Project Plan Presentation
Backstage's Back Alright

The Capstone Experience

Team Kohl's
- Mike Guan
- Gage Hohwart
- Joey Meng
- Miriam Oginsky
- Blake Sabbagh

Department of Computer Science and Engineering
Michigan State University
Fall 2022
Project Sponsor Overview

- Kohl's is one of the largest department store chains in America
- Over 30% of Kohl's sales are from online sales, tallying up to roughly $1 billion quarterly
- Online sales are made from webpage and mobile apps
Developers often struggle with the deployment, development, maintenance and testing of software. A new way of managing these issues is with developer portals.

Companies like Kohl's run and maintain a large amount of custom software, by using developer portals, developers can easily deploy complex software and projects. Kohl's has developed their own developer portal called "Ensemble".

The two major parts of this project are solving an underlying inefficiency in the current Ensemble platform and extending the functionality.

The Ensemble platform is functionally broken into two separate applications on different platforms, by merging these two applications together, we intend to save a lot of time for developers to deploy software.
Project Design Specifications

• Create App Page
  ▪ User will populate a template that will create a project, a documentation page, or a Spring Boot app

• App Directory Page
  ▪ Displays a catalog of the developer's current applications and their details
Screen Mockup: Create App Page
Screen Mockup: Product Creation Page
Screen Mockup: Task Activity Page
Screen Mockup: App Directory Page

![Kohls Catalog](image)

### Components -

<table>
<thead>
<tr>
<th>NAME</th>
<th>SYSTEM</th>
<th>OWNER</th>
<th>TYPE</th>
<th>LIFECYCLE</th>
<th>DESCRIPTION</th>
<th>TAGS</th>
<th>ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ocse-exp99-final</td>
<td>ocse-exp99-final</td>
<td>ocse-exp99-final</td>
<td>documentation</td>
<td>experimental</td>
<td>Testing doc only...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ocse-exp106-single</td>
<td>ocse-exp106-single</td>
<td>ocse-exp106-single</td>
<td>service</td>
<td>experimental</td>
<td>Testing app part...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ocse-exp109-single</td>
<td>ocse-exp109-single</td>
<td>ocse-exp109-single</td>
<td>service</td>
<td>experimental</td>
<td>Testing app part...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ocse-exp112-single</td>
<td>ocse-exp112-single</td>
<td>ocse-exp112-single</td>
<td>service</td>
<td>experimental</td>
<td>Testing app part...</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Personal
- Owned: 0
- Starred: 0

### Kohls
- All: 0

### Processing Status
Project Technical Specifications

• Ensemble web application
  ▪ Backend
    ○ Uses both Backstage and Spring Boot
  ▪ Frontend
    ○ Uses React
  ▪ Run with Node.js and Yarn

• GitLab
  ▪ Employs both Dynatrace and OpenShift
Project System Architecture
Project System Components

• Hardware Platforms
  ▪ None

• Software Platforms / Technologies
  ▪ React
  ▪ TypeScript
  ▪ Node.js
  ▪ Yarn
  ▪ Visual Studio Code
  ▪ Backstage
  ▪ GitLab
  ▪ Dynatrace
  ▪ OpenShift
Project Risks

• Risk 1 - Local Testing
  ▪ Description - Testing code without access to Kohl's internal network
  ▪ Mitigation - Work closely with the Kohl's engineers to develop methods for local testing

• Risk 2 - Security
  ▪ Description - Each API used must be secured with authentication
  ▪ Mitigation – Research how to utilize libraries in the Ensemble backend to limit access for particular users and add encryption to all sensitive data

• Risk 3 – Dynatrace Dashboard Connection
  ▪ Description – Building the connection between the Ensemble dashboard and Dynatrace dashboard
  ▪ Mitigation – Research the process behind linking Dynatrace to Backstage, and discuss non-trivial modifications Kohl's team previously made to get the connection working correctly
Questions?