MICHIGAN STATE UNIVERSITY

Project Plan Presentation

Video Insight & Knowledge Interface (VIKI)

The Capstone Experience

Team TechSmith

Samuel Blashill
Brandon Hwang
Tyler McDonald
Prajeeth Naliganti
Sania Sinha
Andrew Strominger

Department of Computer Science and Engineering
Michigan State University

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From Students…
…to Professionals

Project Sponsor Overview

- TechSmith was cofounded in 1987 by William Hamilton
- Released Snagit in 1990 to improve the way information was shared digitally
- With release of Camtasia has been industry leader in the screen capture and editing fields
- Now has over 65 million users across over 222 different countries and territories

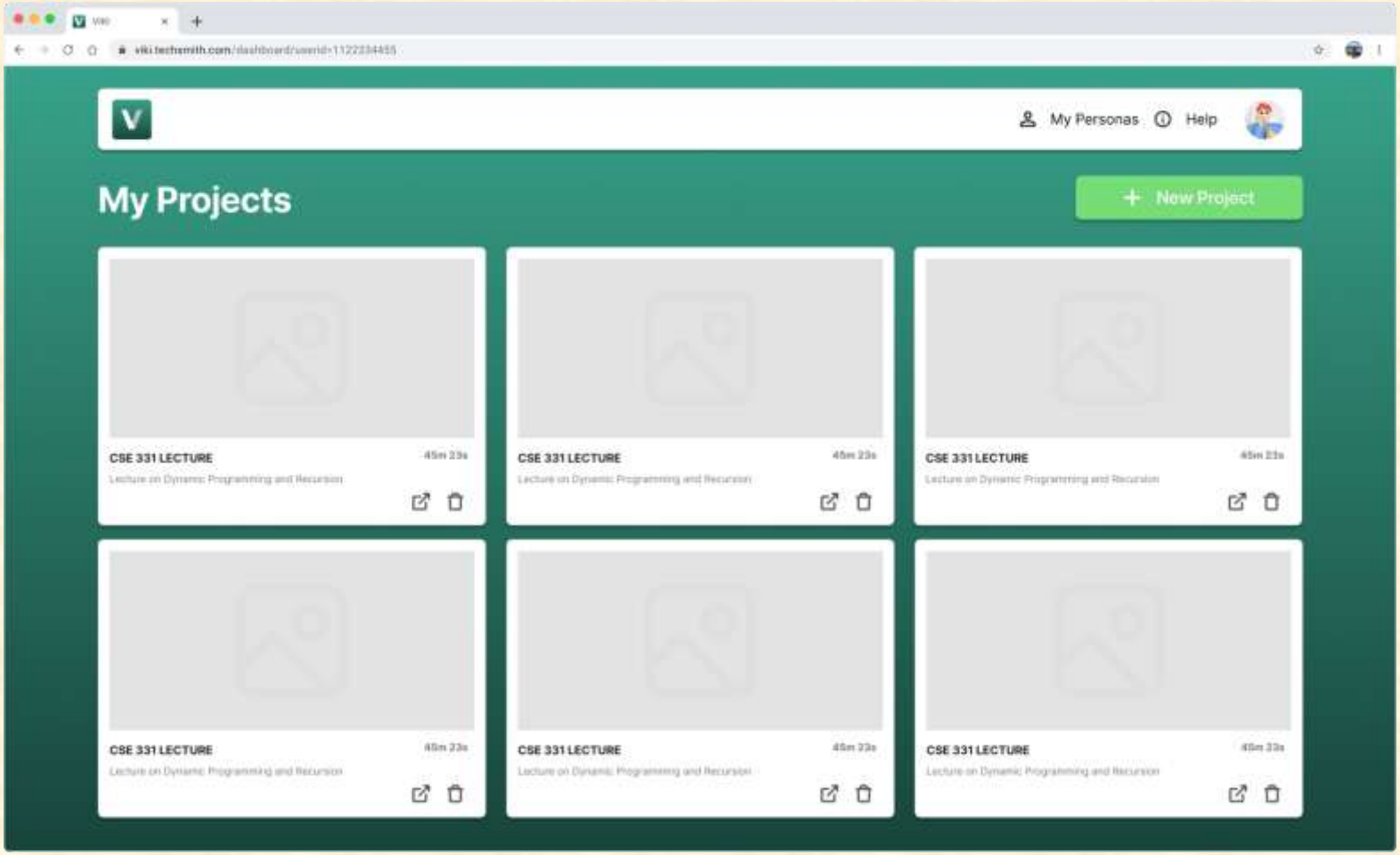
Project Functional Specifications

- VIKI aims to help video creators receive tailored feedback based on their target audience
- Scans uploaded video and provides feedback with an engagement score, based on a chosen AI persona
- Provides analysis at key points throughout the video based on multiple metrics such as tone, clarity, etc.
- Allows users to enhance video quality by optimizing content for their purpose such as education materials or entertainment productions

