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

Alpha Presentation
Maestro

The Capstone Experience

Team Amazon

Mo Almoamen
Ruchika Gupta
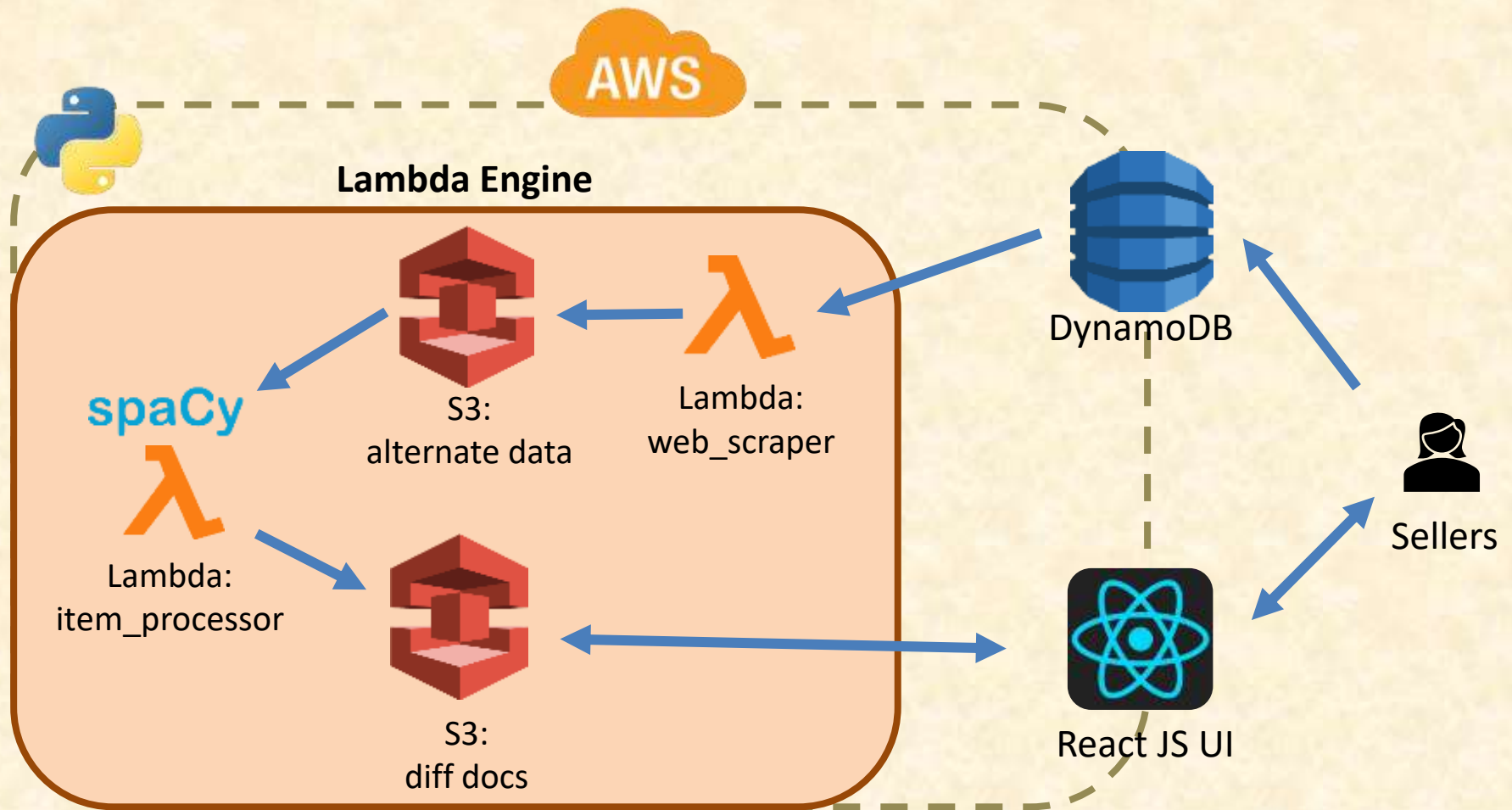Kasidet Meteeputthi
Scott Macpherson
Sawyer Ruben

