

MICHIGAN STATE
UNIVERSITY

Beta Presentation Maestro

The Capstone Experience

Team Amazon

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*From Students...
...to Professionals*

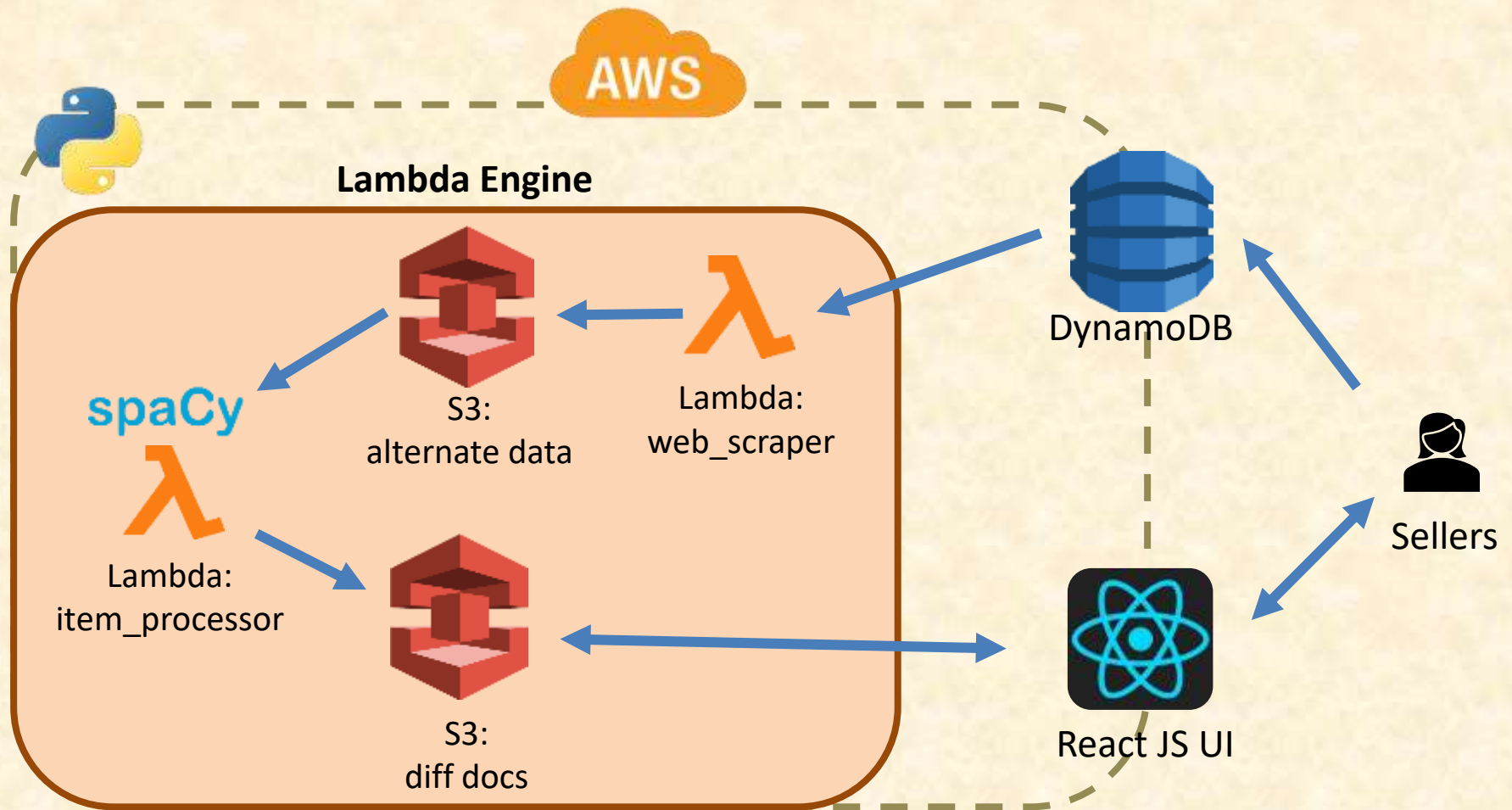
Department of Computer Science and Engineering
Michigan State University
Fall 2020

