MICHIGAN STATE
U N I V E R S I T Y

Project Plan
Video Summarizer

The Capstone Experience

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From Students…
…to Professionals

Functional Specifications

- People use videos as a major source for learning. However, videos are difficult to consume in short sittings or briefly.

- Taking long videos and pulling out the important information will allow users to save a considerable amount of time.

- Our Video Summarizer takes a user-submitted video and summarizes the video with thumbnails and text. Each thumbnail is clickable and plays the portion of the video that the thumbnail covers.

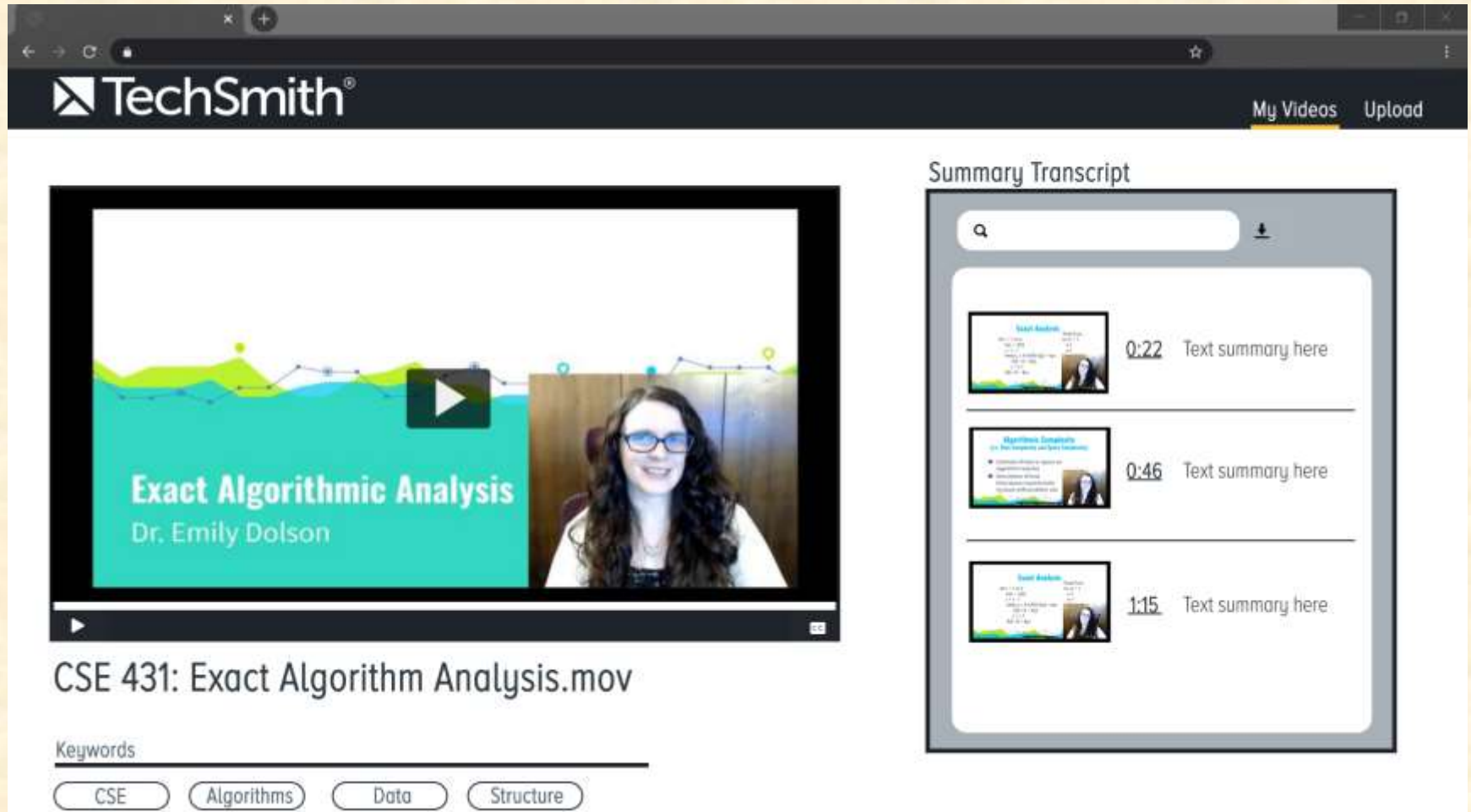- Users will be able to create accounts to access previously uploaded videos.
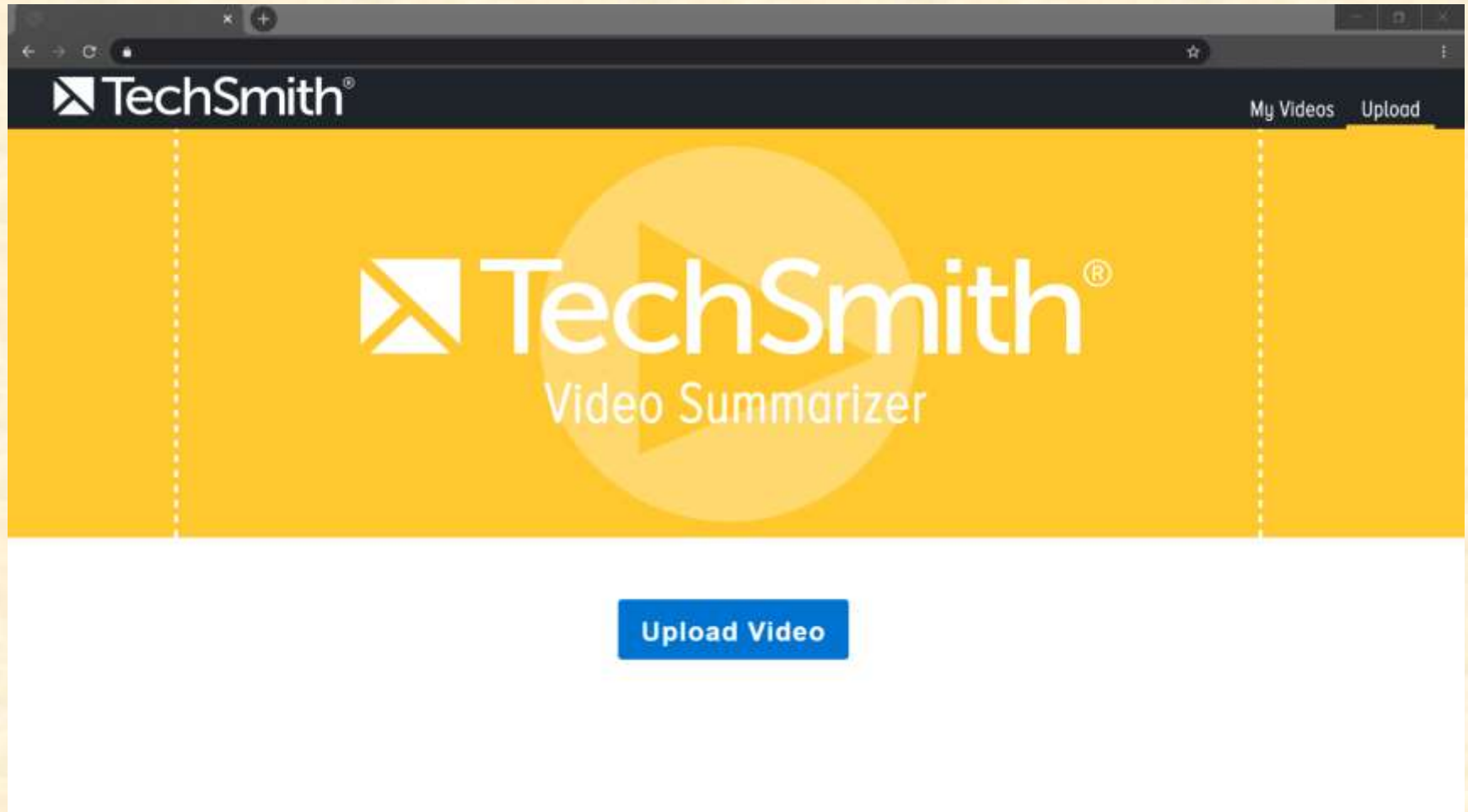
Design Specifications

