

**MICHIGAN STATE**  

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

# Project Plan

## Multi-Video Case Management

The Capstone Experience

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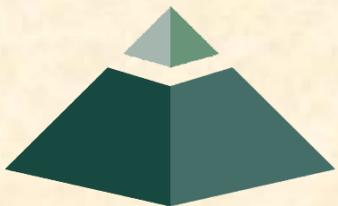
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Spring 2019



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

# Functional Specifications

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- Insurance claims have a lot of video content
  - Time consuming to review multiple videos of one event
- Building upon existing OpenContent Management Suite's (OCMS) architecture
- Two new actions
  - Add videos from a map view
  - Merge multiple videos together

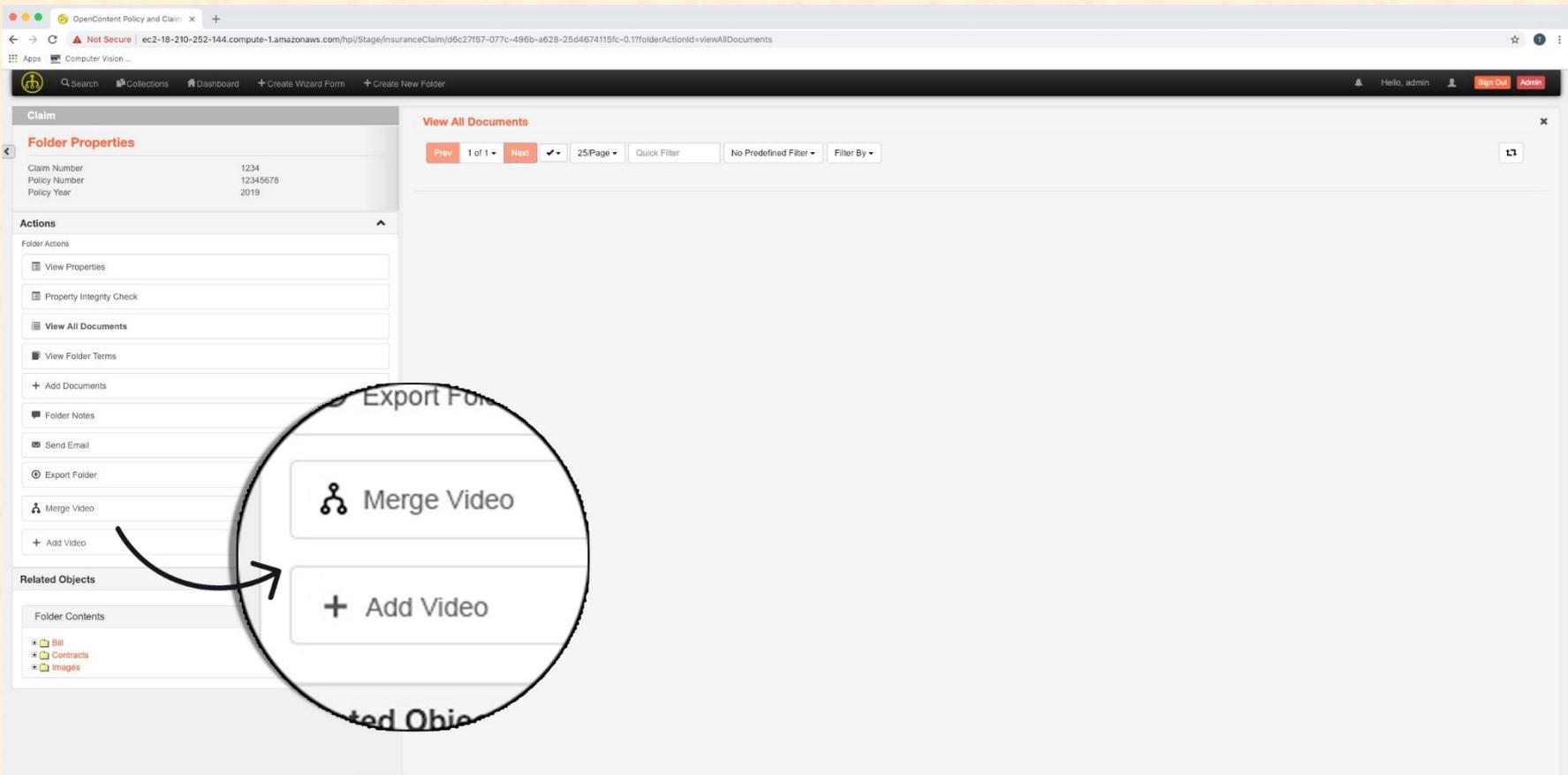


# Design Specifications

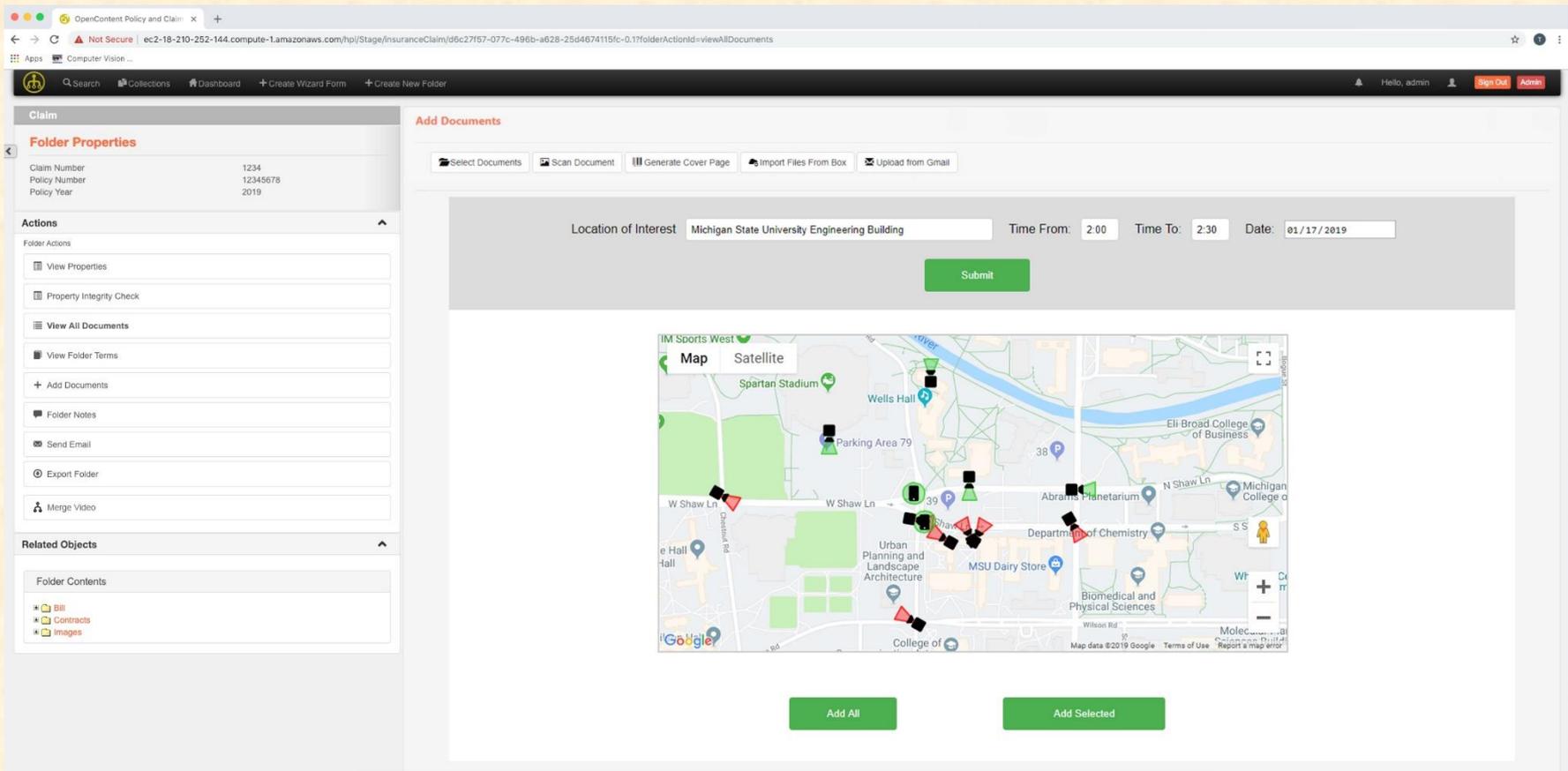
- Add Video
  - Enter location and time
  - Select videos from a map
- Map View of Folder
  - Shows the location of the videos on a map
- Annotating Videos
  - Give video annotations priority
- Merge Videos
  - Single view of desired videos
  - Display highest priority video larger