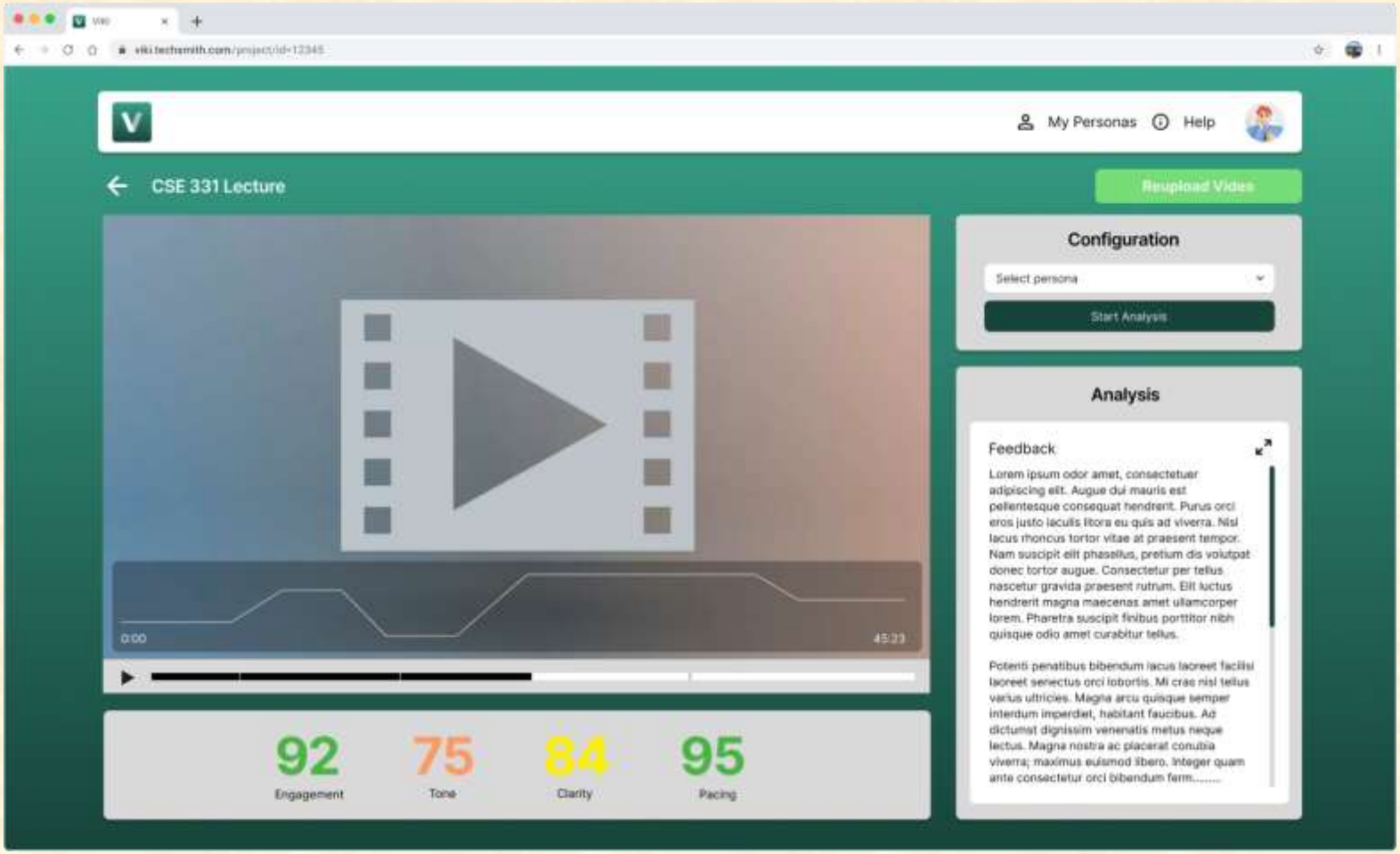
Project Design Specifications

- Simple & sleek web UI
- Three main components
  - Dashboard: View & manage all projects
  - Project Analysis: View video, select your persona, generate analysis and metrics
  - Persona Management: View all personas, create custom ones
- Branding mimics other TechSmith products w/ Spartan Green & white color scheme