Project Overview

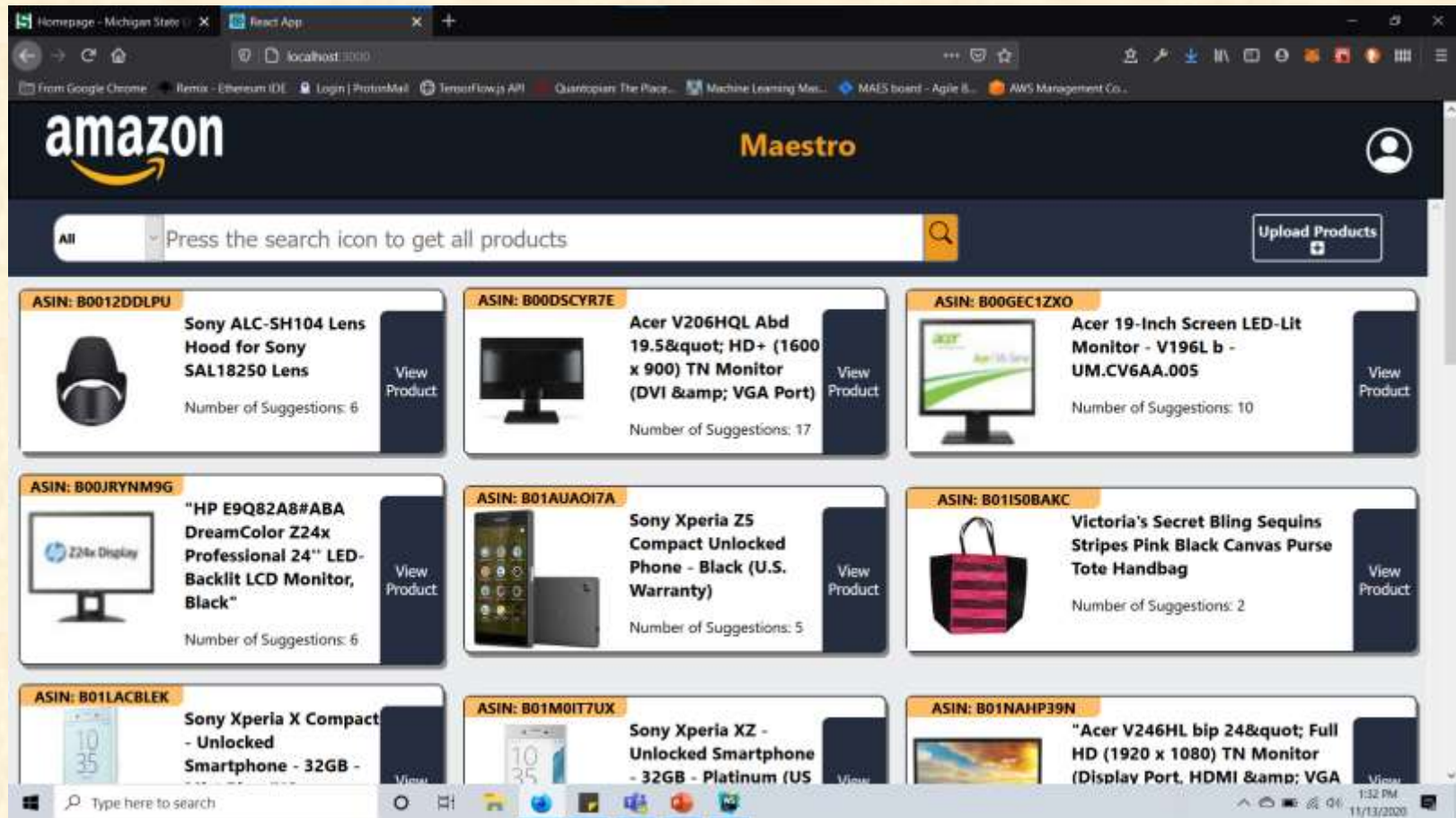
- Identify product description and product specification inaccuracies
- Crawl alternative online sources descriptions
- Use natural language processing to generate suggested changes to current product listings
- Compare quotient to threshold to flag inaccurate descriptions
- Write a diff doc for items to hold suggested value changes
- Display diff doc to users



