

MICHIGAN STATE

UNIVERSITY

Beta Presentation

Amazon Customer Review Analyzer

The Capstone Experience

Team Amazon

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

Project Overview

- Improve the Amazon Retail Experience
- Automatically Classify Reviews into Categories
- Enable More Informed Purchasing Decisions
- Filter Out Non-Product Reviews



Data

- Amazon Review APIs are closed
- Historical Data from USCD study
- Team hand classified 4000 reviews for training



Machine Learning

- Amazon Machine Learning uses Logistic Regression
- Loss function optimized with stochastic gradient descent
- Minimizing “chance” that a review is misclassified



Classification

The quick brown
fox jumped over
the lazy dog.

(Review Text)

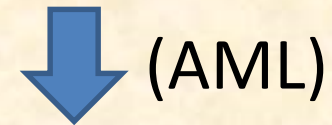


(quick, brown, fox,
jump, over, lazy,
dog)

(Cleaned, Stemmed)



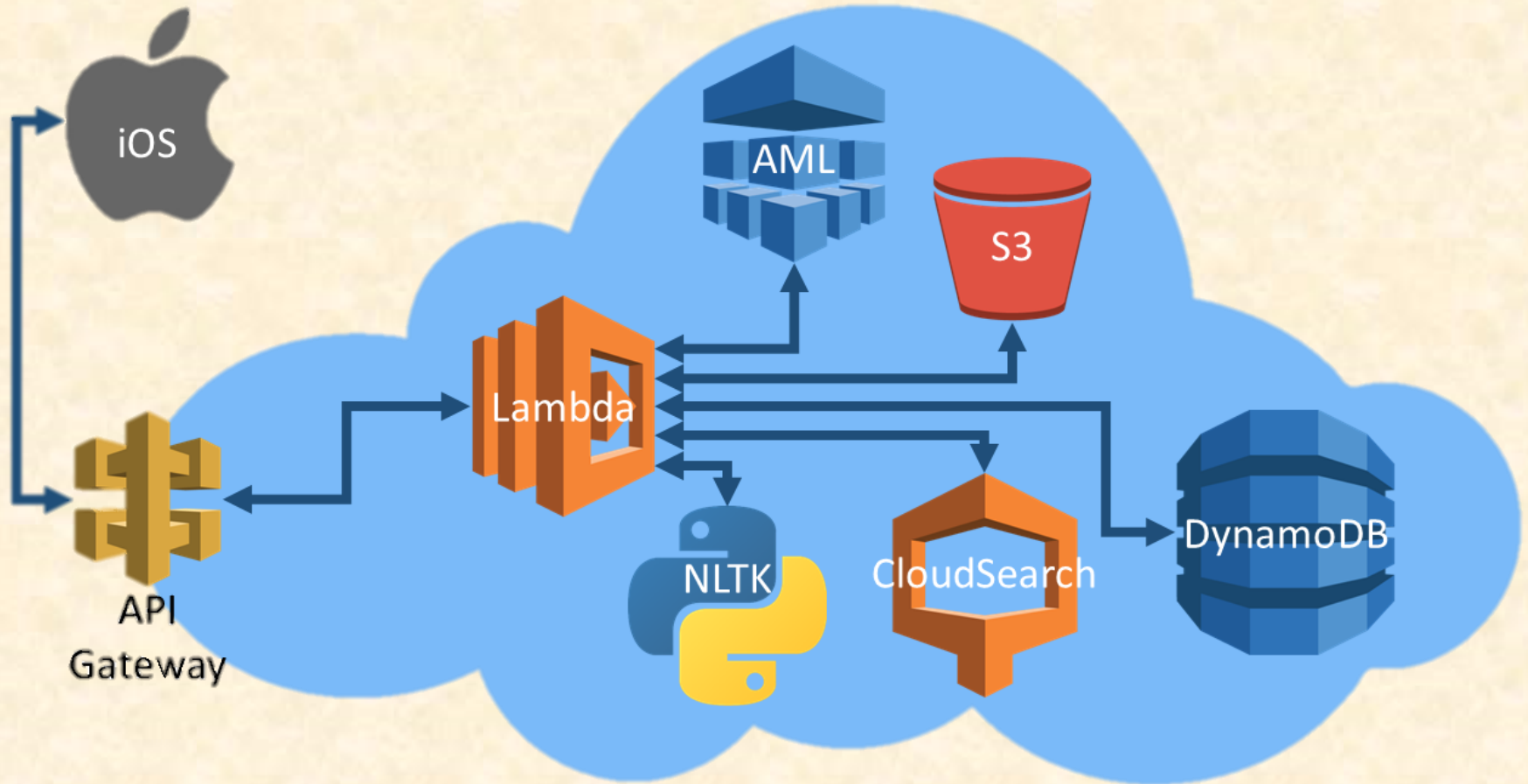
$(1,0,0,1,0,0,\dots,0)$
(Bag-of-Words)