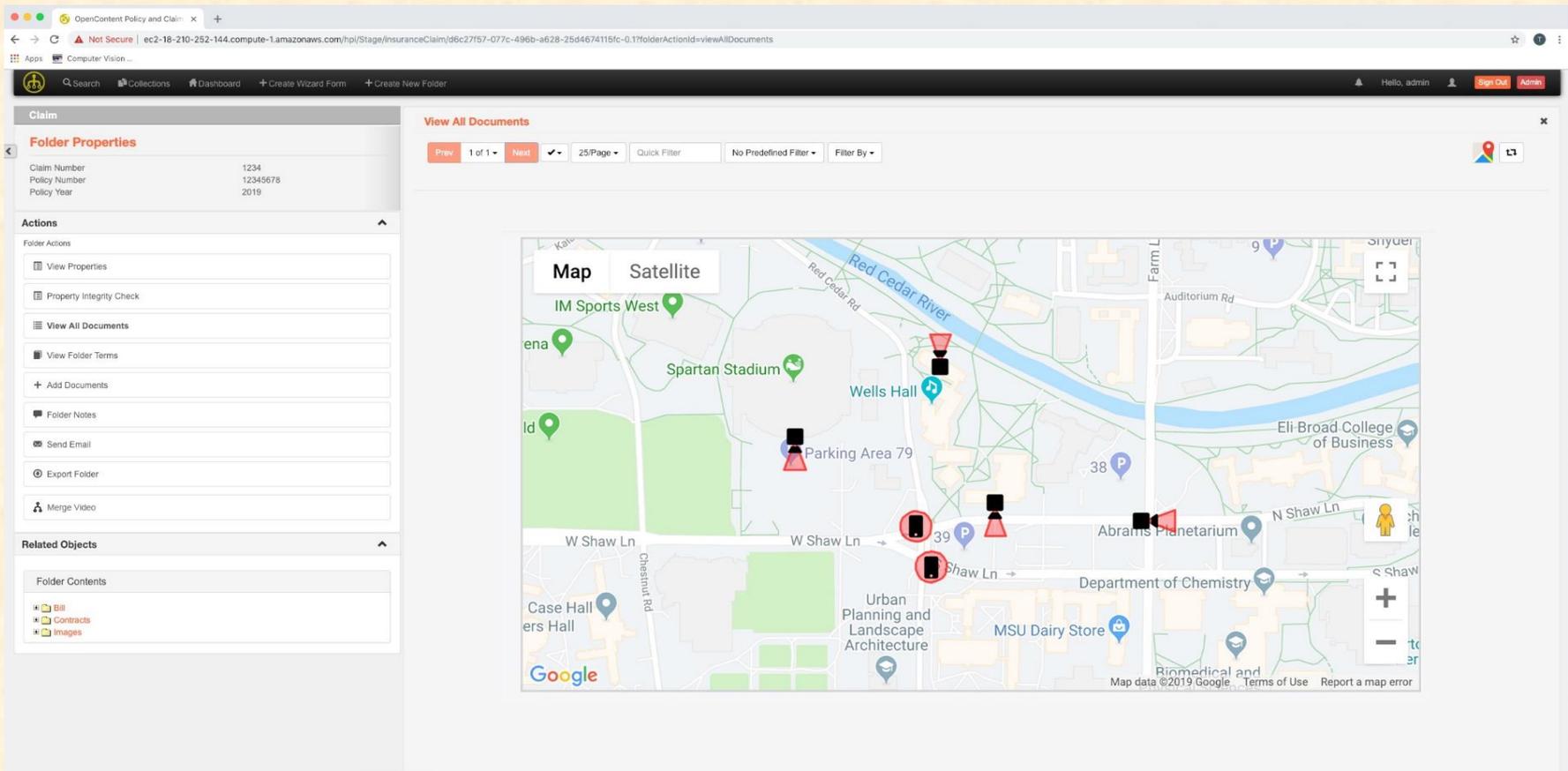
# Screen Mockup: New Folder Actions



# Screen Mockup: Add Video Action



# Screen Mockup: Map View of Folder



# Screen Mockup: Annotating Videos

The screenshot displays the OpenContent Manager interface for video annotation. On the left, a sidebar shows 'Folder Properties' for 'Trac Insurance' with details: Claim Number (22312372), Claimant Name (David Giordano), Policy Number (49266799), and Policy Year (2017). Below this are 'Actions' such as 'View Properties', 'Property Integrity Check', and 'Generate Combined PDF'. The main area is titled 'Add Annotations' and features a form with fields for 'Timestamp' (2.41 to 3.41), 'Min: 1 sec', and 'Description' (Don't disclose personal info). A circular callout highlights the 'Assign Priority' button. The video player on the right shows a damaged car front end with a play button and a progress bar at 00:02.

OpenContent Manager

edge2.tsgrp.com/hpi/Stage/insurance/workspace://SpacesStore/cc10cb60-cb5a-48a9-9995-9769ed2ac1d2%7Cworkspace://SpacesStore/d6333a7e-6e52-44d0-9f78-9f22e48b3a81

Search Collections Dashboard Create New Folder Create Wizard Form Hello, Ian Whiting Sign Out Admin

Trac Insurance

Folder Properties

Claim Number 22312372  
Claimant Name David Giordano  
Policy Number 49266799  
Policy Year 2017

Actions

- View Properties
- Property Integrity Check
- View All Documents
- Generate Combined PDF
- Add Documents
- Send Email
- Folder Notes
- Export Folder

