

MICHIGAN STATE
UNIVERSITY

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.

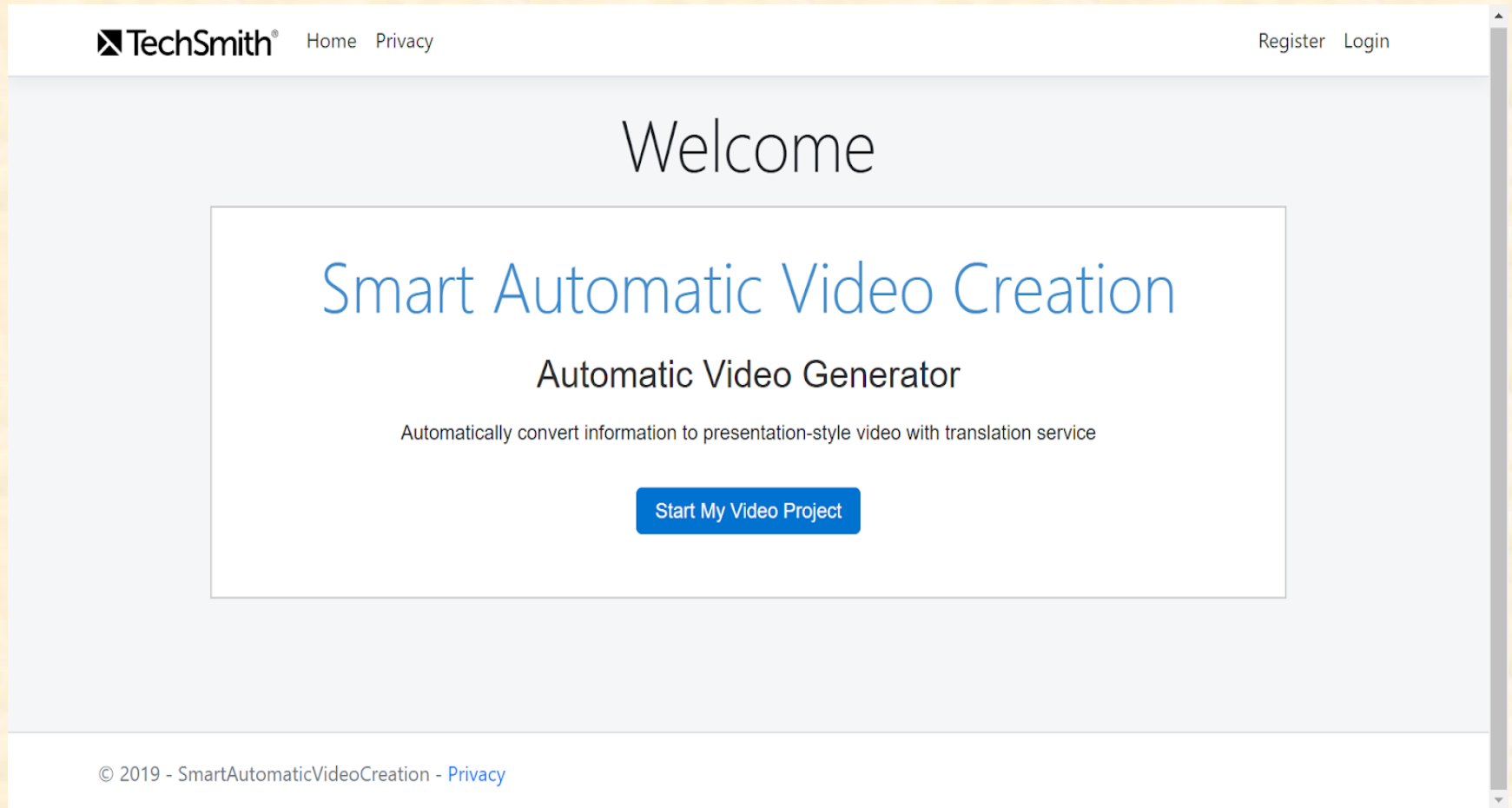


Design Specifications

- 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

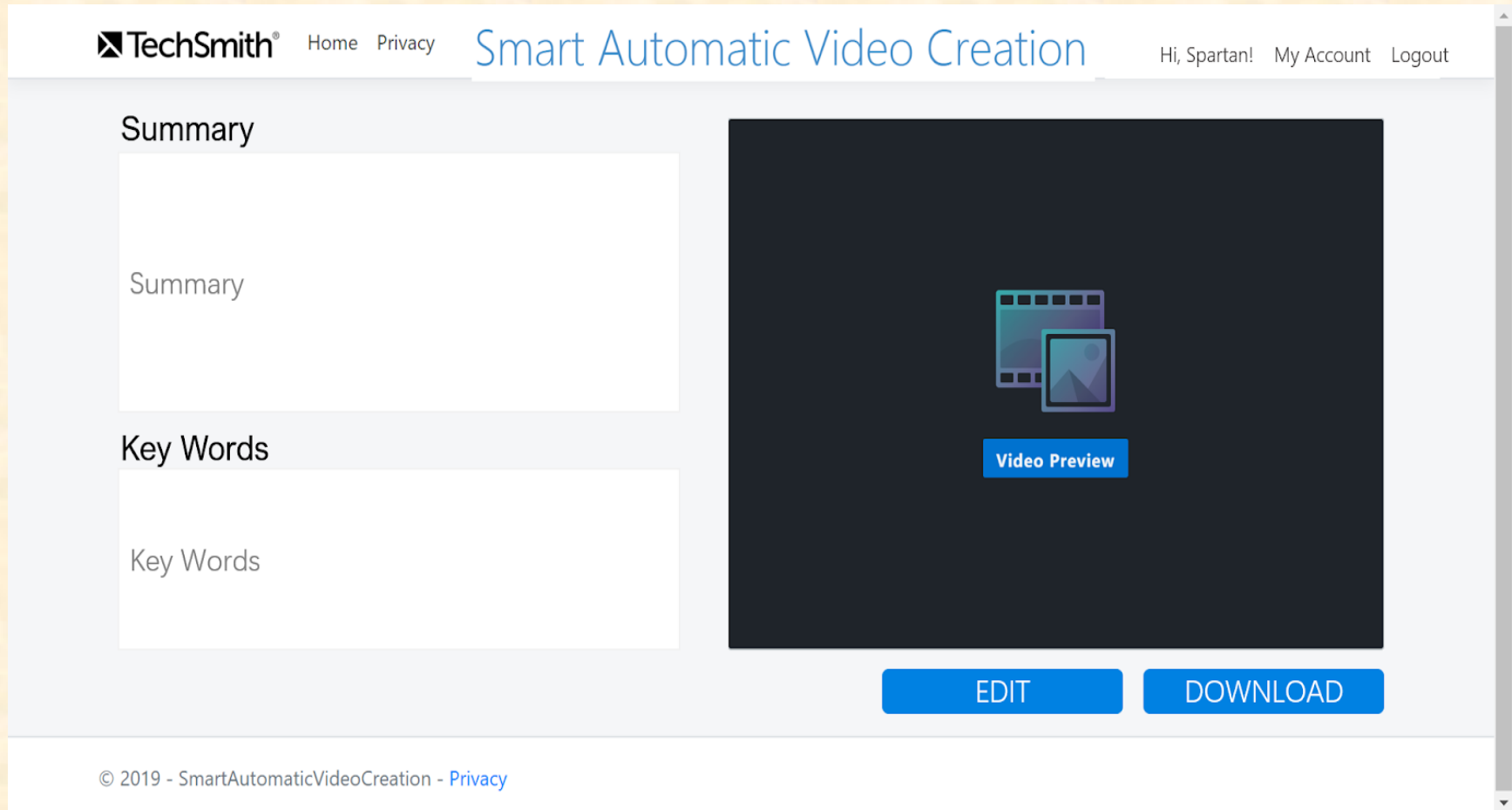


Screen Mockup: Text Input Page

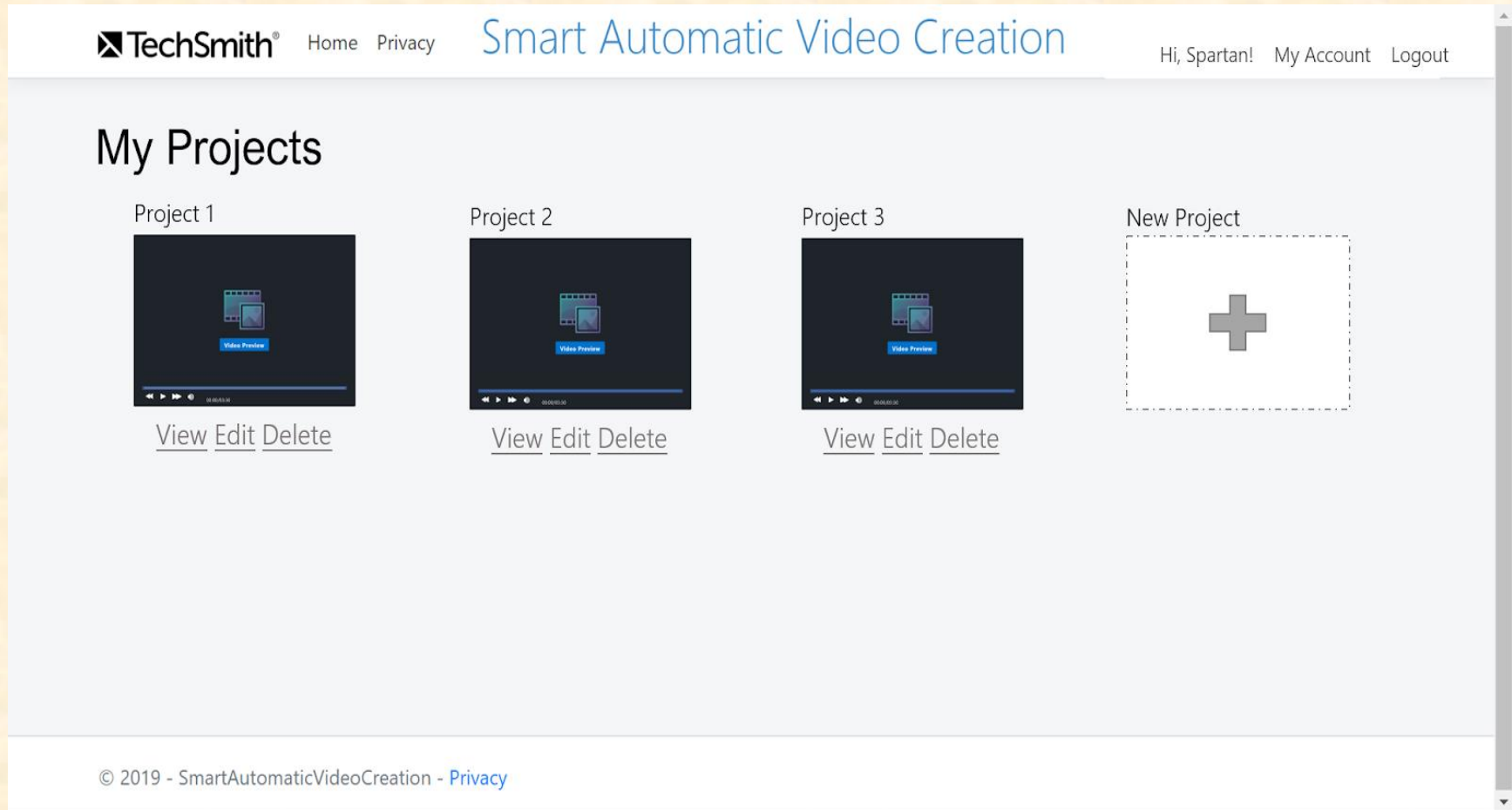
The screen mockup shows a web interface for a video creation tool. At the top left is the TechSmith logo, followed by links for Home and Privacy. The main title is "Smart Automatic Video Creation". On the top right, there is a user greeting "Hi, Spartan!", a link for "My Account", and a "Logout" button. Below the header, there is a language selection section with a dropdown menu set to "English", a double-headed arrow, and another dropdown menu labeled "Select". To the right of these is a blue "TRANSLATE" button. The main content area is split into two columns. The left column contains a large white text input field with the placeholder text "Input your article, script, or outlines here". The right column is a greyed-out area with the placeholder text "Translation". At the bottom of the main content area, there is a "Project Name" input field and a blue "SUBMIT" button. The footer contains the copyright notice "© 2019 - SmartAutomaticVideoCreation - Privacy".