System Architecture



Merchant Product Catalog Dashboard



Product Item Details

Homepage - Michigan State x React App x +

localhost:3000

From Google Chrome x Remix - Ethereum IDE x Login | ProtonMail x TensorFlow.js API x Quantopian: The Place... x Machine Learning Mas... x MAES board - Agile B... x AWS Management Co...

amazon Maestro

ASIN: B075P9R6N5

HP EliteDisplay 23-Inch Screen LED-Lit Monitor Silver (1FH46U9#ABA)

LEGEND

- Needs Attention
- No Suggestions
- Information Updated

color

brand

model_name

resolution

hardware_interface

display_technology

aspect_ratio

response_time

item_dimensions

item_weight

display_size

image_contrast_ratio

pixel_pitch

mounting_type

refresh_rate

display_resolution_maximum

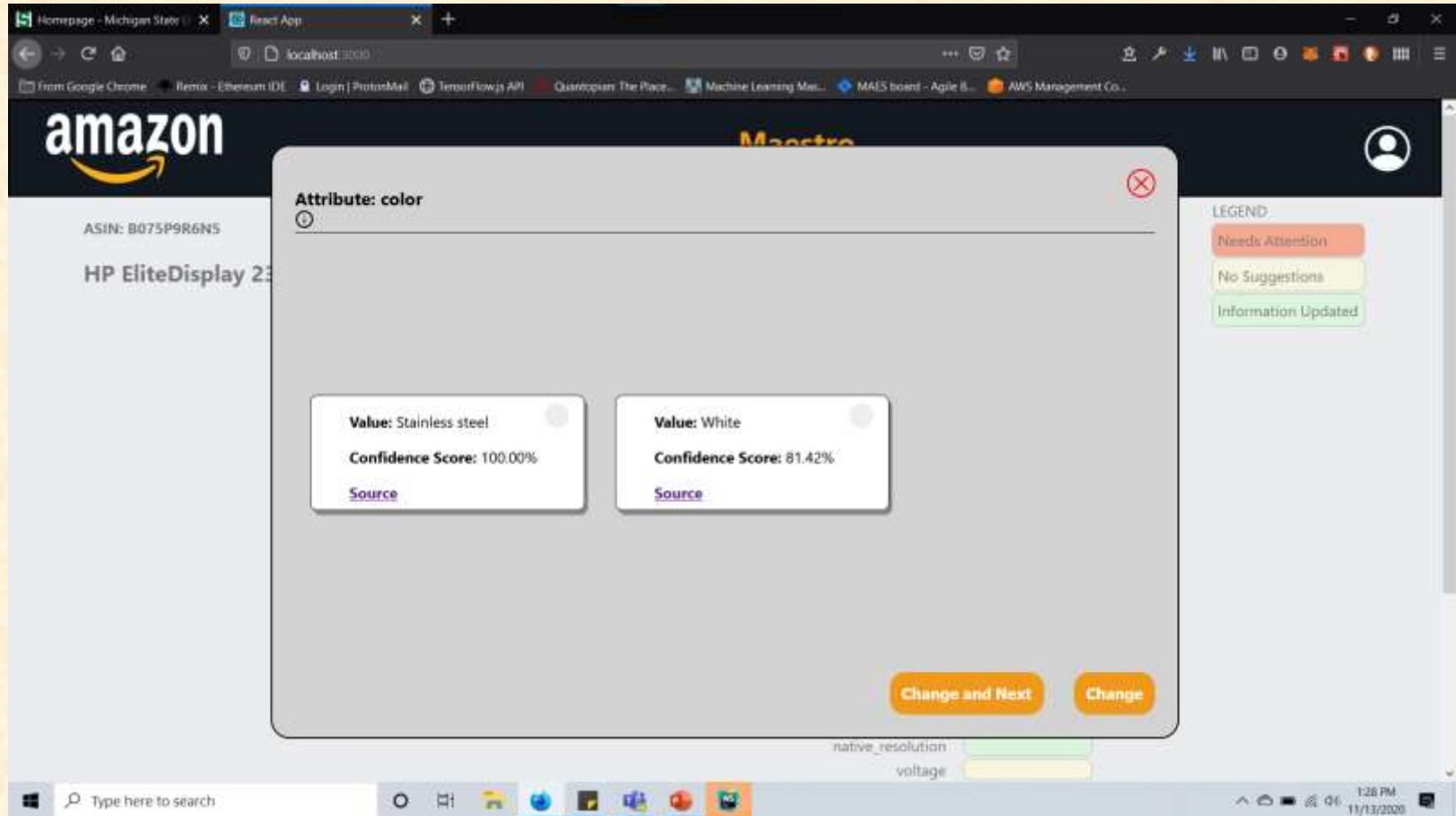
native_resolution

voltage

The image shows a screenshot of a web application running on a local host. The application displays product details for an HP EliteDisplay 23-Inch Screen LED-Lit Monitor. The interface includes a header with the Amazon logo and the word 'Maestro'. Below the header, the ASIN is listed as B075P9R6N5. The product name is 'HP EliteDisplay 23-Inch Screen LED-Lit Monitor Silver (1FH46U9#ABA)'. A legend on the right indicates three status levels: 'Needs Attention' (orange), 'No Suggestions' (yellow), and 'Information Updated' (green). A list of product attributes is shown on the right, each with a corresponding status bar. The attributes are: color, brand, model_name, resolution, hardware_interface, display_technology, aspect_ratio, response_time, item_dimensions, item_weight, display_size, image_contrast_ratio, pixel_pitch, mounting_type, refresh_rate, display_resolution_maximum, native_resolution, and voltage. The status bars for 'color', 'brand', 'resolution', 'hardware_interface', 'display_technology', 'aspect_ratio', 'response_time', 'item_dimensions', 