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

Project Plan
Smart Automatic Video Creation

The Capstone Experience

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From Students…
…to Professionals

Functional Specifications

- Auto-Generate videos based on scripts.

- Using a web application to manage users and projects.

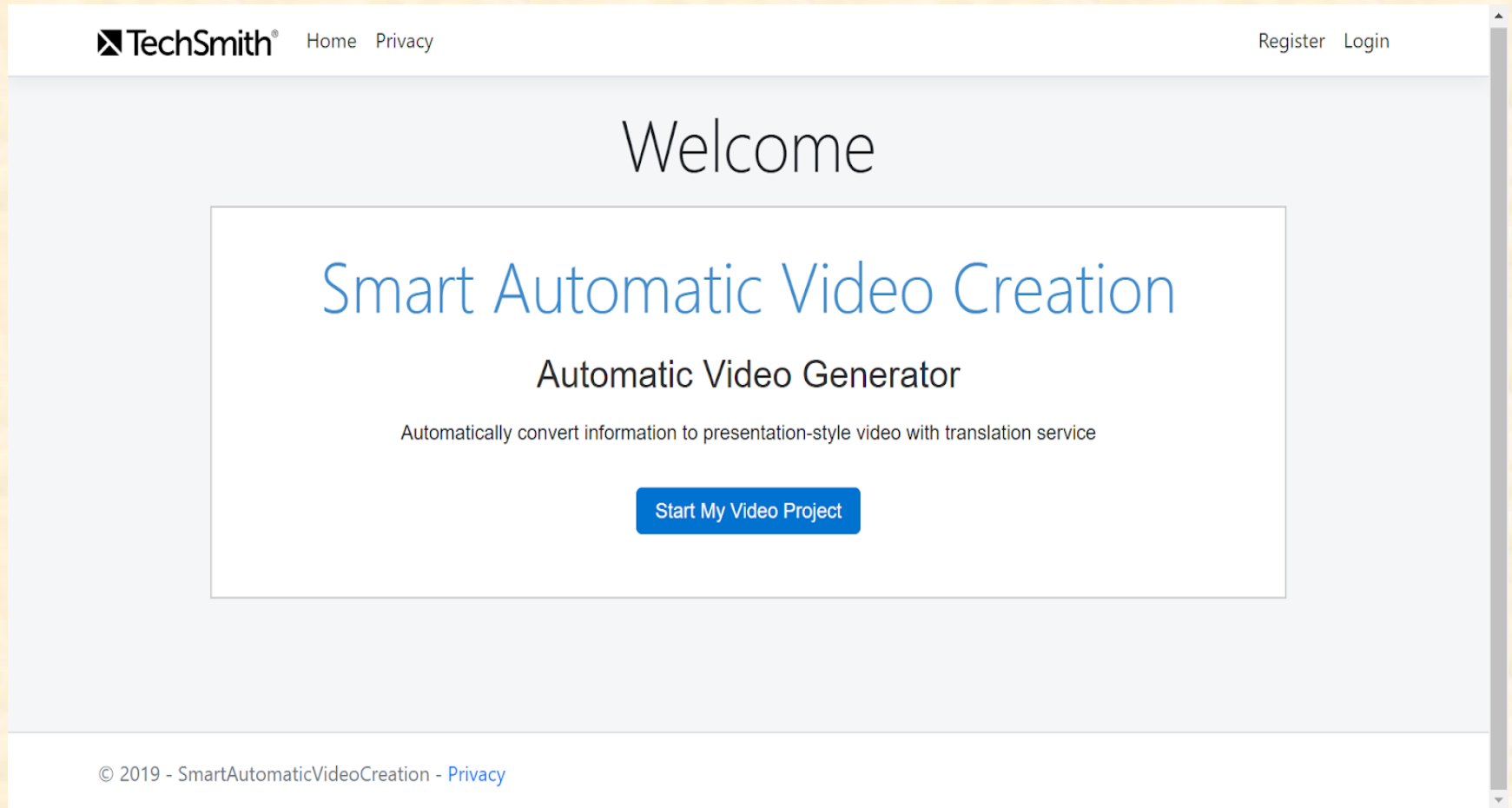- Uses a translation service to work for multiple languages.

Design Specifications

- Consistent with TechSmith's branding and color standards.

- Display and edit the text summary and keywords generated from the input text.

