Beta Presentation
Technology Peripheral Inventory Predictor

The Capstone Experience

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Project Overview

• Demand forecasting for computer peripherals
  ▪ Uses existing dataset
  ▪ Can accept new purchases on-the-fly
• History view for past purchases
  ▪ Identify trends
  ▪ See combined history and predictions to make informed decisions
System Architecture

Web Frontend
- JavaScript

Web Application

Backend
- Python
- Executive Driver
- Data Query Module
- Machine Learning

Security
(Humana’s own security)

End User
(Humana’s employees)

Database

Humana
### New Purchases Page

#### Item Details
- Item Category
- Item Description
- Invoiced Amount
- Invoice Number
- Invoice Line Number

#### Location Information
- Facility
- Facility Zipcode
- Parent Department
- Department

#### Supplier Information
- Company #
- Supplier Type Code
- Supplier Name

#### Timeframe
- Year
- Month
- Invoice Date
Navigation Sidebar

<table>
<thead>
<tr>
<th>Inventory Predictions</th>
<th>New Purchases</th>
<th>Layout</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Invoiced Amount</th>
<th>Invoice Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility Zipcode</td>
<td>Parent Department</td>
<td>Department</td>
</tr>
<tr>
<td>Supplier Type Code</td>
<td>Supplier Name</td>
<td></td>
</tr>
<tr>
<td>Month</td>
<td>Invoice Date</td>
<td></td>
</tr>
</tbody>
</table>

The Capstone Experience
Filter Selection

Filters

+ CATEGORY  X LOCATION
+ SUPPLIER

Current Filters:

Location Details

- Facility
- Zip Code
- Parent Department
- Department

CANCEL  OK
Graph Display

Filters

Inventory Predictions

Current Filters:

category
location
- 1002

CLEAR ALL
SUBMIT
RETRAIN

Graph:

- Quantity
- Prediction Boundary

Date:
- Jan 2018
- Mar 2018
- May 2018
- Jun 30, 2018
- Sep 2018
- Nov 2018
What’s left to do?

• Polish user interface
  ▪ More user feedback for long operations
• Refine machine learning model
• Detailed information about what items were purchased in a month
• General cleanup, ready for handoff
Questions?