From Students…
…to Professionals

MICHIGAN STATE UNIVERSITY

Project Plan

Sentiment & Emotional Analysis of Video Interviews

The Capstone Experience

Team Yello

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Functional Specifications

• Hiring teams need unbiased information in their evaluation of job candidates
• Developing automated sentiment/emotion analysis for job interviews
• Create web application that provides:
  ▪ recording and playback for video interviews
  ▪ emotion/sentiment summary of these videos
Design Specifications

• Staff capability
  ▪ Create new interviews
  ▪ Manage interviews
  ▪ View emotion/sentiment analysis
  ▪ Schedule live interviews

• Candidates capability
  ▪ Record answers for interview questions
  ▪ Review answers and finalize response
  ▪ Check deadlines for each question
Screen Mockup: Staff Management Page

Create New Interview

Manage Interviews

Schedule a live interview

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Screen Mockup: Interview Configuration Page

Questions:

Question 1

Talk about your self

Invite a candidate:

Name

Your email address

Invite
Screen Mockup: Interview Result Page
Screen Mockup: Interview Recording Page

Question 1

Talk about your self

Next Question
Technical Specifications

• Video Recording/ Streaming/ Storage
  ▪ OpenTok API by TokBox
  ▪ Speech-To-Text
  ▪ Azure Storage

• Sentiment & Emotional Analysis
  ▪ Azure Emotion API
  ▪ Azure Text Analytics API
  ▪ Azure Video Indexer API
System Architecture
System Components

• Hardware Platforms
  ▪ iMacs running Windows 10 in VMware
  ▪ Built in webcam & microphone

• Software Platforms / Technologies
  ▪ Ruby on Rails
  ▪ PostgreSQL & Azure Cloud Storage
  ▪ Heroku Server
  ▪ HTML/CSS/JavaScript/Bootstrap
  ▪ Microsoft Cognitive Services
Risks

• Functionality and Integration of APIs with Ruby on Rails
  ▪ The web app will need to make API calls to run speech recognition, emotion detection, and sentiment analysis.
  ▪ Review documentation for the APIs and build small demos using sample inputs from our own videos.

• Capturing Video
  ▪ The web app will need to be able to capture the video interviews to be put through analysis.
  ▪ Review documentation for OpenTox API and build prototype to test.
Risks

• Transcribing Audio for Sentiment Analysis
  ▪ To perform sentiment analysis, the team will need to use the audio from the videos and transcribe the speech to text.
  ▪ Review documentation for speech recognition APIs and build small prototypes to test API performance.

• Uploading and Retrieving Video
  ▪ No familiarity with archiving videos to Microsoft Azure cloud storage.
  ▪ Review options for Azure Storage and OpenTok archiving documentation to implement a demo that archives & retrieves a video from Azure using OpenTok API.
Questions?