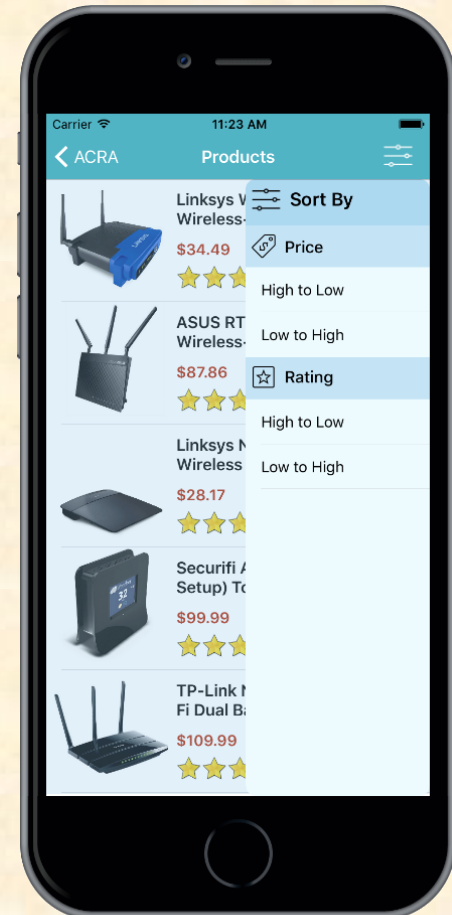
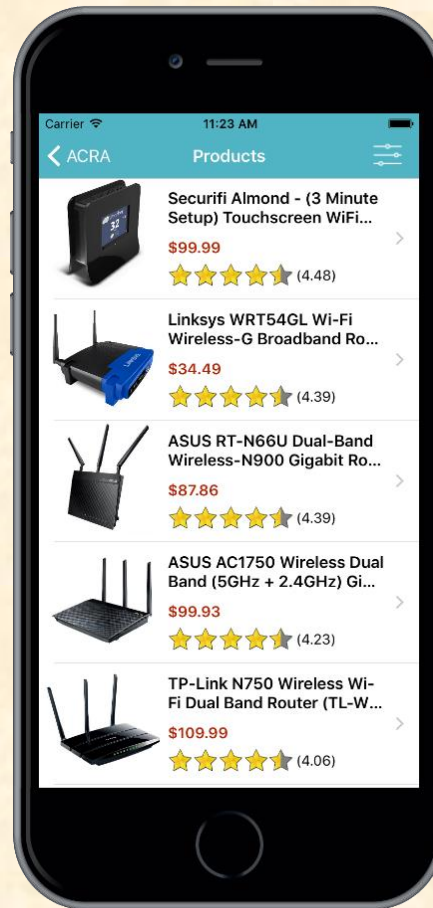
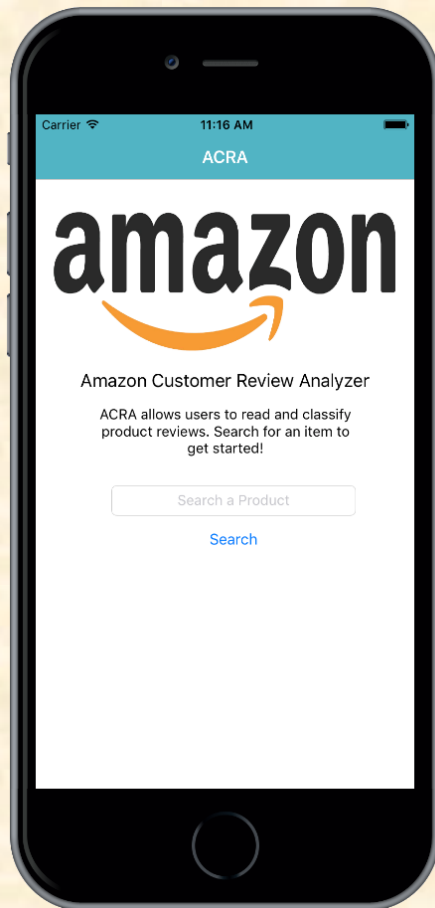
0 or 1
(Classification)



