Project Plan
Multi-Video Case Management

The Capstone Experience
Team Technology Services Group

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Functional Specifications

• 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
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, DynamoDB, 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

**Front-end Layer**
- **Main Interface**
- **Google Maps API**
- **OpenAnnotate**

**Middle Layer**
- **OpenContent Web Services**
- **FFmpeg**
- **Mobile Phone Video Submission**
- **Security Camera Video Submission**

**Back-end Layer**
- **AWS**
  - **Amazon S3**
  - **Amazon S3 Buckets**
  - **Amazon DynamoDB**
- **Solr**
  - **External Database**
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?