- Web App

- User Authentication

- Video Validation & Conversion

- Audio to Text

- Summarization

- Segmentation

Screen Mockup: Basic UI

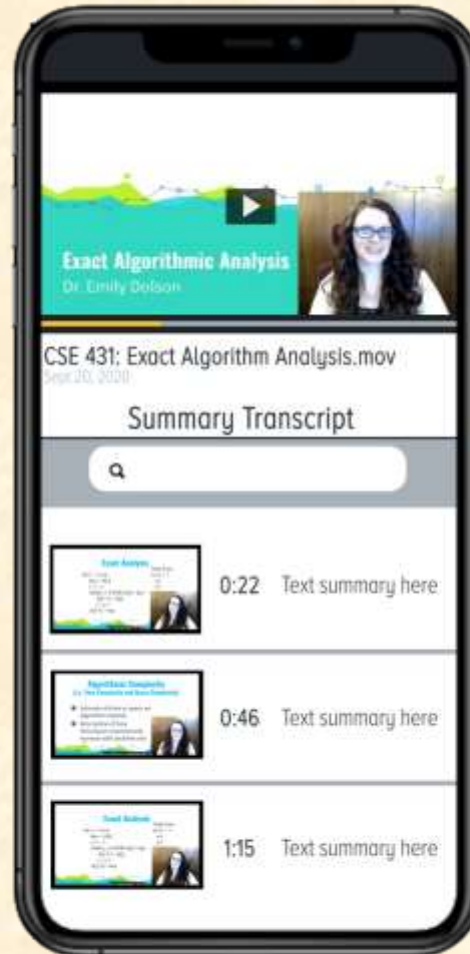# Screen Mockup: Upload Page

Screen Mockup: Root Video Page

Screen Mockup: Mobile Version

Technical Specifications
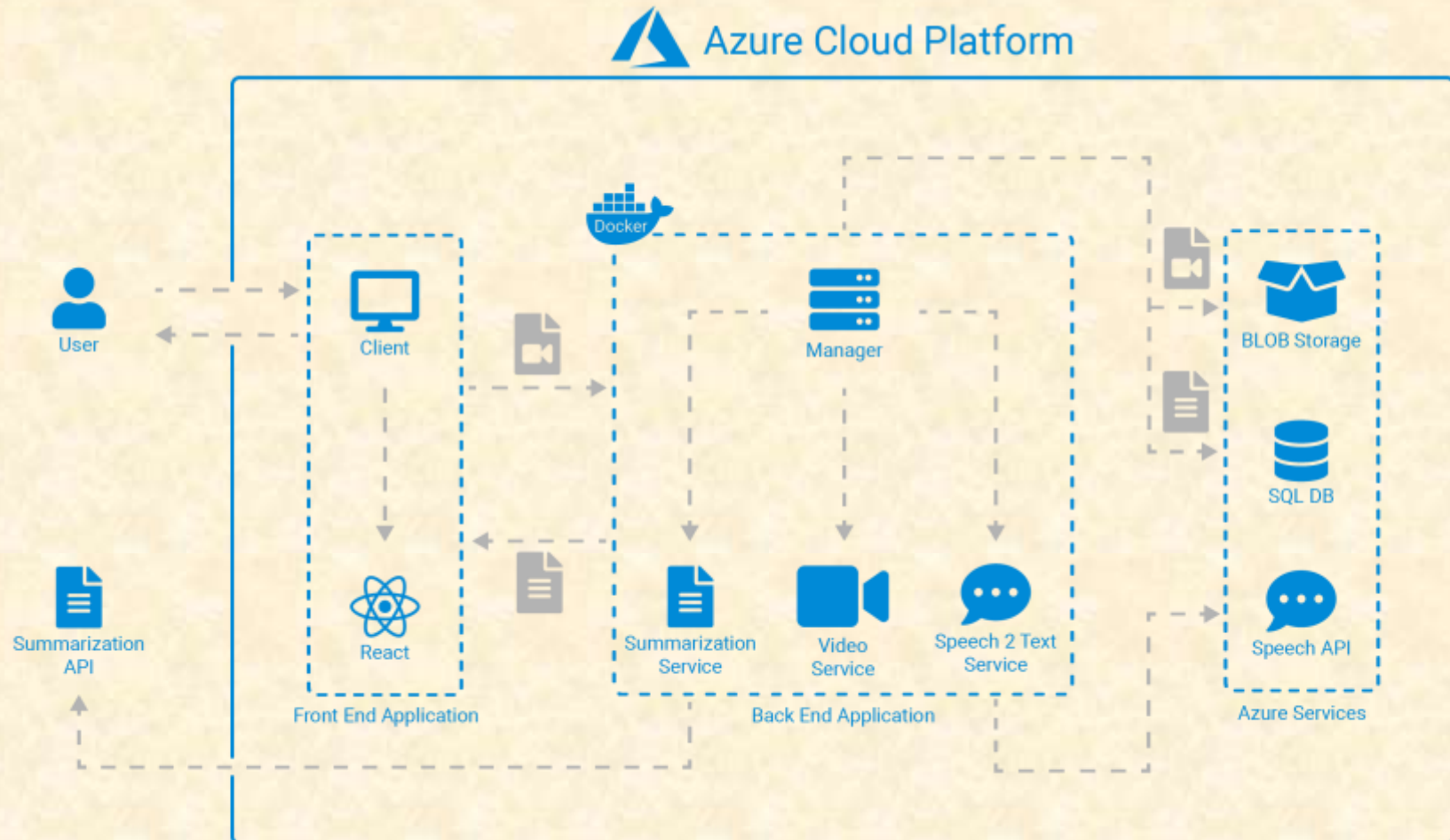
- Manager model
- RESTful API
  - Serve front-end
- Services
  - Video
  - Speech to Text
  - Text
- Relational Database

System Architecture

System Components

- Hardware Platforms
  - Web-based application
    - Browser support
    - Mobile / tablet support
- Software Platforms / Technologies
  - React.js
  - Microsoft Azure API's
    - Speech to text
    - Text Analytics
  - SMMRY API

System Components

- Software Platforms / Technologies
  - C# / .NET Core
  - FFmpeg
  - Docker Containers
  - SQL Database
  - BLOB Storage
  - GitHub for version control

Risks

- Risk 1
  - Video Segmentation / Summarization
  - Spent a lot of time researching and figuring out how these APIs work.
  - Using SMMRY for summarization and Segmentation
  - Status: Mitigated
- Risk 2
  - Speech to Text
  - Speech to Text APIs do not allow for videos.
  - Convert videos to audio files and then get transcript of audio that way
  - Status: Mitigated
- Risk 3
  - User Accounts
  - Adding user accounts as a stretch goal will alter our design, so we need to add this early into the design process.
  - Already have a place to work this into our design process but has not been implemented yet.
  - Status: Ongoing

Questions?