Project Plan
AVAST: Amazon Video and Shopping Technology

The Capstone Experience

Team Amazon
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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

Trending Videos

- Video Title 1
- Video Title 2
- Video Title 3
- Video Title 4
- Video Title 5

Continue Watching

- Video Title 1
- Video Title 2
- Video Title 3
- Video Title 4
- Video Title 5

Highly Rated Products
Screen Mockup: Account Page

Account Info

Profile Picture

Change

First Name

Last Name

Apply

Password

Current Password

New Password

Confirm Password

Video Services

prime video

Remove Service

YouTube

Link

NETFLIX

Link

History

Viewing History

See All History

Clear History

Clear All History
Screen Mockup: Video Page
Screen Mockup: History Page

Video History

When user hover over a video preview

Lavazza Super Crema Whole Bean Coffee...
$20.08 ✓ prime
FREE Delivery by Mon, Sep 10
Buy Now

Lavazza Super Crema Whole Bean Coffee...
$20.08 ✓ prime
FREE Delivery by Mon, Sep 10
Buy Now

Lavazza Super Crema Whole Bean Coffee...
$20.08 ✓ prime
FREE Delivery by Mon, Sep 10
Buy Now

Lavazza Super Crema Whole Bean Coffee...
$20.08 ✓ prime
FREE Delivery by Mon, Sep 10
Buy Now

AmazonFresh Colombia Whole Bean Coffee...
$15.10
FREE Delivery by Mon, Sep 10
Buy Now

AmazonFresh Colombia Whole Bean Coffee...
$15.10
FREE Delivery by Mon, Sep 10
Buy Now

AmazonFresh Colombia Whole Bean Coffee...
$15.10
FREE Delivery by Mon, Sep 10
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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

- AWS Rekognition
- Amazon RDS
- Amazon Shopping API
- Identifiable items
- Products

MSU Team Amazon AVAST

- User authentication
- Token
- User
- Video served to user
- Video sent to backend
- Handle login to various services
- Get video feed from services
- Video

Third Party

Services:
- YouTube
- Prime Video
- Twitch
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?