

**MICHIGAN STATE**  

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**U N I V E R S I T Y**

# Project Plan

## Amazon Customer Review Analyzer

### The Capstone Experience

Team Amazon

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

# Functional Specifications

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- Improve the Amazon Retail Experience
- Automatically Classify Reviews into Categories
- Enable More Informed Purchase Decisions
- Filter Out Irrelevant Reviews



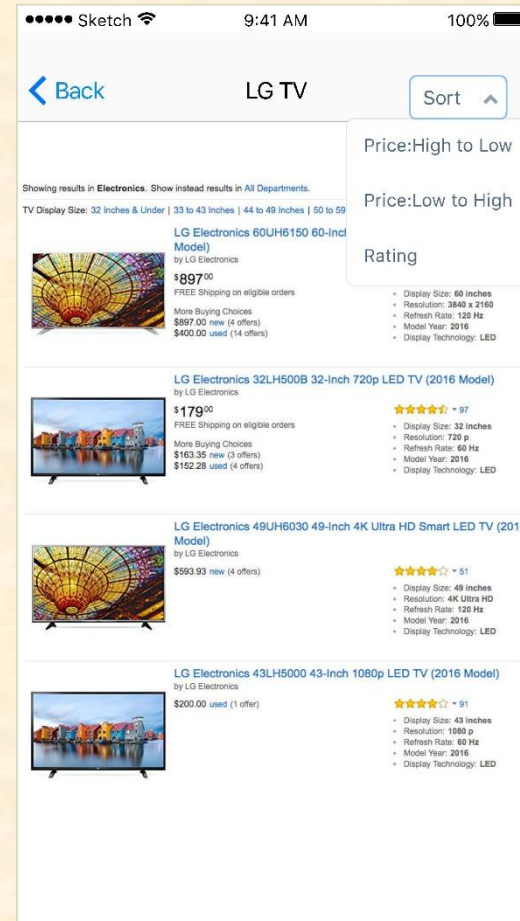
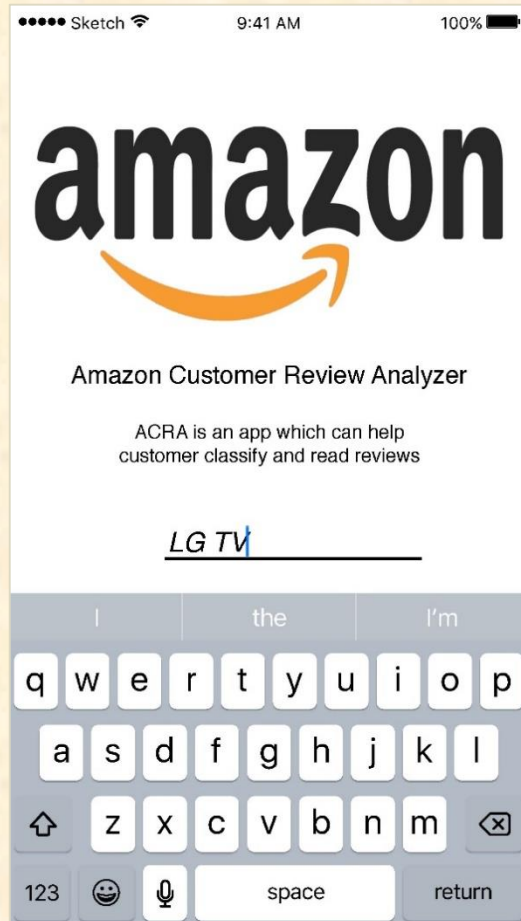
# Design Specifications

