MICHIGAN STATE
U N I V E R S I T Y

Project Plan
Maestro

The Capstone Experience

Team Amazon

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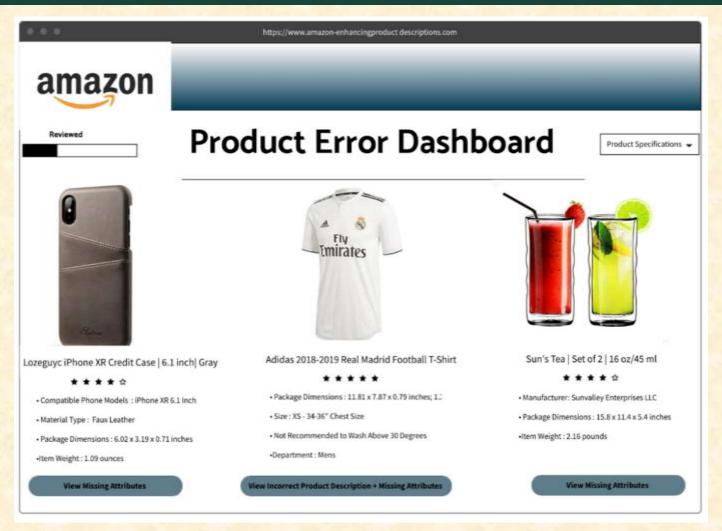Fall 2020

From Students…
  …to Professionals

Functional Specifications

- Reducing inaccurate product descriptions on Amazon.com

- Collecting descriptions from alternative sources

- Compare various descriptions to Amazon's description

- Flag inaccurate descriptions to allow Amazon employee to make updates

Design Specifications

- New listings can be reviewed before publishing
- Current listings are reviewed and flagged if necessary
- Flagged products are reviewed by Amazon employee and inaccuracies are highlighted
- Changes are approved by employee
- Any changes are reflected in the final product description on the retail site
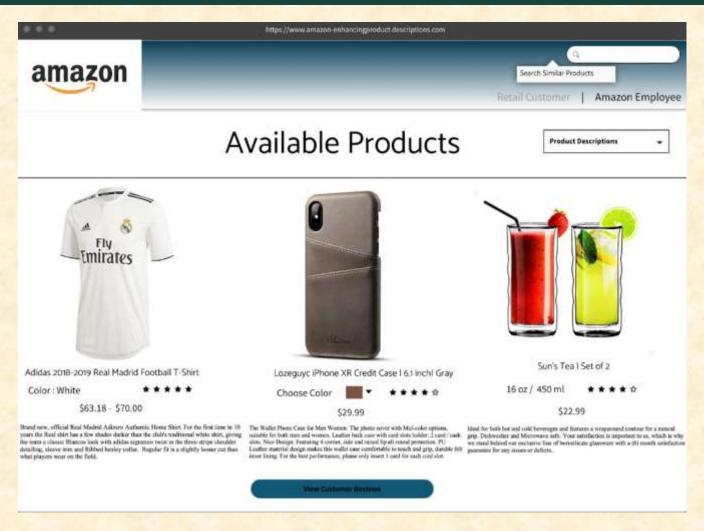
Screen Mockup: Employee Dashboard

Screen Mockup: Review Product

Screen Mockup: Seller Dashboard
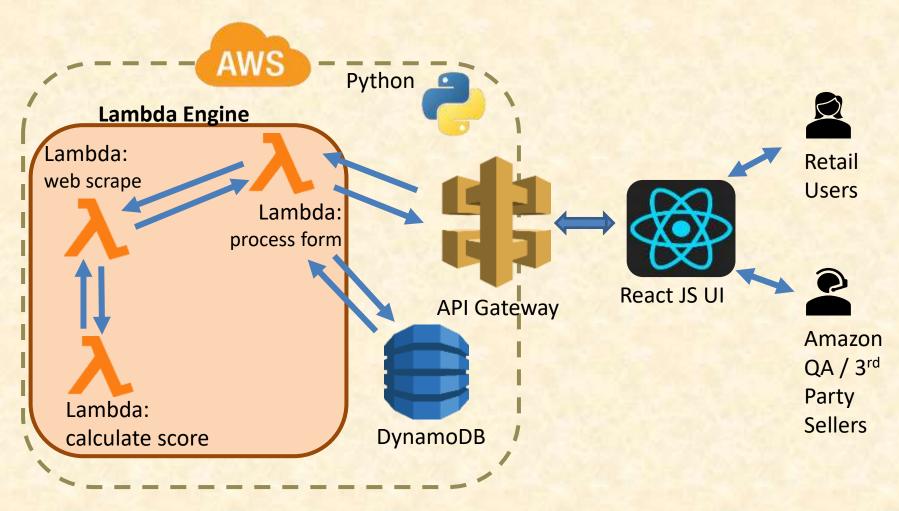
Screen Mockup: New Seller Listing

Technical Specifications

- AWS DynamoDB to store data from Amazon and natively

- AWS API Gateway to handle interaction between front and back end

- AWS Lambda to perform web scraping, Natural Language Processing (NLP), and saving to database

- React JS handle front end user interface (UI)

System Architecture

System Components

- Software Platforms / Technologies
  - Amazon Web Services
    - Lambda
    - Gateway
    - DynamoDB
    - SageMaker
  - React JS
  - Python Packages
    - BeautifulSoup
    - GoogleSearch

Risks

- Ensuring Comparison of Identical Products
  - Lack of a universal product identifier among retailers requires alternative methods to guarantee product matching
  - Use NLP text similarity technologies to verify product matching
- Delivering Accurate Metrics from Product Comparator Algorithm
  - Multiple variables can cause NLP model to fail in delivering accurate output
  - Consult with NLP experts at MSU and Amazon to line out efficient models
- Generalizing Algorithm to Work Across Product Categories and Sources
  - NLP model needs to generalize well to different product lines
  - Start development with single product type and generalize outward

Questions?