

MICHIGAN STATE
UNIVERSITY

Project Plan Presentation

Public Opinions on Nuclear Energy from Social Media

The Capstone Experience

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*From Students...
...to Professionals*

Project Sponsor Overview

- Anthropocene Institute is a climate-centered think tank
- Looks to find solutions to the modern climate crisis
- Works with entrepreneurs, investors, and institutions around the world

Anthropocene Institute



Project Functional Specifications

- Public division and misinformation regarding nuclear energy present challenge to Anthropocene Institute
- Gather data on nuclear energy public opinion
- Provide insight into the underlying causes for the public's view on nuclear energy
- Create a web application to display results
- Allow Anthropocene Institute to better educate the public on nuclear energy and champion its use

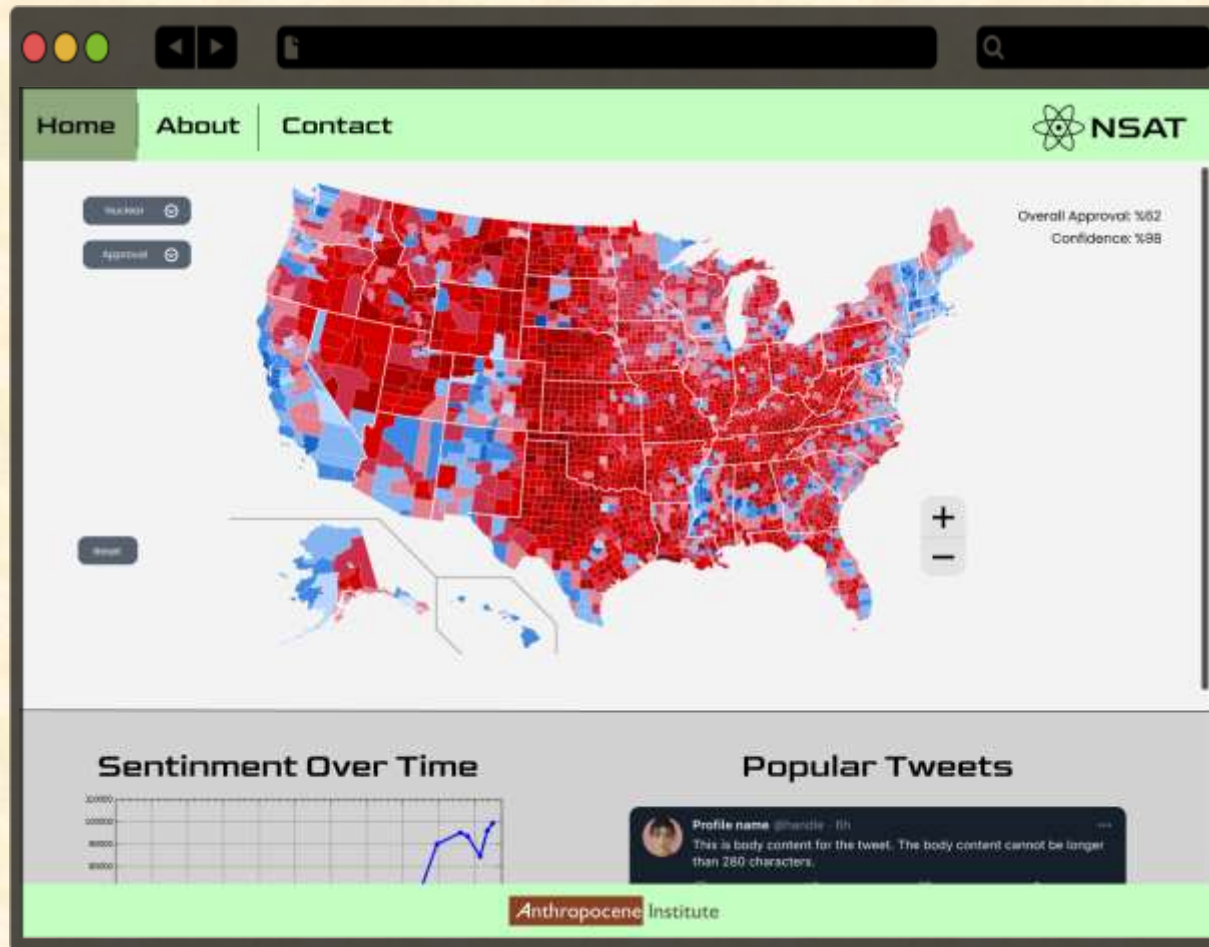


Project Design Specifications

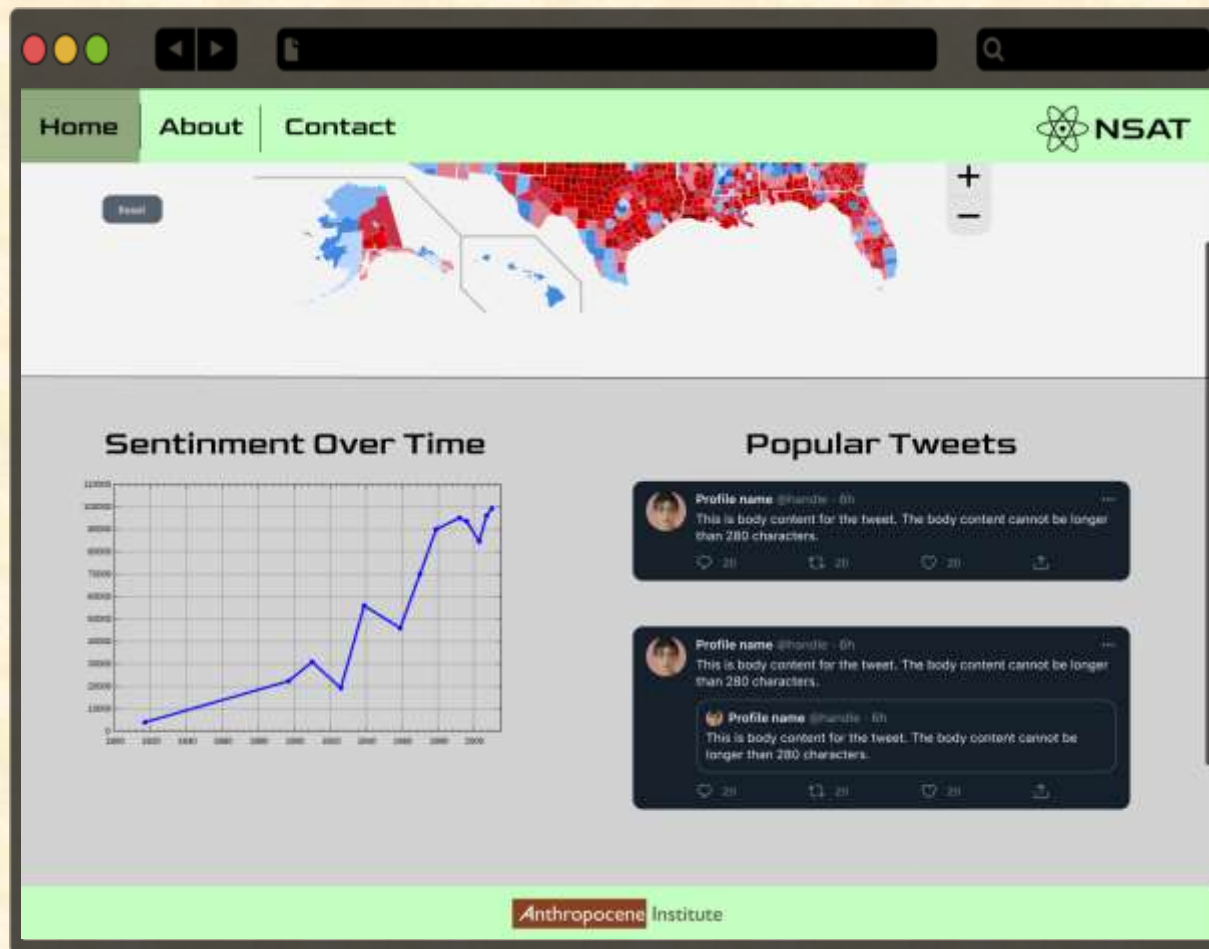
- Interactive map with opinion overlay
- Live feed module with keyword search
- Key categories chart
- Survey data over time



