Project Plan Presentation
Employee Badge Image Validation Tool

The Capstone Experience

Team Amazon
Jack Hammond
Khloe Hayes
Katelyn Hurst
Arul Srivastava
Timmy Wu

Department of Computer Science and Engineering
Michigan State University
Spring 2024
Project Sponsor Overview

- Founded by Jeff Bezos in 1994
- Started as an online book seller
- Based in Seattle, Washington
- eCommerce and cloud computing
Project Functional Specifications

- Badge image validation tool
- Optimizes time and resources to increase efficiency of new employee onboarding
  - Provides instant feedback on validation
- Currently a manual process that is overlooked by the badge team
- This tool will help improve the efficiency of the employee badge image validation
Project Design Specifications

• Simple UI for new hires to upload proposed badge image
• Examples of good and bad photos
• User is able to see uploaded image
• Instant feedback for images
  ▪ Responsive UI updates for photo criteria met
Screen Mockup: Start Page

Welcome new hires! We look forward to seeing your contributions to the team!

Include the top of your head to mid-chest
Look straight into the camera
Photo is properly exposed with no shadows
Background of the photo must be white
No sunglasses, hats, or caps
No cropping from larger image
No photographs of another photograph
Note: daily religious attire is acceptable

Upload Photo:

Example Badge Photos:

Acceptable Examples:
Screen Mockup: Start Page (cont.)

Example Badge Photos:

Acceptable Examples:

Unacceptable Examples:
Screen Mockup: Rejected Photo

Welcome new hires! We look forward to seeing your contributions to the team!

- Look straight into the camera
- Include the top of your head to mid-chest
- Photo is properly exposed with no shadows
- Background of the photo must be white
- No sunglasses, hats, or caps
- No cropping from larger image
- No photographs of another photograph
- Note daily religious attire is acceptable

Submit for Review
Upload New Photo:

Example Badge Photos:

Acceptable Examples:
Screen Mockup: Acceptable Photo

Welcome new hires! We look forward to seeing your contributions to the team!

- Look straight into the camera
- Include the top of your head to mid-chest
- Photo is properly exposed with no shadows
- Background of the photo must be white
- No sunglasses, hats, or caps
- No cropping from larger image
- No photographs of another photograph
- Note daily religious attire is acceptable

Example Badge Photos:

Acceptable Examples:
Screen Mockup: Submitted Photo

Welcome new hires! We look forward to seeing your contributions to the team!
Project Technical Specifications

• Frontend
  ▪ React.js with HTML, CSS, JS

• Backend
  ▪ Node.js

• AWS
  ▪ Amplify
  ▪ API Gateway
  ▪ Lambda
  ▪ Rekognition
  ▪ S3 Bucket
Project System Architecture
Project System Components

- **Software Platforms / Technologies**
  - **Web Framework/Programming Language:**
    - React.js
    - Node.js
    - Python
  - **Development Environments**
    - VSCode
    - AWS management console
Project Risks

• **Unfamiliar with AWS image recognition tools**
  - There are an abundance of AWS services, it was difficult to choose specific services for our project
  - We consulted with our sponsors and completed tutorials, creating small projects using the services to get familiar with AWS

• **Having a robust enough dataset**
  - We would like to have 95% confidence in our results
  - Collect data and fine tune our models according to confidence levels

• **Embedding our learning model into our project**
  - We are unsure about how we will implement our learning model from AWS into our web application
  - Trial and error based off previous experience and consulting with our sponsors
Questions?