'item_weight', 'display_size', 'image_contrast_ratio', 'pixel_pitch', 'mounting_type', 'refresh_rate', 'display_resolution_maximum', 'native_resolution', and 'voltage' are all orange, indicating they need attention. The status bar for 'model_name' is yellow, indicating no suggestions. The status bar for 'display_technology' is green, indicating information is updated. The background of the monitor image shows a website with the text 'OUT TO SEA'.



Suggested Changes Options



Updated Product Details

The screenshot shows a web application running on a browser. The browser's address bar shows 'localhost:3000'. The application has a dark header with the 'amazon' logo and the word 'Maestro' in orange. Below the header, the product ASIN 'B075P9R6N5' is displayed, followed by the product name 'HP EliteDisplay 23-Inch Screen LED-Lit Monitor Silver (1FH46U9#ABA)'. To the right of the product name is a 'LEGEND' section with three colored boxes: 'Needs Attention' (orange), 'No Suggestions' (yellow), and 'Information Updated' (green). Below the product name is a large image of the HP monitor. To the right of the image is a list of product attributes, each with a corresponding status bar. The status bars are colored green for 'Information Updated' and orange for 'Needs Attention'. The attributes and their status are: color (Stainless steel, green), brand (HP, green), model_name (empty, yellow), resolution (empty, orange), hardware_interface (empty, yellow), display_technology (Full HD, green), aspect_ratio (16:9, green), response_time (5 ms, green), item_dimensions (empty, orange), item_weight (empty, orange), display_size (empty, yellow), image_contrast_ratio (1,000:1, green), pixel_pitch (empty, orange), mounting_type (empty, yellow), and refresh_rate (empty, orange).

ASIN: B075P9R6N5

HP EliteDisplay 23-Inch Screen LED-Lit Monitor Silver (1FH46U9#ABA)