Related Objects

Folder Contents

- Archived
- Images
- Investigation
- Legal
- Loss
- Payment Related
- Receipts

Actions

Add Annotations

Timestamp 2.41 3.41

Min: 1 sec

Description Don't disclose personal info 0 / 256

Include Screenshot

Save Annotation Assign Priority Cancel

Annotations

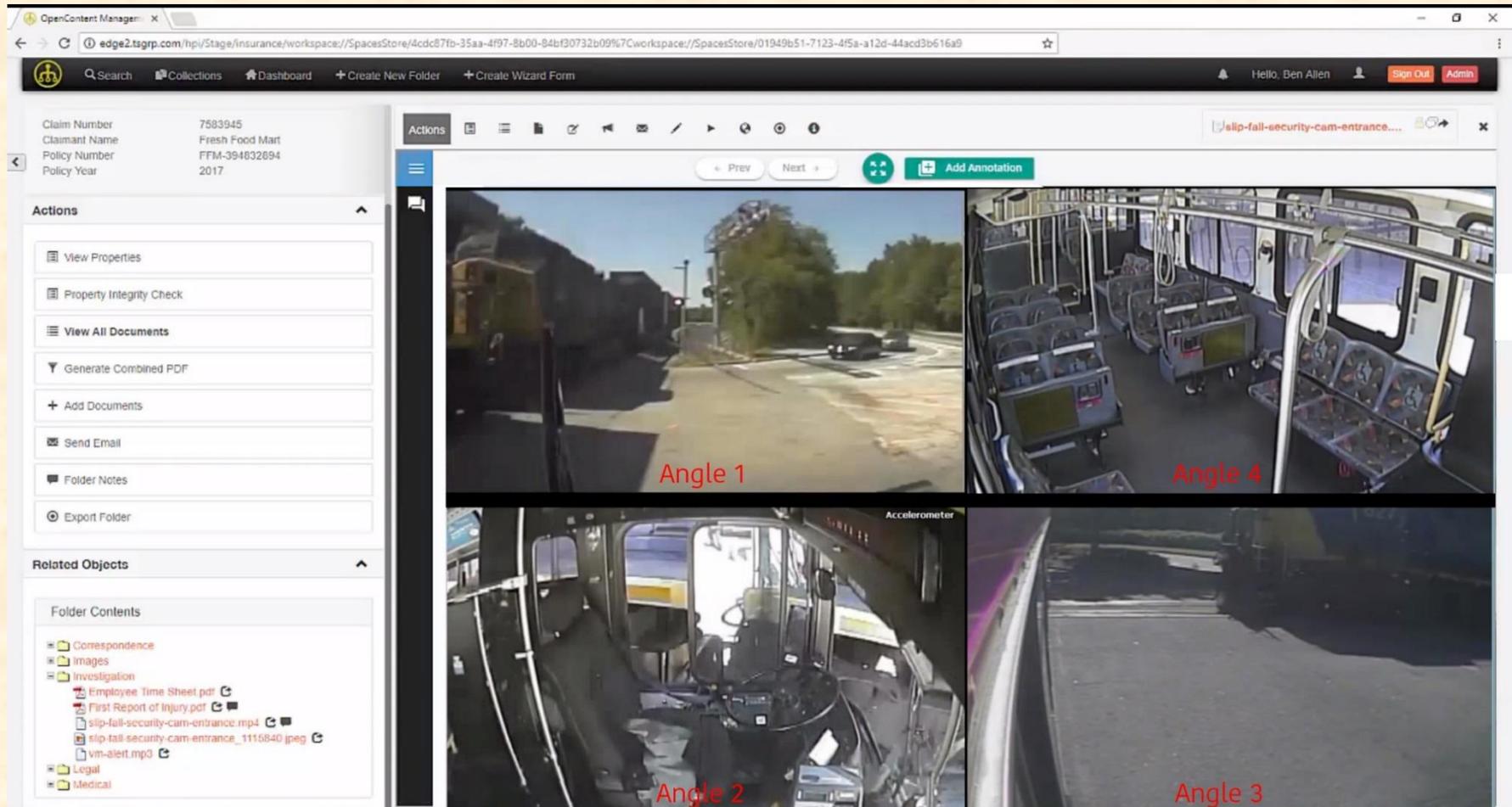
Assign Priority

VID\_20170504\_192020814.mp4