Department of Computer Science and Engineering
Michigan State University
Fall 2020

From Students…
…to Professionals

Project Overview

- Identify product description and product specification inaccuracies

- Crawl competitor websites for alternate 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

Alternate Listings File

```
{
  "Brown Faux Fur Leopard Pattern Crossbody Bag with Detachable Shoulder Strap Womens Handbag": {
    "Amazon": {
      "Marketplace": "US",
      "Product Type": "handbag",
      "ASIN": "B083TY9DPK",
      "Title": "Brown Faux Fur Leopard Pattern Crossbody Bag with Detachable Shoulder Strap Womens Handbag",
      "Description": "Punctuate your attire for evening party or daytime lunch with this super stylish crossbody bag. The bag has ultra luxurious appearance
      "Brand": "Shop LC Delivering Joy",
      "UPC": "686728885923"
    },
    "Alternative Sources": [{
      "URL": "https://www.walmart.com/ip/Brown-Faux-Fur-Leopard-Pattern-Crossbody-Bag-with-Detachable-Shoulder-Strap-Womens-Handbag/658651096",
      "Title": "Brown Faux Fur Leopard Pattern Crossbody Bag with Detachable Shoulder Strap Womens Handbag",
      "Price": "$14.24",
      "Description": "Brown Faux Fur Leopard Pattern Crossbody Bag with Detachable Shoulder Strap Womens HandbagPunctuate your attire for evening party
      "Specification": {
        "Gender": "Female",
        "Brand": "Shop LC",
        "Color Category": "Brown",
        "Fabric Content": "Acrylic",
        "Color": "Brown",
        "Manufacturer": "Shop LC",
        "Occasion": "Christmas",
        "Pattern": "Leopard",
        "Manufacturer Part Number": "bd3515418"
      },
      "Category": "Food/Seasonal Grocery/Christmas Foods/Christmas Cooking/Christmas Desserts",
