Project Plan
AVAST: Amazon Video and Shopping Technology

The Capstone Experience

Team Amazon
Linshawn Fang
Patrick McCormick
Ian McGregor
Ben Nwachukwu
Han Wang

Department of Computer Science and Engineering
Michigan State University
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Functional Specifications

• Leverage user's interest in the items shown in their favorite movies and music videos
• Let users log in with Amazon account and link their account from other video source websites (YouTube, Twitch, etc.)
• Search and play videos from external sources and view streaming history
• Recommend users a list of appropriate products from Amazon in real-time while streaming the videos
Design Specifications

• Web Application
  ▪ Browser and screen size independent

• Uninterrupted video streaming

• Integration with multiple streaming services
  ▪ Single search bar to search across many difference services

• Minimal learning curve
  ▪ Katal web components to match Amazon’s UX
  ▪ Similar UX to other streaming services
Screen Mockup: User Home Page
Screen Mockup: Account Page
Screen Mockup: Video Page

Video Title

Product Feed
- Lavazza Super Crema Whole Bean Coffee...
  - $20.08
  - FREE Delivery by Mon, Sep 10
  - Buy Now
- AmazonFresh Colombia Whole Bean Coffee...
  - $15.49
  - FREE Delivery by Mon, Sep 10
  - Buy Now
- 2LB Cafe Don Pablo Signature Blend Coffee...
  - $14.99
  - FREE Delivery by Mon, Sep 10
  - Buy Now
Technical Specifications

• JavaScript (Angular 6) frontend
  ▪ Login with Amazon
  ▪ Product Recommendation Container & Display Service
• PHP (Laravel 5.7) backend
  ▪ User Accounts
  ▪ Search API
  ▪ SourceVideo API
• Third-party video API (YouTube, Twitch, etc.)
• Amazon Web Services
  ▪ API: Kinesis Video Stream, Rekognition, Shopping
  ▪ Hosting: CodeCommit, S3, CodePipeline, Jenkins, EC2, CloudWatch
System Architecture

AWS

- Amazon Rekognition
- Amazon Shopping API
- Amazon RDS

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- User authentication
- Video served to user
- Video sent to backend
- User

Third Party

- YouTube
- prime video
- twitch
- API

Product recommendations

Handle login to various services &
Get video feed from services

MSU Team Amazon AVAST
System Components

• Hardware Platforms
  ▪ AWS Linux EC2
  ▪ AWS S3

• Software Platforms / Technologies
  ▪ AWS Rekognition, RDS, CodePipeline, Kinesis Video Stream
  ▪ Jenkins
  ▪ PHP (Laravel 5.7) backend
  ▪ JavaScript (Angular 6) frontend
  ▪ Various video streaming services' APIs
Risks

• **Video Platform Integration**
  - **Description**: Integrating with various platforms allows users to watch videos from different video services. Currently, video API’s for Hulu and Netflix are not available.
  - **Mitigation**: Video API’s like YouTube, Twitch, and Dailymotion are publicly available making their integration feasible.

• **Backend and Frontend Integration**
  - **Description**: Coordination between backend and frontend services are needed to enable our application to stream videos properly.
  - **Mitigation**: There is active communication between the frontend and backend team. We have daily standups to keep every team member updated on each part of the project.

• **Site Security**
  - **Description**: Keeping user account information safe and secure like login credentials
  - **Mitigation**: Use Login with Amazon to provide secure authentication for our users.

• **Acquiring an HTTPS certificate**
  - **Description**: Acquiring an HTTPS certificate to encrypt all communication across the network.
  - **Mitigation**: AWS Certificate Manager and Let's Encrypt provide an easy way to acquire and maintain public certificates to be used for our domain.
Questions?