MICHIGAN STATE UNIVERSITY

Project Plan Presentation

Insight Weaver AI

The Capstone Experience

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From Students…
…to Professionals

Project Sponsor Overview

- Founded in 1987 in Okemos, MI
- Software trusted by 100% of F500
- Used by over 70 million people across over 190 countries

Project Functional Specifications

- Goal: Make video editing easy for users with little to no skill or knowledge.
- Utilize AI Agents to create cohesive videos from user uploaded content.
- Users will receive 3 cohesive videos with different narrative lenses and pick one.
- Users will refine their video using AI chat until their creation is perfected.

Project Design Specifications

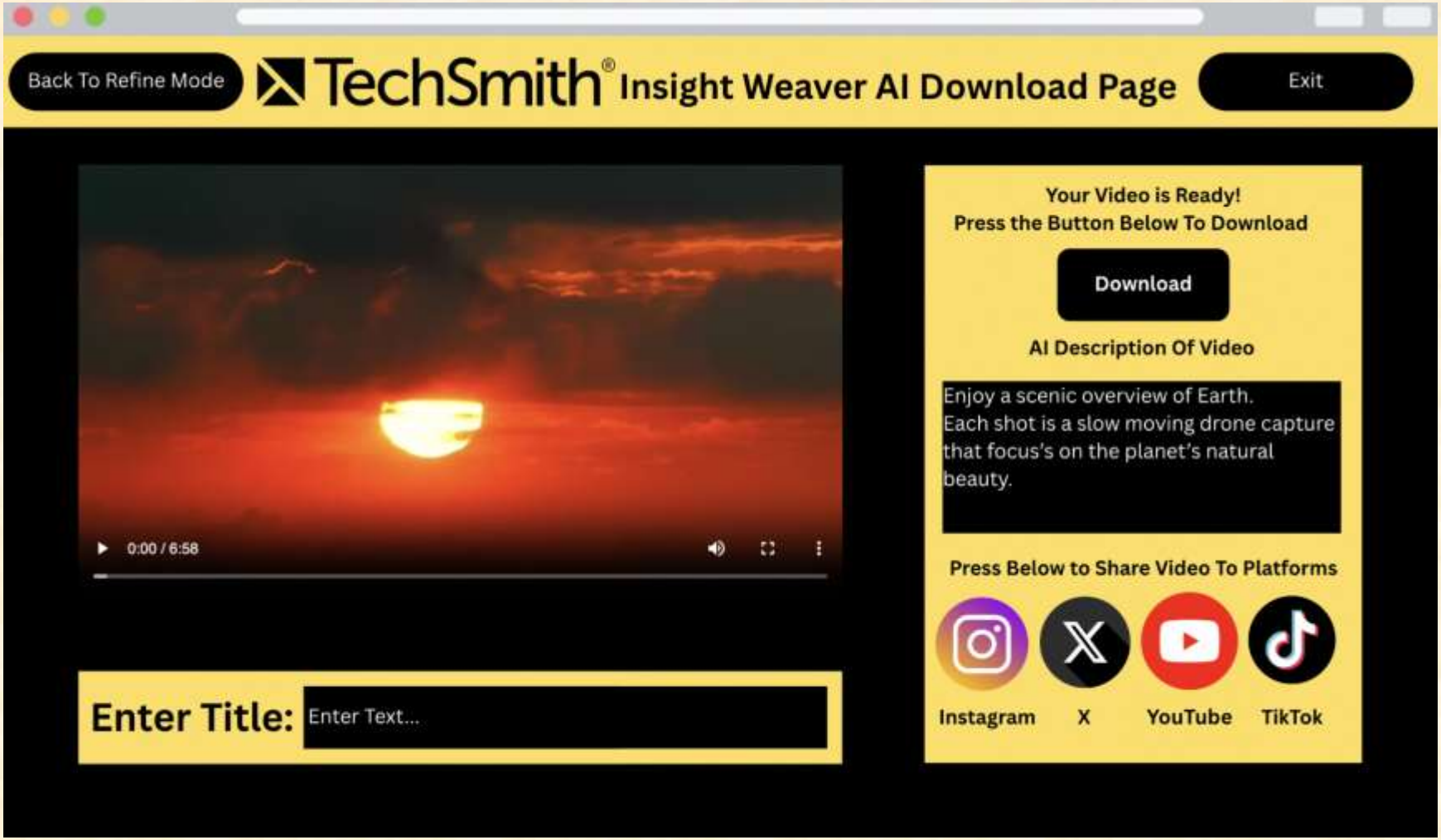
- Upload Page: User uploads videos from their device that they want to be edited together.
- Preview Page: AI generates three different edited videos with descriptions for users to select.
- Refine Page: User can communicate with Agentic AI to further modify chosen generated video.
- Download Page: User can title and download video to device, as well as share it to other platforms.