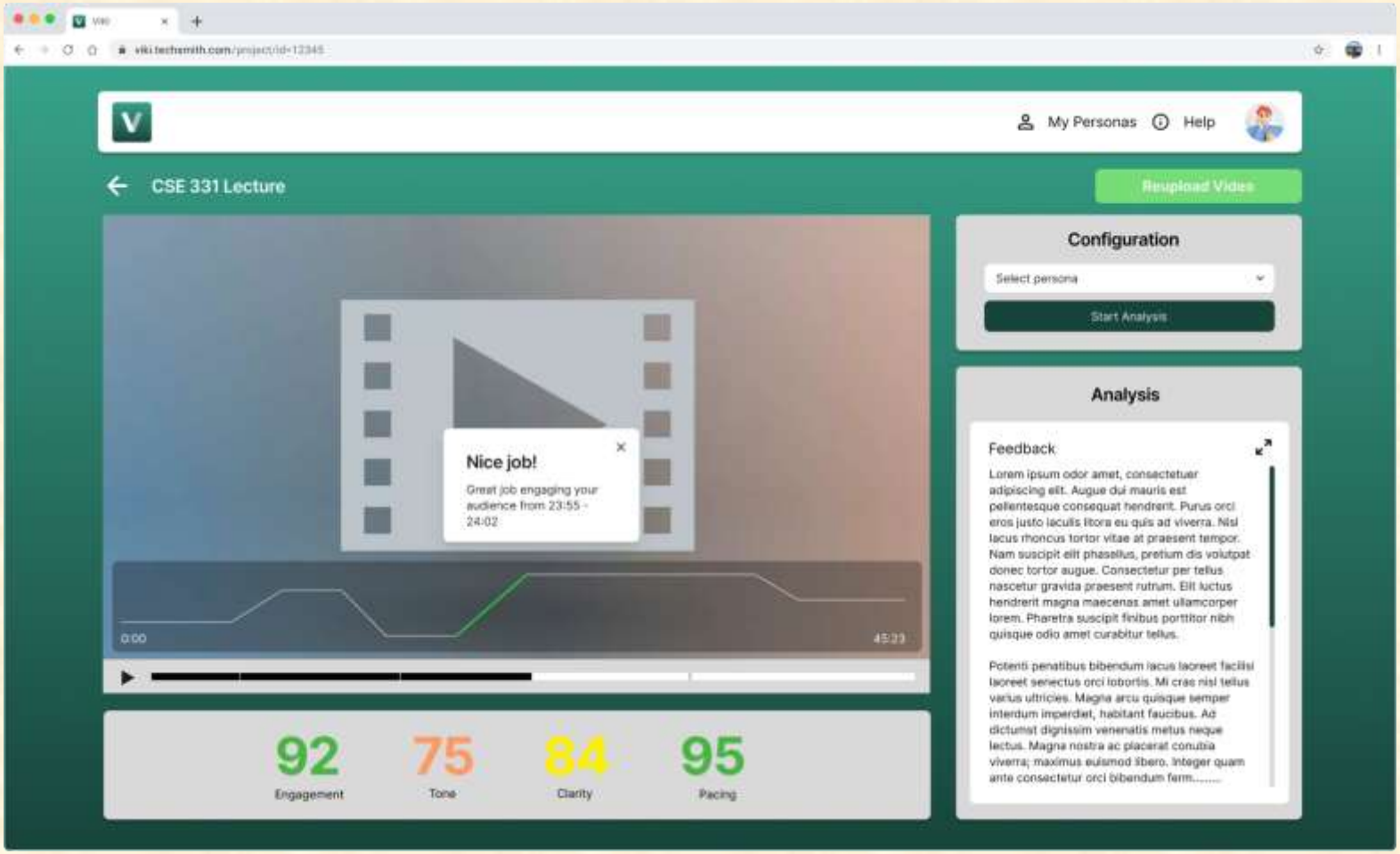
Screen Mockup: Dashboard



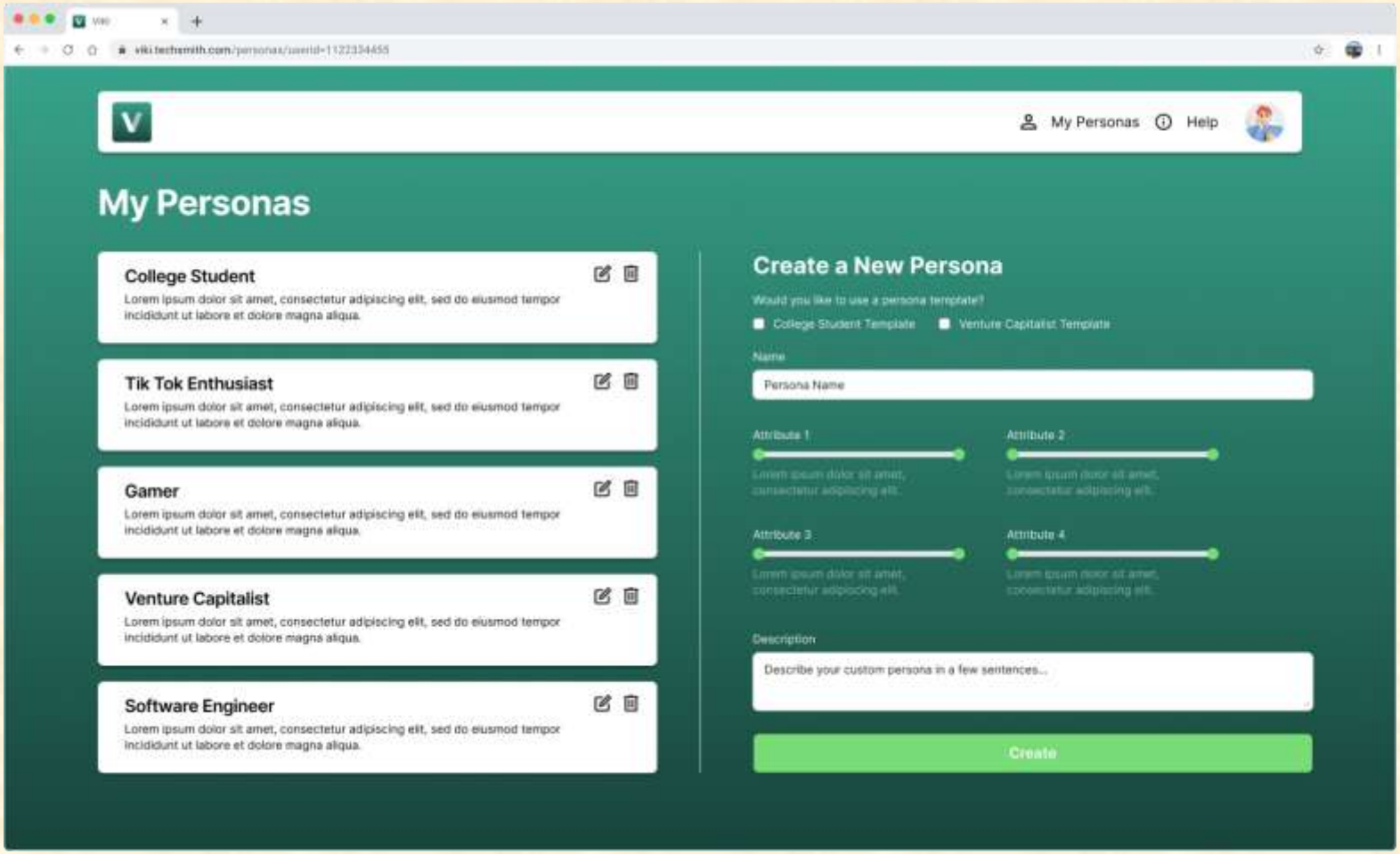
Screen Mockup: Project Analysis



Screen Mockup: Project Analysis 2



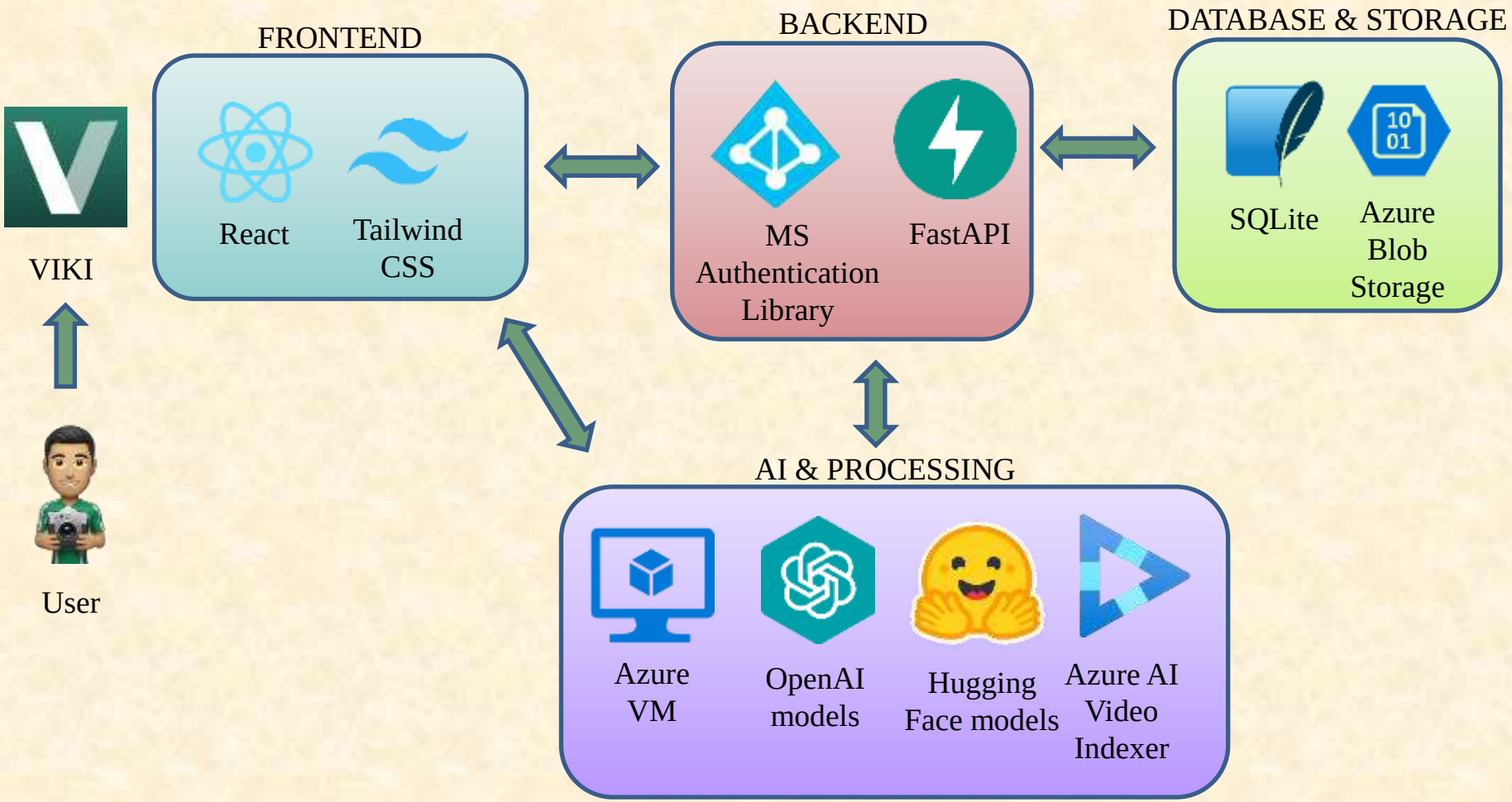
Screen Mockup: Persona Management



Project Technical Specifications

- Frontend
  - React
  - Tailwind CSS
- Backend:
  - FastAPI
  - SQLite
  - Azure Blob Storage
- AI
  - Azure AI Video Indexer
  - OpenAI API
  - Azure VM
  - Hugging Face API

Project System Architecture



Project System Components

- Software Platforms / Technologies
  - FastAPI
  - SQLite
  - Azure Blob Storage
  - Azure AI Video Indexer
  - Azure VM
  - FFMPEG
  - WhisperX
  - OpenAI API
  - Hugging Face API

Project Risks

- Testing Effectiveness of AI Insights
  - Testing AI insights on video quality is a subjective evaluation with no standard precedents to rely on.
  - Mitigation: Ample user testing and inclusion of multiple video quality metrics to ensure robustness
- Latency with computations on large videos
  - Large videos take up immense computational resources and can lead to lag in performance with reduced user experience.
  - Mitigation: Doing latency tests to analyze and decide on optimum use of host versus cloud resources.
- Video & timeline front-end integration
  - Along with allowing the user to playback their video, we want to have a fully interactive video timeline that allows the user to move through their video frame-by-frame so they can view specific feedback at given timestamps throughout the video
  - Mitigation: Deep die into the online collection of React libraries to find the best package (or combination of packages) to upload, render, and play videos. May also need to do additional research into external APIs for certain parts of this process
- Video encryption & storage
  - Large videos may be costly to store in Azure, especially considering our client-mandated budget.
  - Mitigation: Try to find a way to compress the videos when they are uploaded and monitor costs to prevent exceeding budget. Also, use some sort of tool to encrypt the video file before storing them.

Questions?