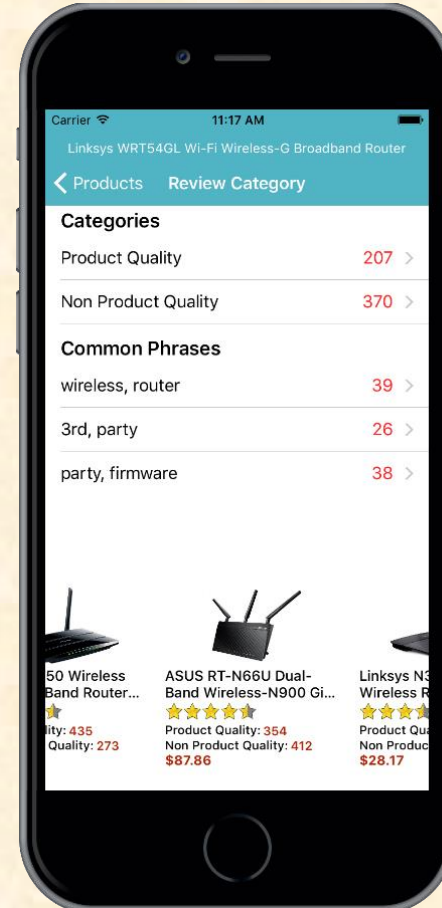
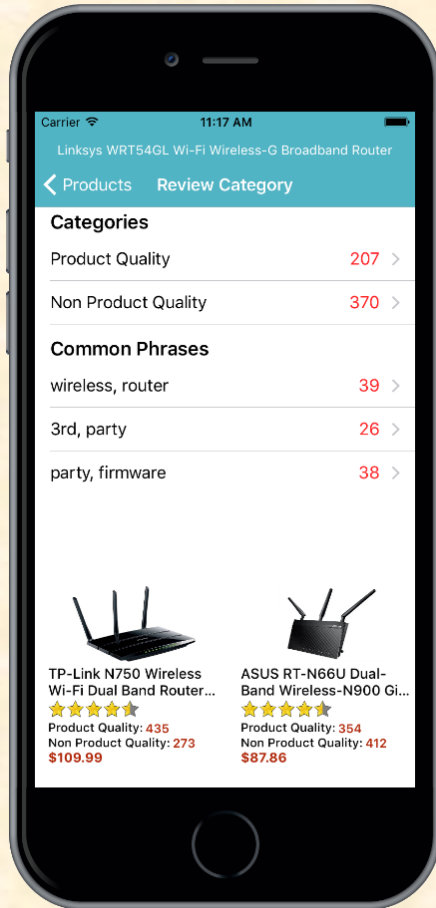
System Architecture