Screen Mockup: Upload Page

Screen Mockup: Preview Page

Screen Mockup: Refine Page

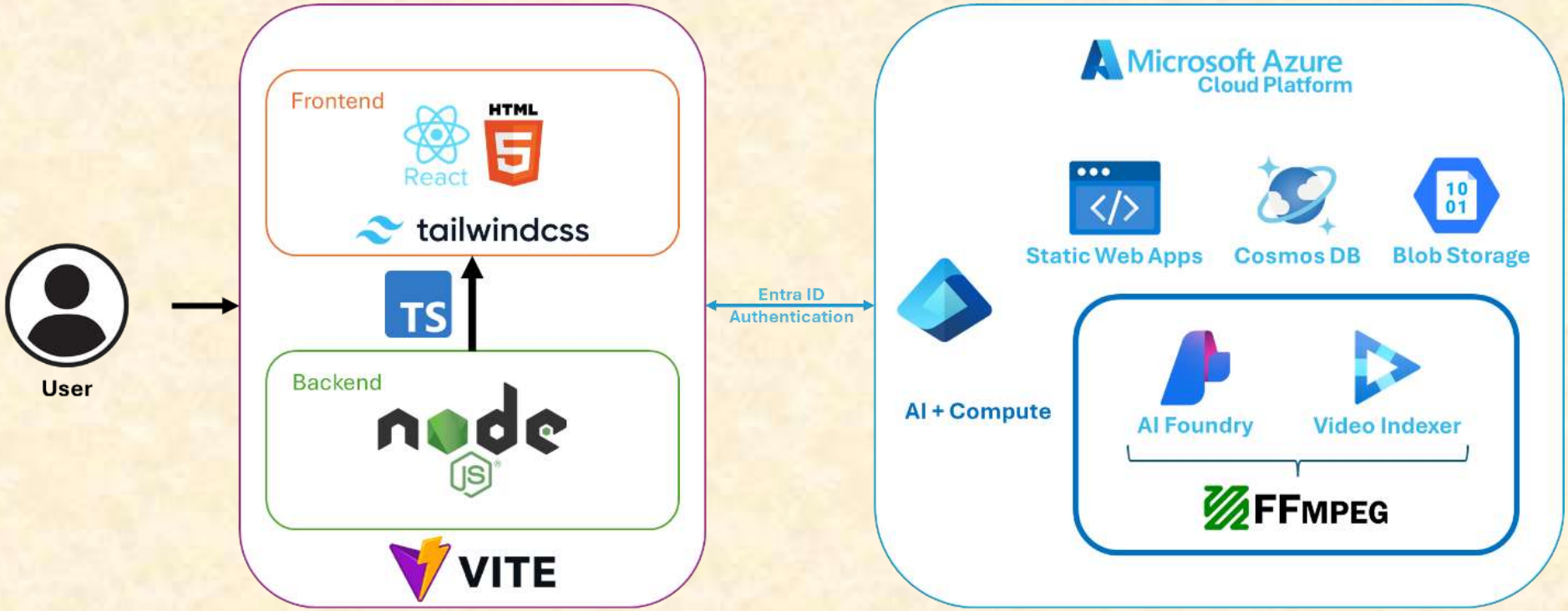
Screen Mockup: Download Page



Project Technical Specifications

- **Frontend:** React, TypeScript, HTML, TailwindCSS, Vite
- **Backend**: TypeScript with Node.js
- **Server/Cloud**: Microsoft Azure
- **Media Processing**: FFmpeg
- **Workflow**:
  - Frontend → Backend (API, Node.js/TS) → Azure Services (compute, FFmpeg, AI models, storage)
  - Real-time communication for uploads & processing
  - AI-driven video generation and editing

Project System Architecture



Project System Components

- **Software Platforms / Technologies**
  - *Front-end*: React, TypeScript, TailwindCSS, Vite
  - *Back-end*: Node.js (TypeScript)
  - *Media Processing*: FFmpeg (video/audio manipulation, transcoding, frame extraction)
  - *Cloud Services*: Microsoft Azure (deployment, Blob Storage, authentication, AI model hosting)
  - *Development Tools*: Visual Studio Code, GitHub (version control, CI/CD, issue tracking)

Project Risks

- AI Data Consumption
  - Data must be formatted for AI ingestion from video indexer
  - Experiment with prompt engineering; find optimal format
- Microsoft Azure
  - Used in nearly every part of project: storage, AI, hosting, etc
  - Quickly setup Azure project, read documentation
- Multiple Operating Systems and File Formats
  - Project must work on all major OS. Several video formats
  - Rapidly develop MVP that works on phone and iMac/Windows
- Quality AI Output
  - AI must be able to create cohesive and well-structured videos
  - Validate AI output with rating system. Watch AI output thoroughly in testing to make sure each video looks as expected.

Questions?