- Simple interface to quickly create, manage, and edit projects.
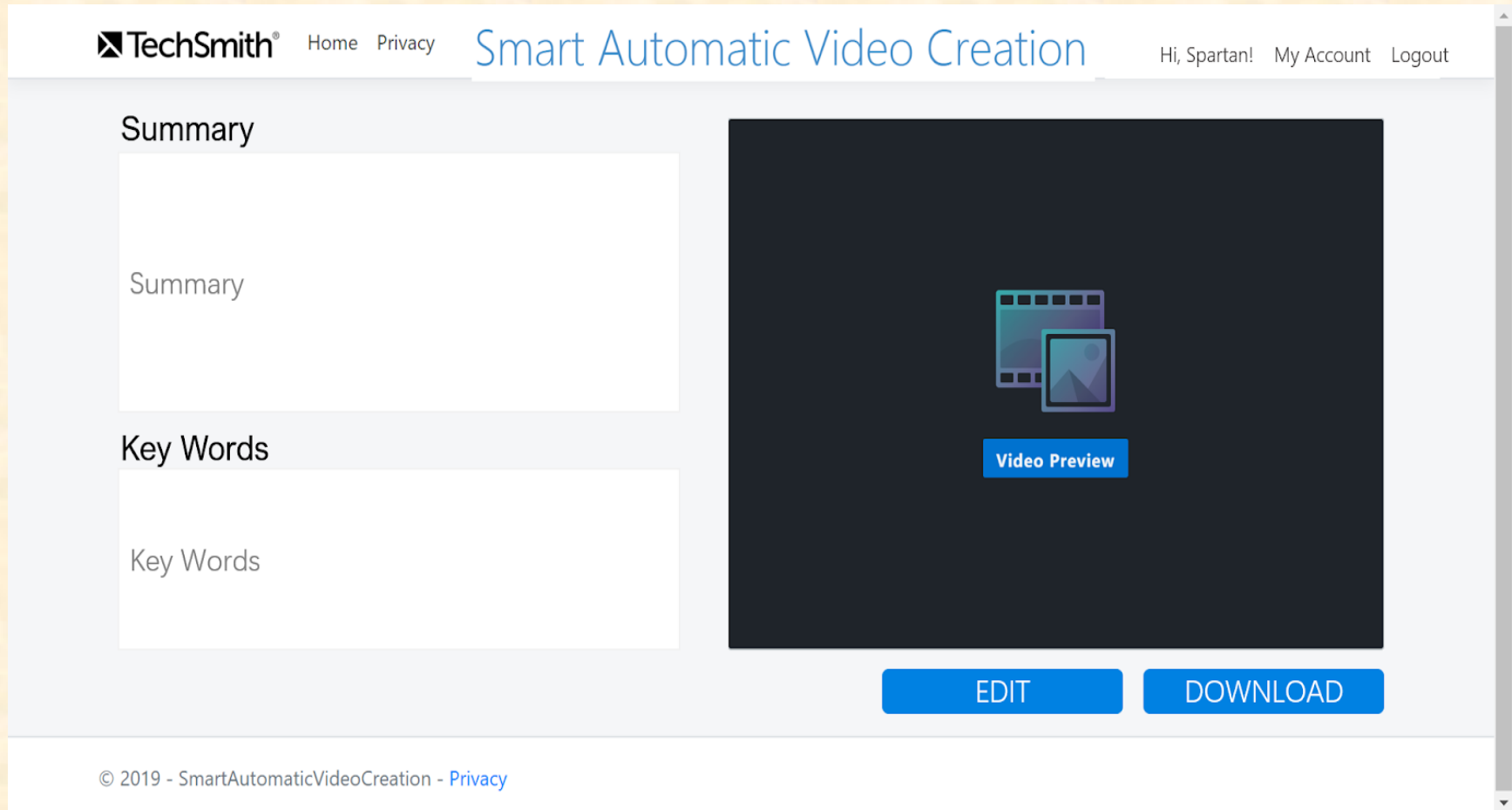