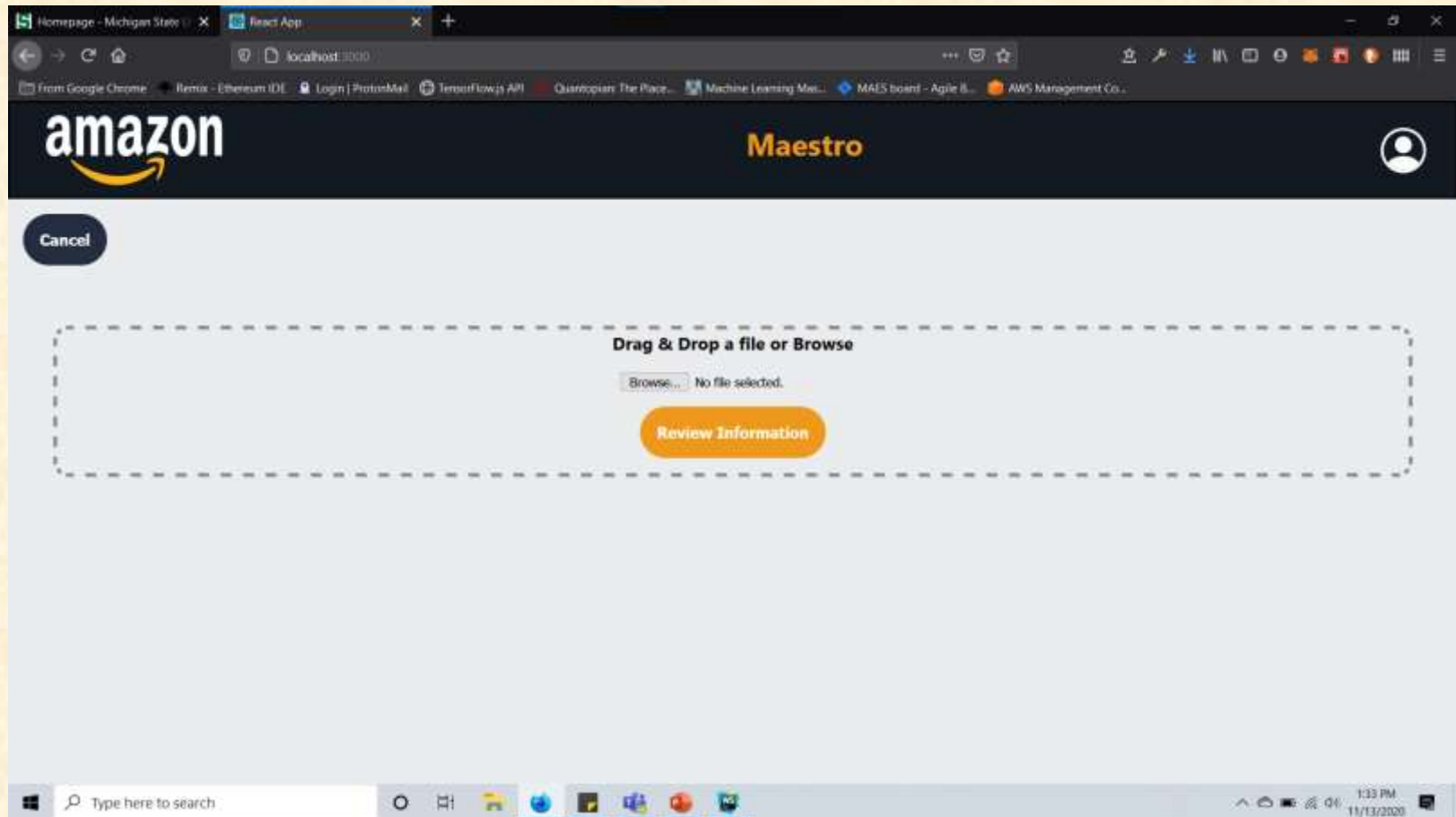
LEGEND

- Needs Attention
- No Suggestions
- Information Updated

color	Stainless steel
brand	HP
model_name	
resolution	
hardware_interface	
display_technology	Full HD
aspect_ratio	16:9
response_time	5 ms
item_dimensions	
item_weight	
display_size	
image_contrast_ratio	1,000:1
pixel_pitch	
mounting_type	
refresh_rate	



Upload Products



Performance Metrics

- 1 billion products worldwide
 - Sellers make trillions of updates annually
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- Fill rate: 50.2%
- Average Suggestions/Product: 5.6
- Average Confidence Score: 84%



What's left to do?

- Document code base
- Color adjustments on frontend
- Compute metrics for individual product lines
- Bundling code for delivery to client



Questions?

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