Screen Mockup: Video Review Page



Screen Mockup: Projects Page

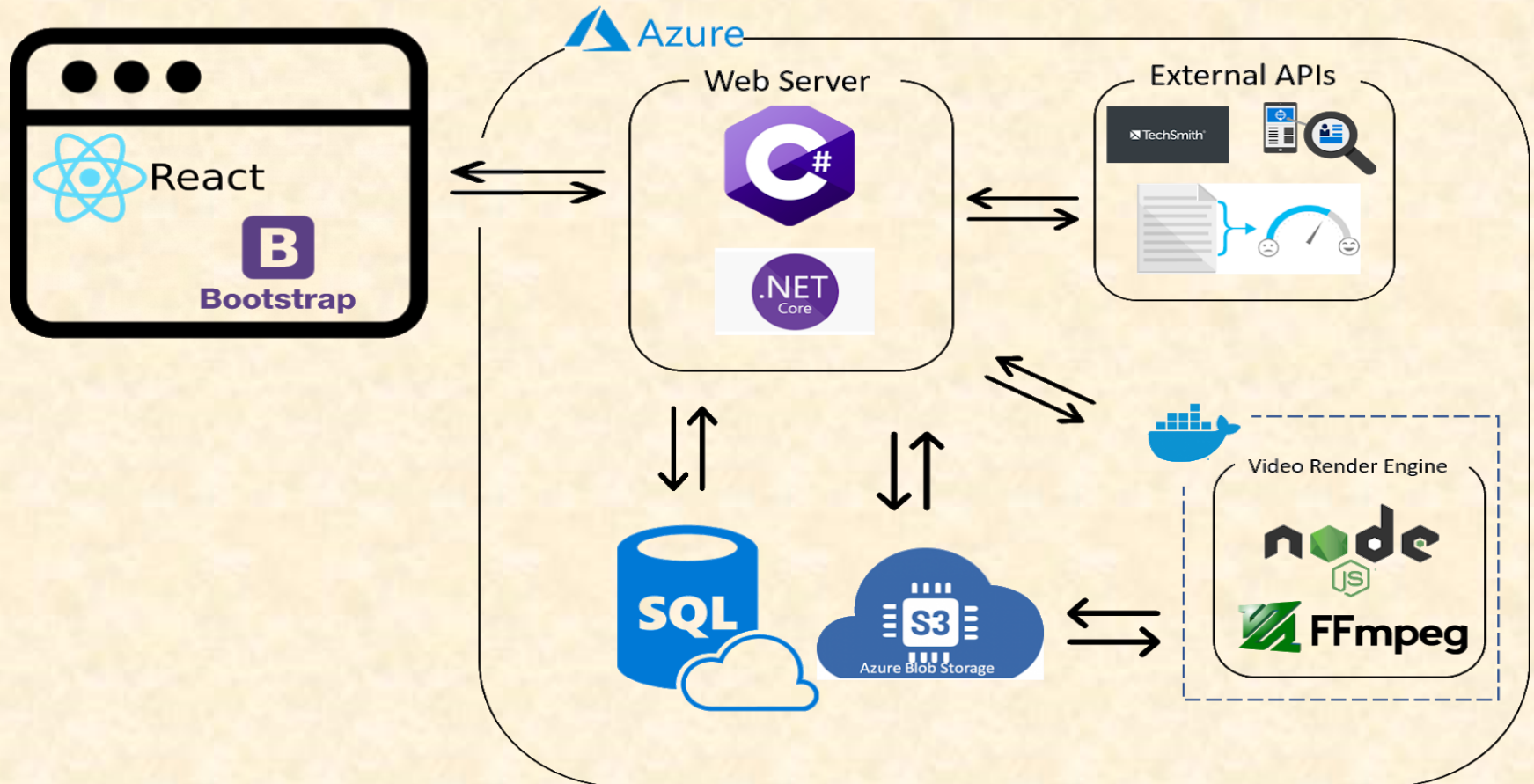


Technical Specifications

- 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?

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