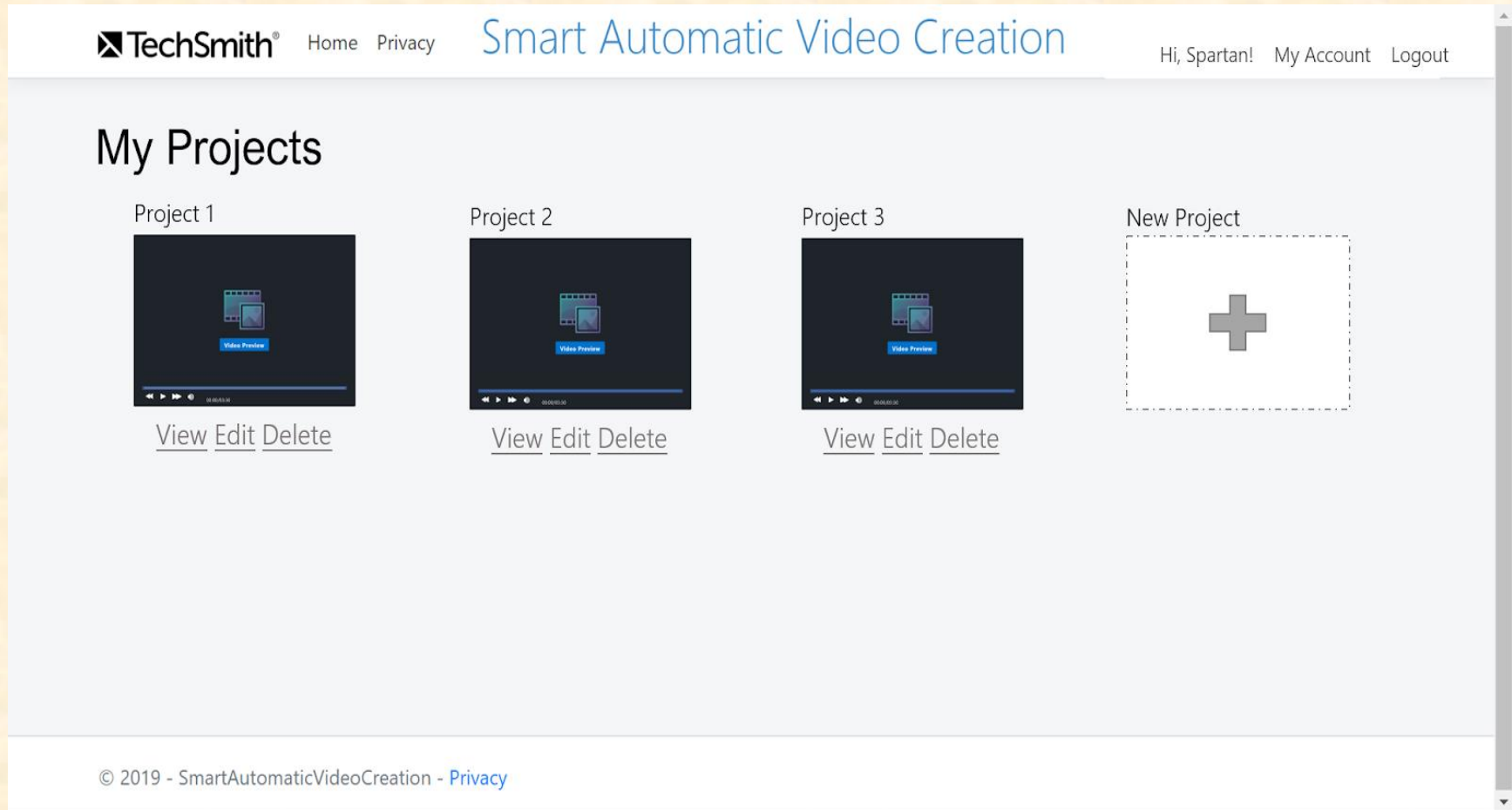
Screen Mockup: Main Page