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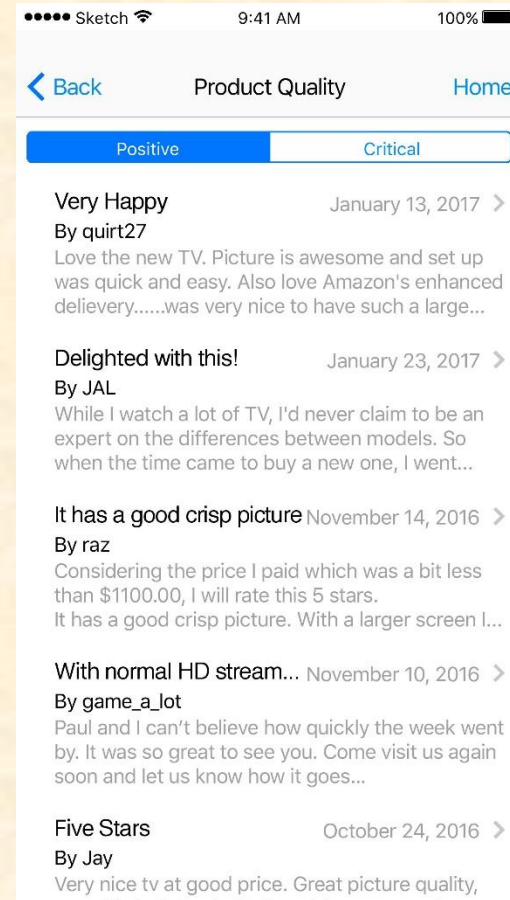
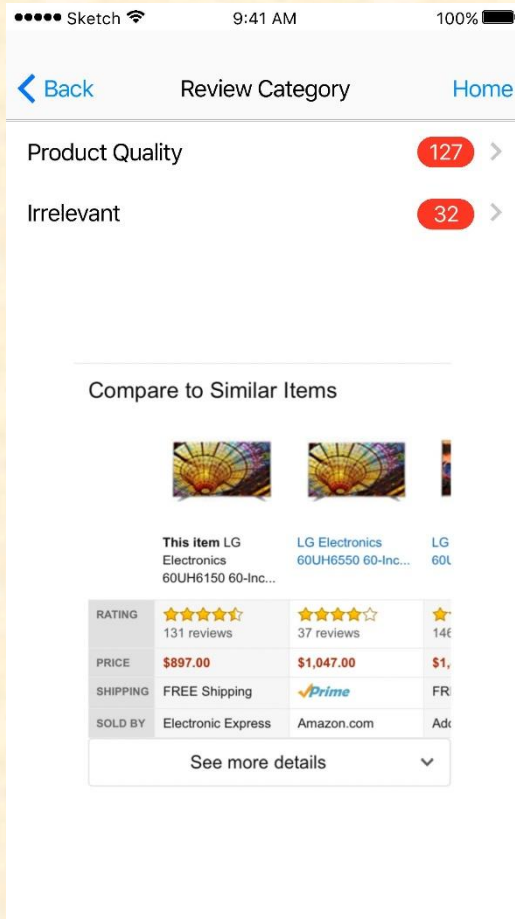
- Showcase Backend
- Simple Interface to View Products and Reviews
- Allow Users to Flag Reviews as Misclassified



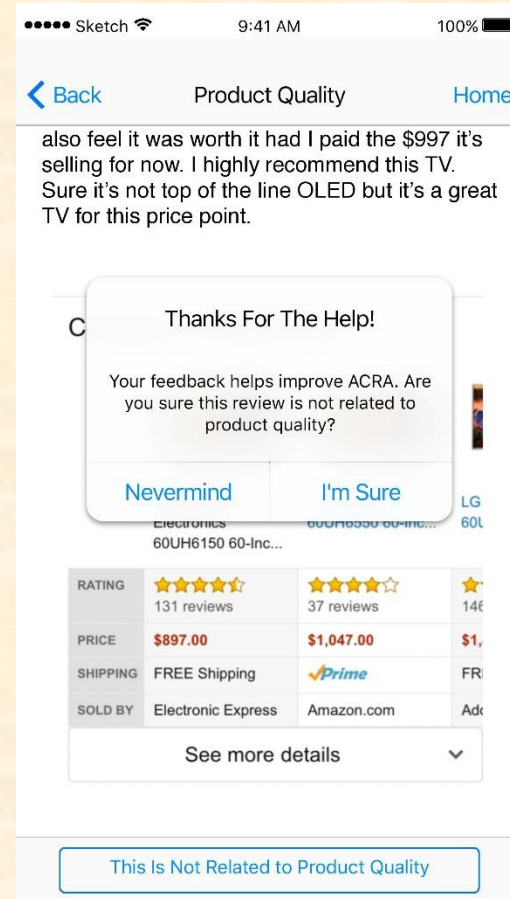
# Screen Mockup: Amazon Customer Review Analyzer