00:02 00:07 00:09



# Screen Mockup: Merged Video Default



# Screen Mockup: Merged Video Priority



# Technical Specifications

- **Add Video Action**

- Software Used: *OCMS, Google Maps API, OpenContent Web Services, S3 Bucket, DyanmoDB, Apache Solr*

- **Annotating Videos**

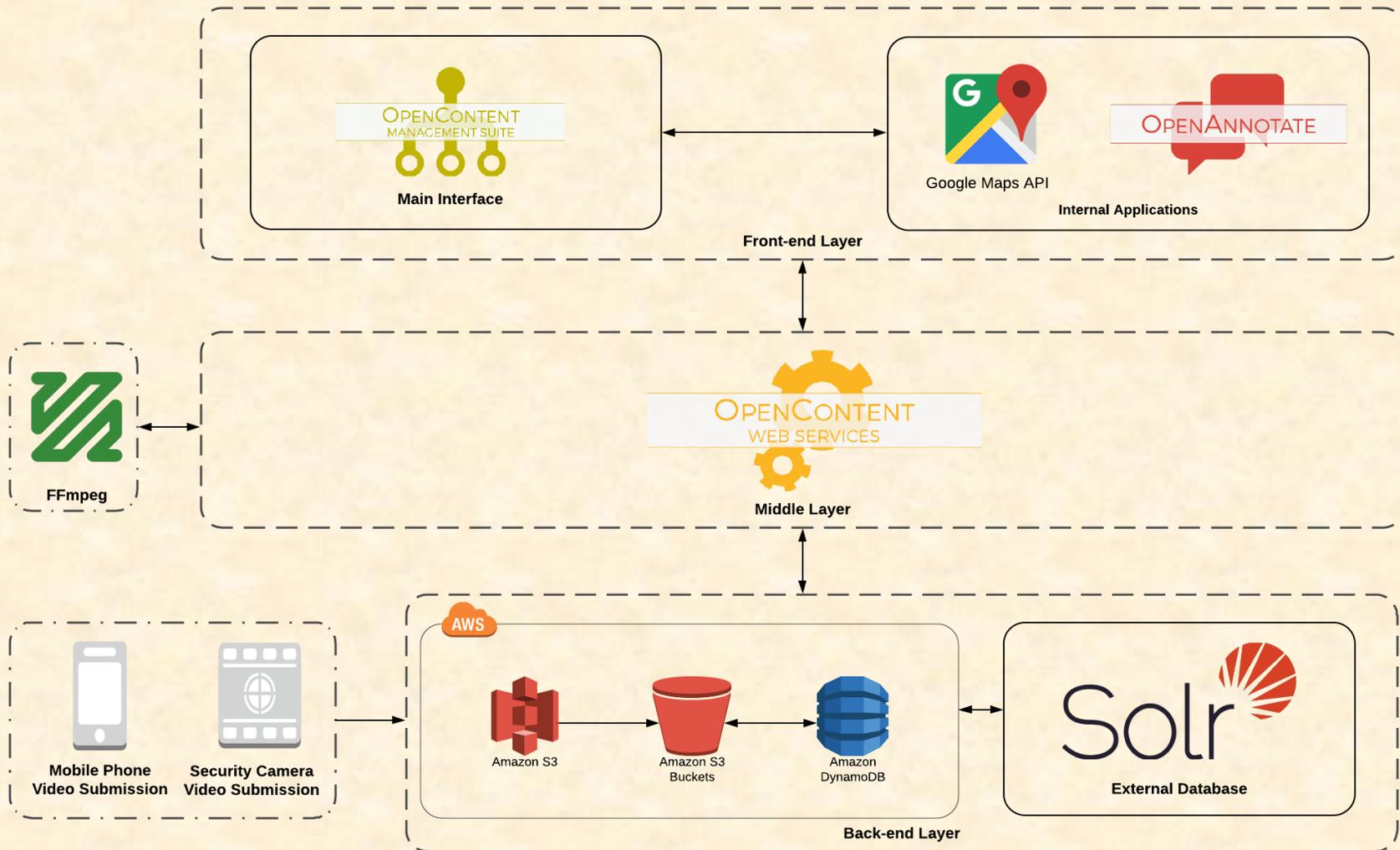
- Software Used: *OCMS, OA, OpenContent Web Services, DynamoDB, Apache Solr*

