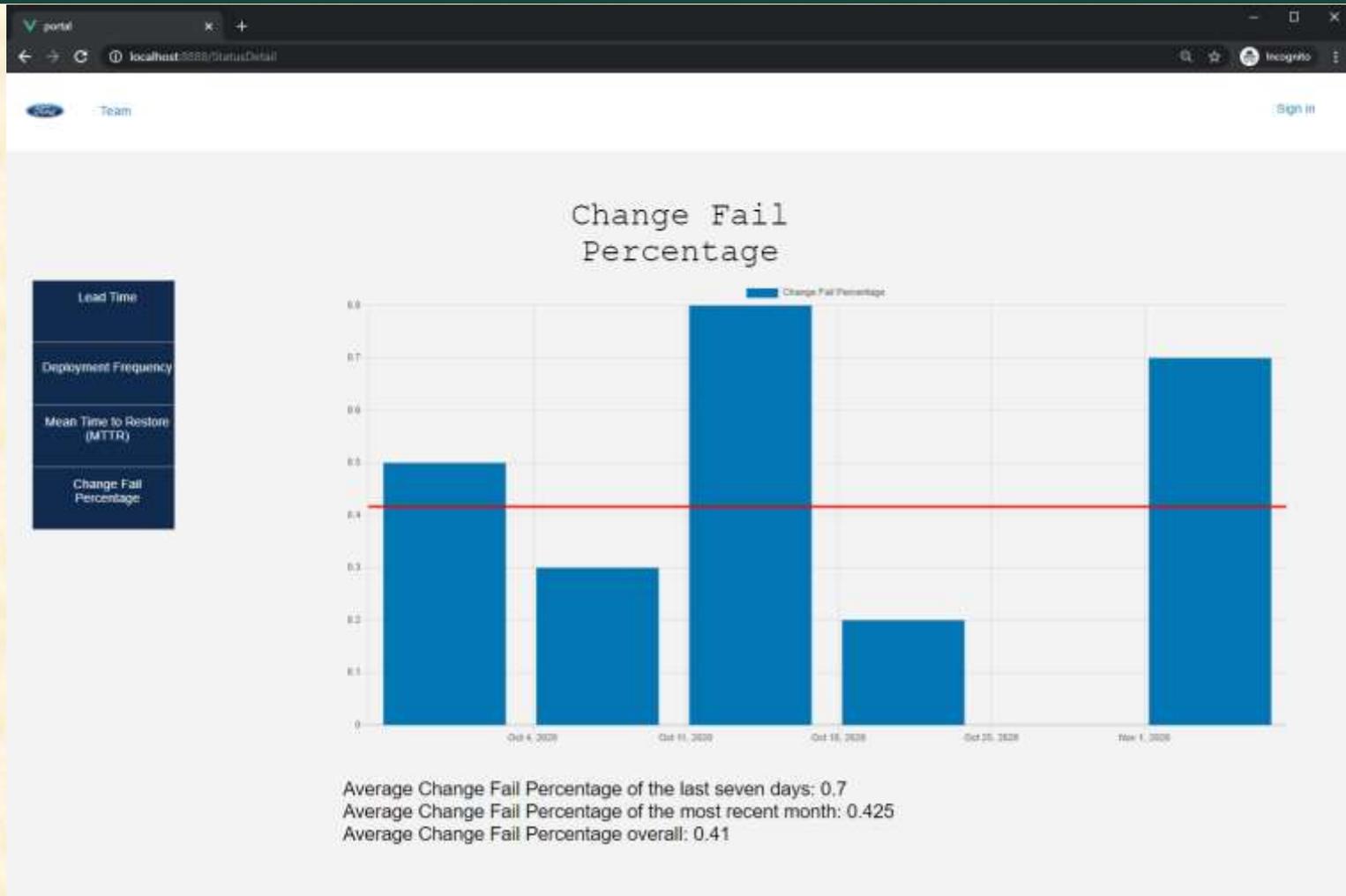
 Failure

Build Records in Database

Exported and formatted for display



Change Fail Percentage Graph



What's left to do?

- Testing
 - More variety of data
 - Stress testing
- Fix bugs
 - Build failure notification trigger
 - Error handling
- Update web portal design
- Package software for handoff



Questions?

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