Screen Mockup: Text Input Page

Screen Mockup: Video Review Page

Screen Mockup: Projects Page

Technical Specifications

- ReactJS and Bootstrap front end.

- C# with .NET Core API for web application.

- NodeJS with FFmpeg video render engine.

- Various external APIs for text analytics and asset gathering.

System Architecture
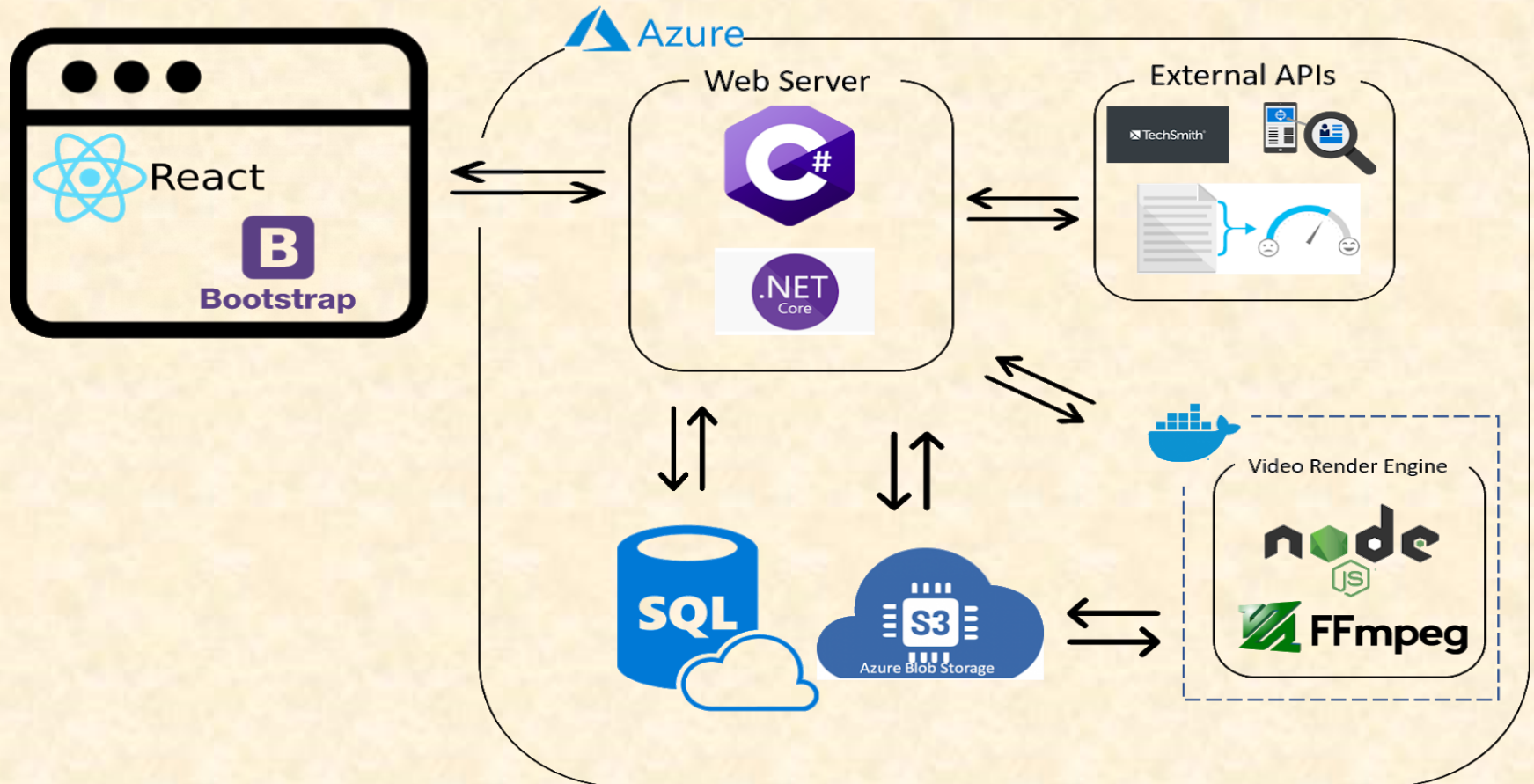
System Components

- Hardware Platforms
  - Microsoft Azure
  - Docker
  - Azure SQL Database
- Software Platforms / Technologies
  - C#/.Net Core
  - ReactJS/Bootstrap
  - FFmpeg
  - Azure Storage
  - External APIs
    - TechSmith Assets
    - Bing Entity Search
    - Microsoft Text Analytics

Risks

- Copyright Issues
  - Some assets that our program will search for may contain copyrighted material that we cannot include in our videos, such as company logos or copyrighted music.
  - We will choose a collection of assets that does not include copyrighted material to use in our program or include specifications that ignores assets that violate this requirement.
- Different Types of Scripts
  - Scripts can be in many different forms, such as news articles, education papers, or even things like poetry.
  - Experiment with different APIs to see which one works best with all types of script compilations.
- Matching Music to Sentiment
  - We want to find music for the videos that matches the sentiment of the given script.
  - We will try to use a collection of music that can be narrowed down by searching for the mood of the music.
- Text Analysis in Other Languages
  - We need to be able to analyze the sentiment of the given text in order to add fitting music to the final video.
  - We are going to explore different options for text analyzing APIs and determine which one works best for different languages.

Questions?