- **Merge Videos Action**

- Software Used: *OCMS, FFmpeg, OpenContent Web Services, S3 Bucket, DynamoDB, Apache Solr*

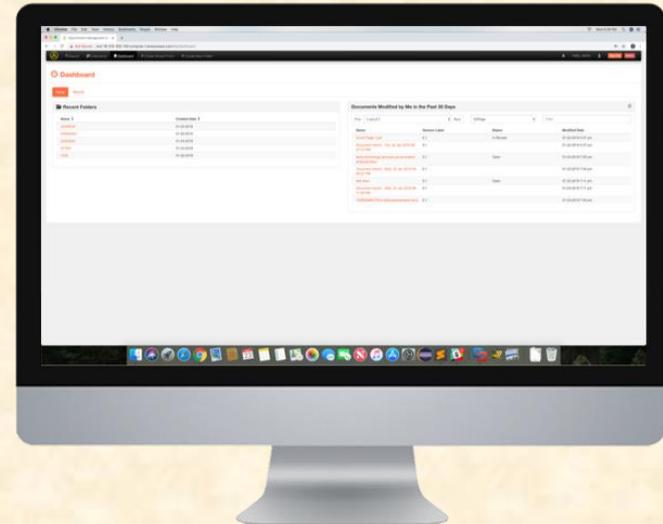


# System Architecture



# System Components

- Software Platforms / Technologies
  - TSG OCMS
  - TSG OpenAnnotate (OA)
  - TSG OpenContent Web Services
  - Amazon DynamoDB
  - Amazon S3 Buckets
  - Apache Solr
  - FFmpeg
  - Google Maps API



# Risks

- MSU Security Video
  - Unsure of the quantity of accessible footage or which specific cameras will be accessible for the team to use
  - Mitigation: Plan meeting with MSU's Chief Information Security Officer; if the dataset is insufficient, create mock security video footage with phone video
- Integrating into TSG's Environment
  - Integrating into TSG's existing architecture could be difficult because of newly added products like DynamoDB and OpenAnnotate Video
  - Mitigation: Constant communication with TSG, continually familiarizing with their codebase, and actively resolving issues with configuration between DynamoDB and OpenContent Web Services
- Linking Video Files to the Map View
  - Unsure how to retrieve the security video footage from the S3 bucket and pass it to an OCMS Folder
  - Mitigation: Tutorials on simple S3 bucket queries and studying similar S3 actions within OCMS
- Video Manipulation
  - Using FFmpeg to correctly handle video priority and video focus within a defined grid
  - Mitigation: Creating prototype using FFmpeg, can currently merge 4 videos into 1 with multiple different layouts



# Questions?

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