MICHIGAN STATE UNIVERSITY

Project Plan
Tech Ops Training
Content Management System

The Capstone Experience

Team United Airlines Training

Chris Nosowsky
Shawn Pryde
Brendan Walsh
Jeremy Zhu

Department of Computer Science and Engineering
Michigan State University
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Functional Specifications

• Web application used to organize and supply media content for training purposes

• Supplies content in a way which is more intuitive than United's current "Quick Tips" site

• Dynamically recommends content to users based on stored data and analytics
Design Specifications

• Major Features:
  o Provide learning materials to end users
  o Restrict certain media operations to users with specific roles
    » E.x. guests can only view content whereas admins can edit and create content
  o Allow users to provide feedback to the site's administrators as well as on specific media content
  o Keep records of user and media history for analytical purposes

• Design Summary:
  o Users will enter the site from United's existing employee webpage. From there, they will be shown content which is relevant to them or they can search for specific content.
Screen Mockup: Homepage

The Capstone Experience
Screen Mockup: Homepage - Mobile
Screen Mockup: Media Viewer Page – Desktop
Screen Mockup: Media Viewer Page – Desktop Media Size Variation
Screen Mockup: Media Viewer Page – Mobile
Screen Mockup: Media Viewer Page – Mobile Media Size Variation
Technical Specifications

• Users authenticated through Oracle Access Manager to access website
• Front end Angular framework serves media content and user activity tracking analytics
• Back end ASP.NET framework houses controllers, models, server request handling, and analytics report generator
• Azure hosts SQL Server for storing records in database
System Architecture

Users
- PC User
- Mobile User

Front end
- HTML
- CSS
- JavaScript
- TypeScript
- Node.js

Back end
- Microsoft .NET Framework
- Entity Framework
- Microsoft IIS

Cloud
- Azure
- SQL Server

Store/Retrieve data

Connect via API
System Components

• Software Platforms / Technologies
  ▪ Microsoft IIS Server
  ▪ Microsoft ASP.NET Framework
  ▪ Microsoft Azure
  ▪ Microsoft Entity Framework
  ▪ Microsoft SQL Server
  ▪ Angular
  ▪ NodeJS
  ▪ HTML5 Video Element
  ▪ PDFjs
Risks

• Un-familiarity with technologies and frameworks
  ▪ Lack of experience with Angular / IIS / ASP.NET framework
  ▪ Create "Hello World" Demos for each technology

• .NET Core web server is not able to access IIS virtual directories
  ▪ Static content on server no longer can be served at current static file directory
  ▪ Reconfigure where the static content is served from

• Integrating technologies with each other
  ▪ Once we have our demos in place, we will need to figure out how to connect their functionalities
  ▪ Start connecting technologies within our repository, addressing and resolving conflicts early
Questions?