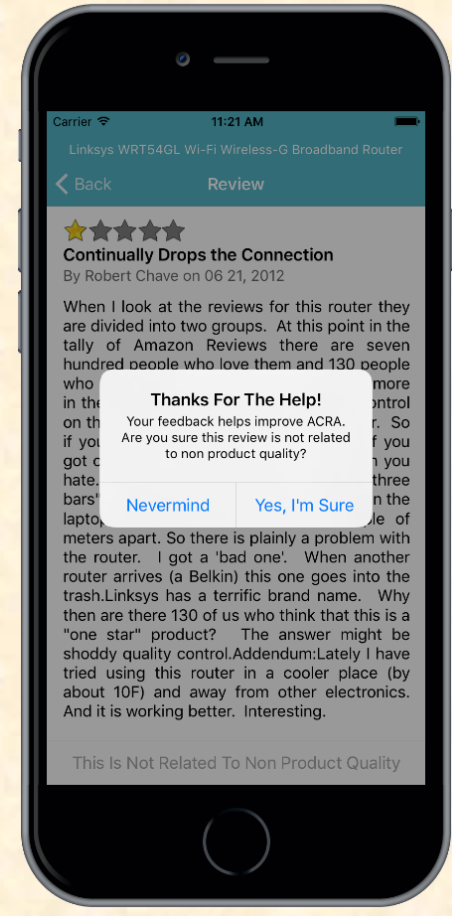
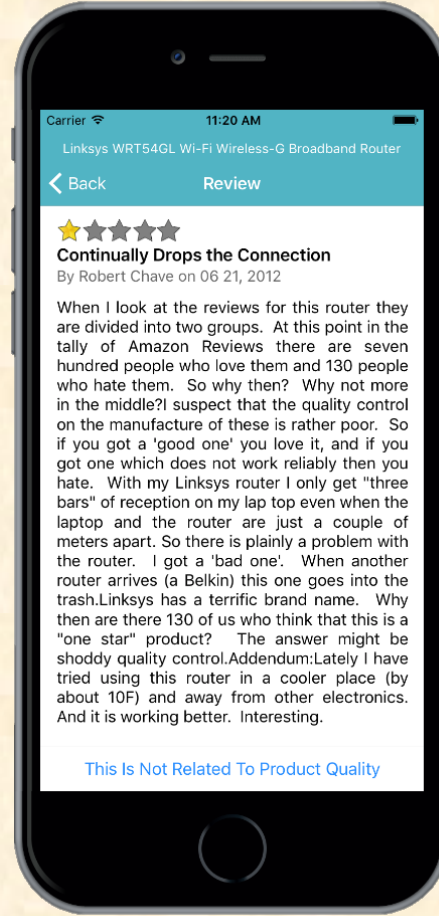
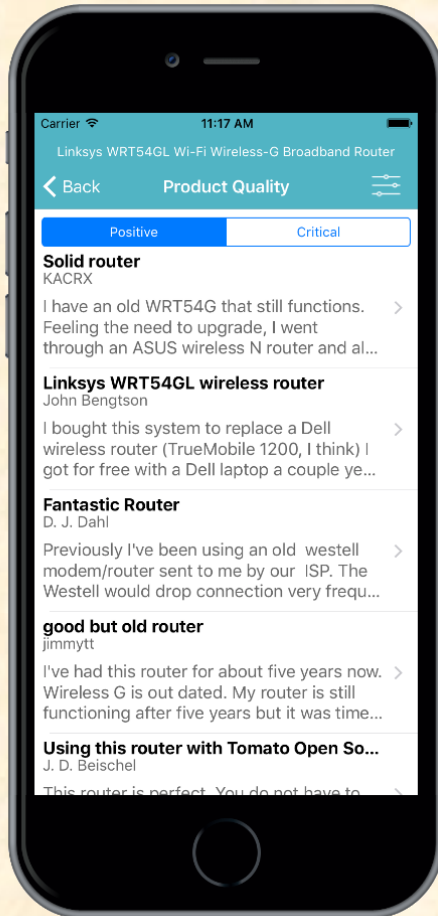
Home Page and Search Results



Category Page and Similar Items



Review Page and Misclassified Button



What's left to do?

- Make Project Video
- Squash Bugs



Questions?

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