      "foundManufacture": false,
      "Images": ()
    }
    ]
  }
}
```
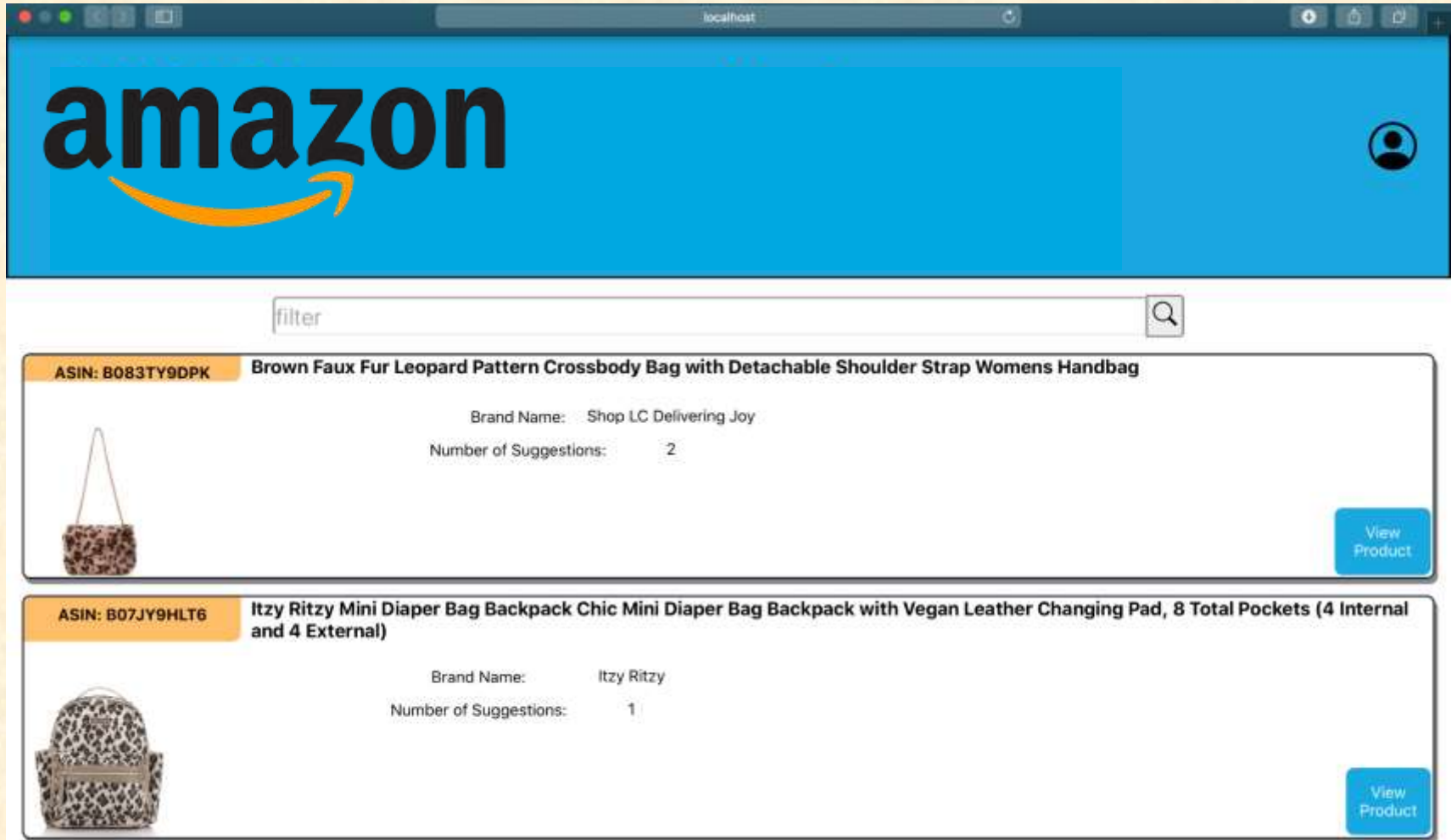
Diff Document

```
{
    "ASIN": "B083TY9DPK",
    "Specification": [
        "closure": [],
        "item_dimensions": [],
        "strap_type": [],
        "material": [],
        "color": [[
                "URL": "https://www.walmart.com/ip/Brown-Faux-Fur-Leopard-Pattern-Crossbody-Bag-with-Detachable-Shoulder-Strap-Womens-Handbag/658651096",
                "SuggestedChange": "Brown",
                "Confidence": 0.75
            }
        ],
        "brand": [[
                "URL": "https://www.walmart.com/ip/Brown-Faux-Fur-Leopard-Pattern-Crossbody-Bag-with-Detachable-Shoulder-Strap-Womens-Handbag/658651096",
                "SuggestedChange": "Shop LC",
                "Confidence": 0.75
            }
        ],
        "lining_description": [],
        "style": [],
        "pocket_description": [[
                "URL": "https://www.walmart.com/ip/Brown-Faux-Fur-Leopard-Pattern-Crossbody-Bag-with-Detachable-Shoulder-Strap-Womens-Handbag/658651096",
                "SuggestedChange": "Christmas",
                "Confidence": 0.75
            }
        ],
        "water_resistance_level": [],
        "capacity": [],
        "item_weight": [],
        "sole_material": [],
        "size": [],
        "number_of_components": [],
        "product_description": [],
        "lock_type": [],
```

Product Catalog Dashboard

Product Item Details

What's left to do?

- Collect more and higher quality data

- Connect backend to frontend

- Evaluate NLP algorithm accuracy

- Generalize web scraper to handle multiple website schemas

- Expand parser and algorithms to handle multiple product lines

Questions?