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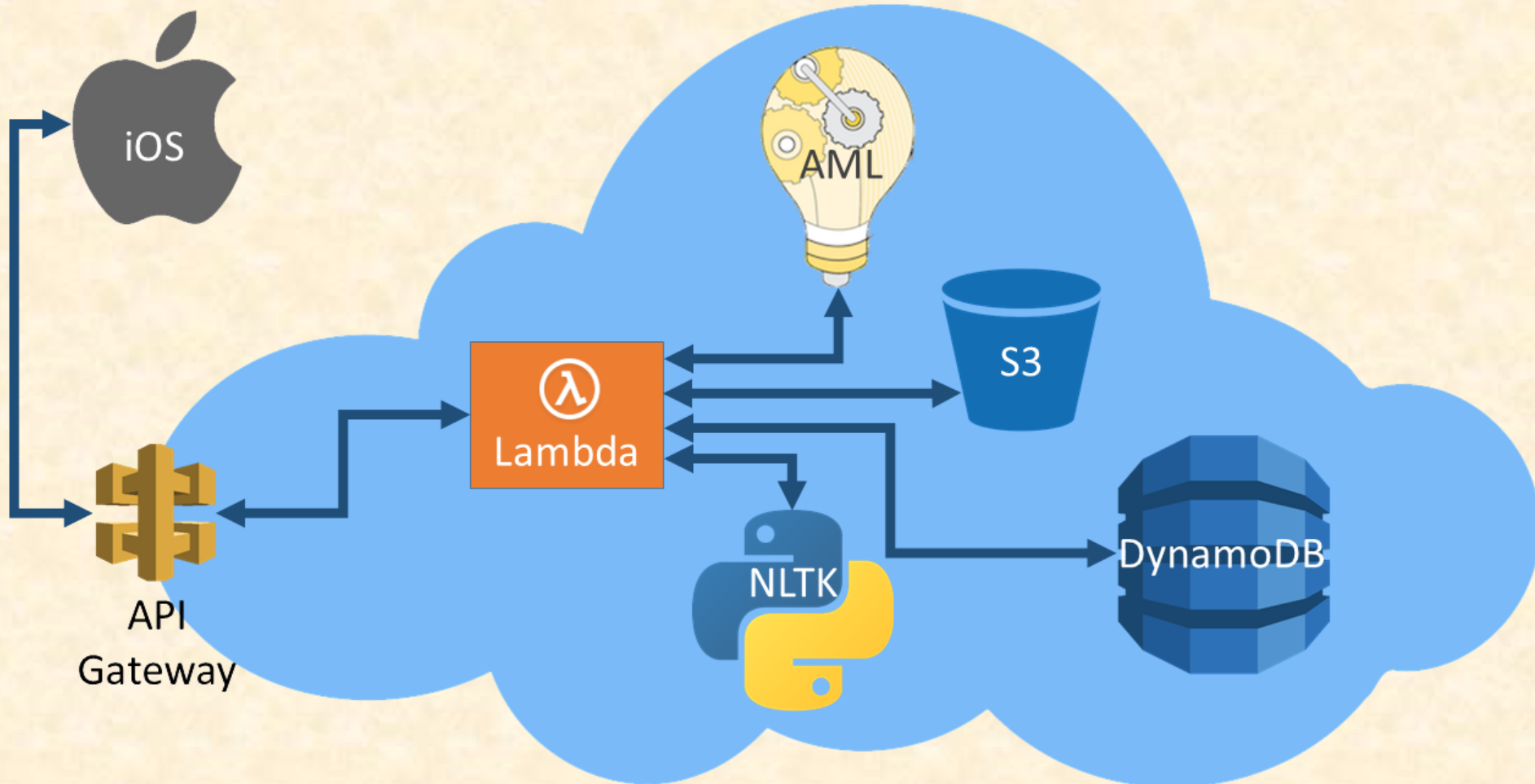
# Technical Specifications

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- iOS (Swift) Front End
- Python Back End
  - Natural Language Tool Kit
  - Amazon Web Services SDK
- Serverless Architecture Using AWS Lambda
- Storage using AWS S3 and DynamoDB



# System Architecture





# System Components

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- Hardware Platforms
  - AWS Management
- Software Platforms / Technologies
  - Natural Language Tool Kit
  - Amazon Machine Learning
  - Pycharm and Xcode
  - AWS S3 and DynamoDB
  - API Gateway



# Testing

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- 30% Data Reservation for Testing Models
- Python unittest Library
- AWS Command Line Interface for APIs



# Risks

- Risk 1
  - Binary Classification of User Reviews
  - Determine best feature selection method and begin training models with various algorithms.
- Risk 2
  - Natural Language Processing
  - Currently working with NLTK to preprocess user reviews.
- Risk 3
  - iOS Development
  - Building Hello World applications and working with the AWS SDK library.
- Risk 4
  - Integration of APIs
  - Completing AWS tutorials and building test connections/triggers



# Questions?

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