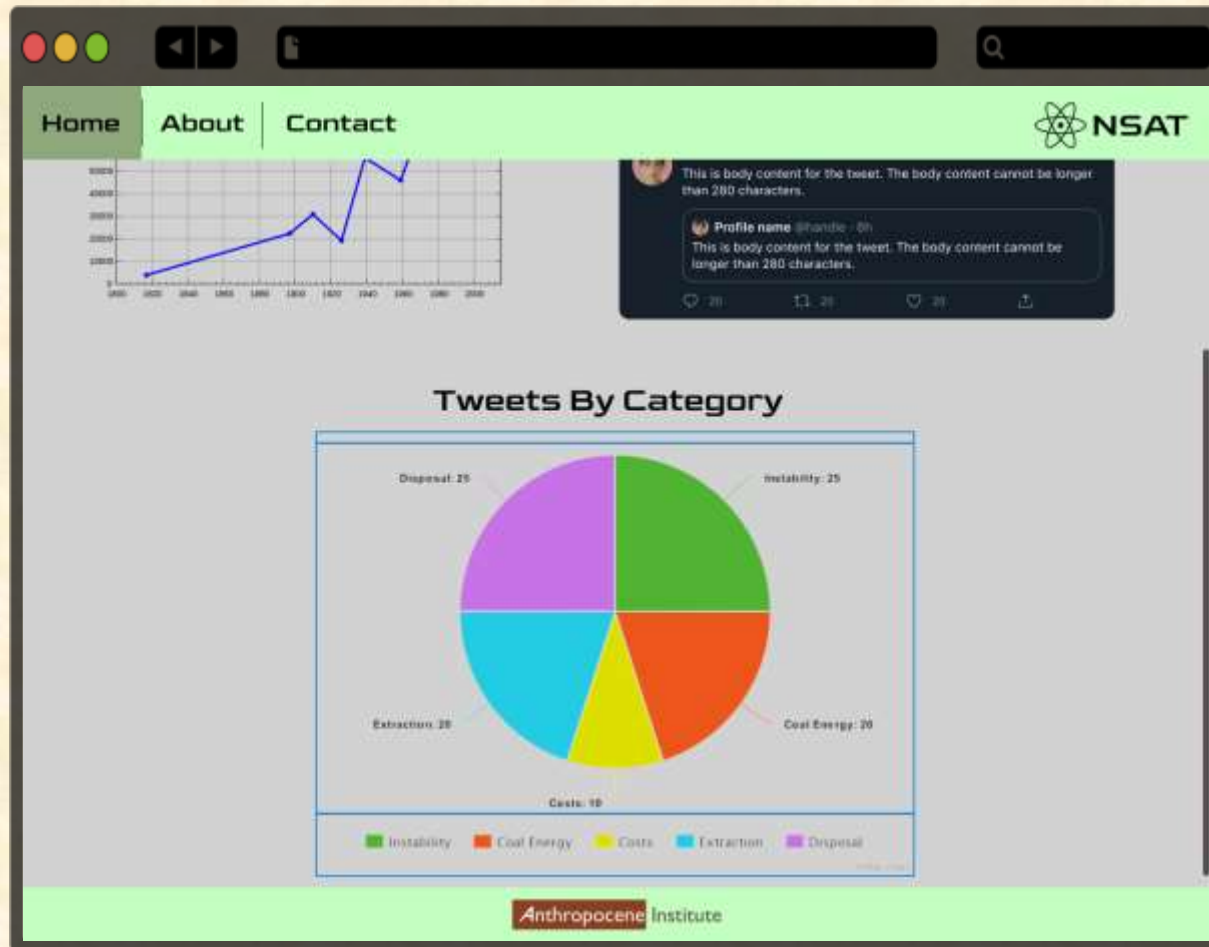
Screen Mockup: Interactive Map



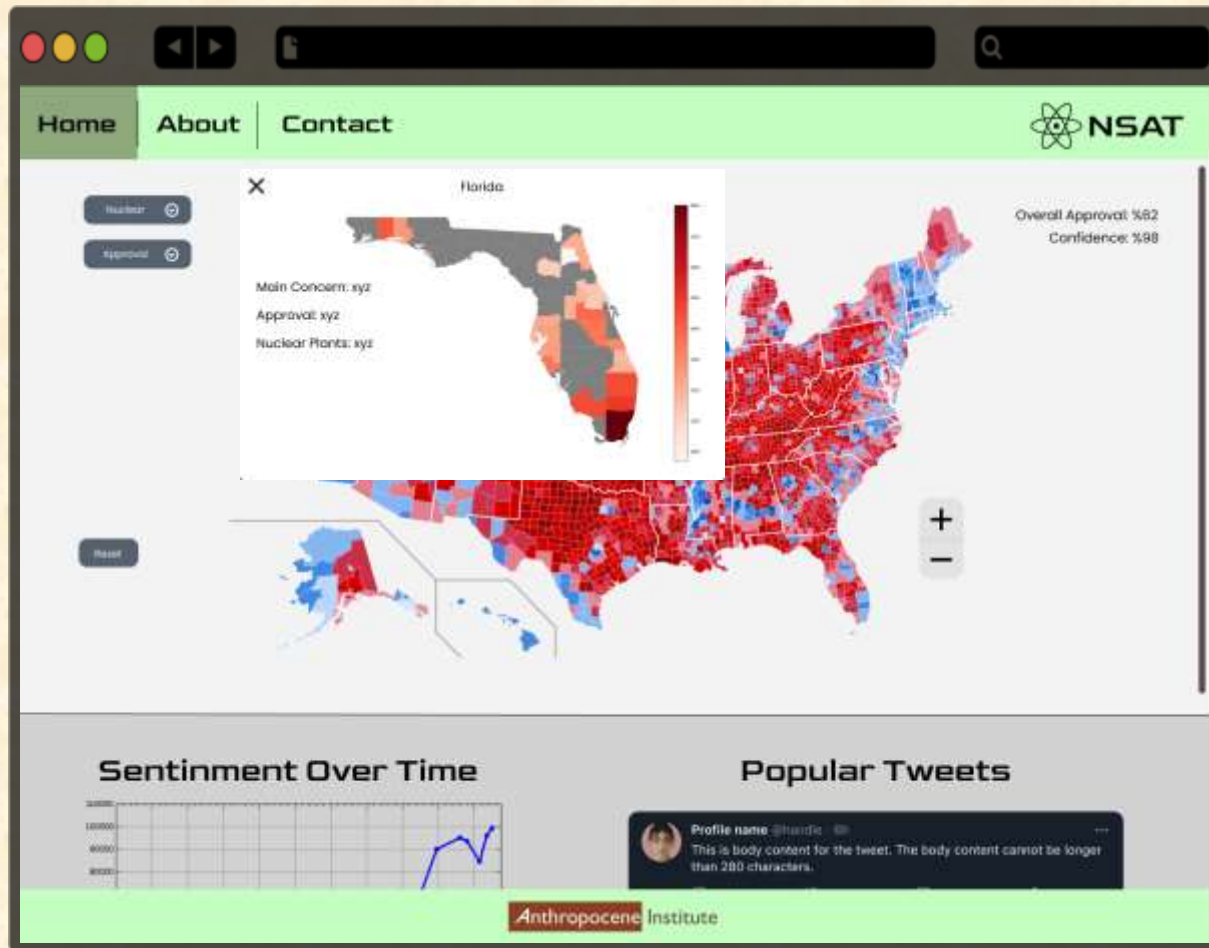
Screen Mockup: Live Feed



Screen Mockup: Trending Searches



Screen Mockup: Survey Data

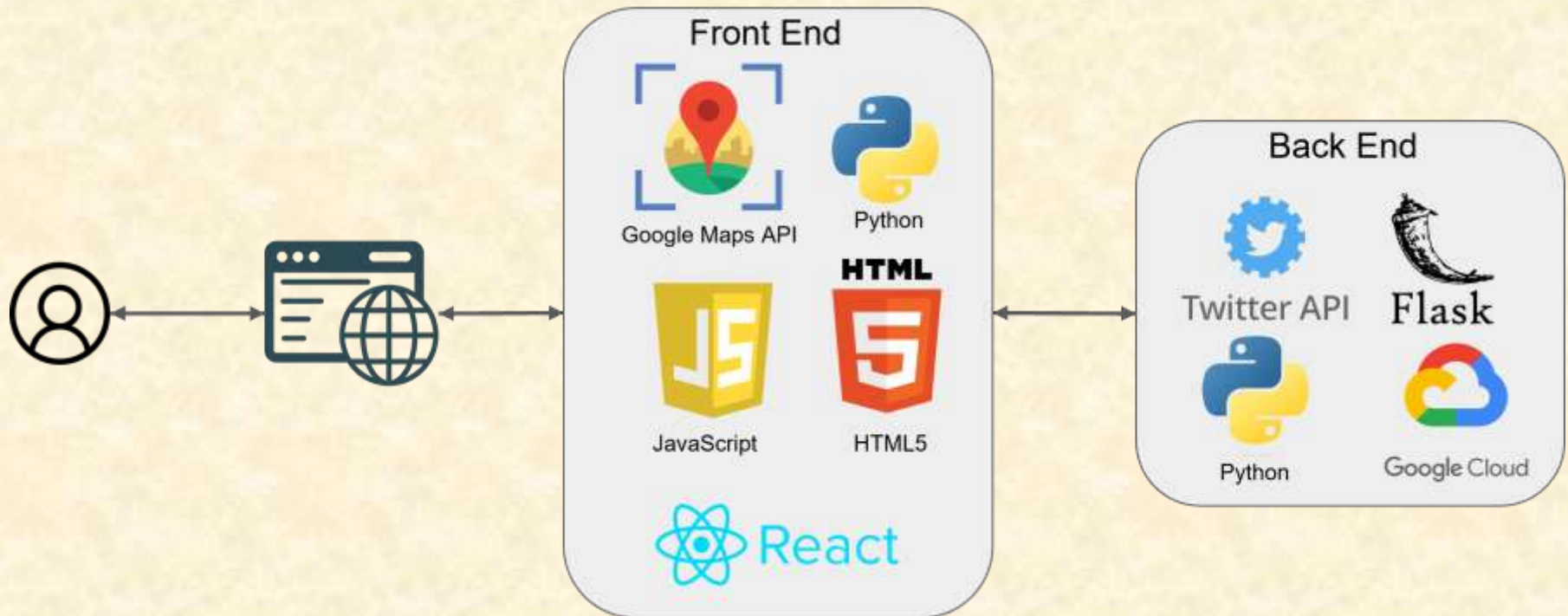


Project Technical Specifications

- JavaScript, HTML, Python, and React for Front-end
- Python and Flask for Back-end
- Google Cloud Platform for Firebase, AutoML, and Cloud Natural Language API
- Twitter API for data collection
- Google Maps API for displaying maps



Project System Architecture



Project System Components

- Hardware Platforms
 - None
- Software Platforms / Technologies
 - Python, HTML, JavaScript
 - Google Cloud Platform
 - Google Firebase
 - AutoML
 - Flaks, React
 - Twitter API, Google Maps API, Cloud Natural Language API



Project Risks

- Real-Time Data Collection and Modelling
 - Public opinion is susceptible to change through external factors over time
 - Performing computations for every region separately to minimize the processing and storage requirements
- Recognizing Trends in Real-Time
 - Real-time analysis compromises on the ability to find deep insights and correlations to identify trends
 - Identifying common topics and their frequency of appearance using NLP
- Identifying Bots
 - Social media platforms have a large number of bots among their users
 - Recognizing bots and cleaning data while reducing their weight
- Obtaining Location Data and Mapping
 - The Twitter API does not provide location data for most users
 - Get location information from user profiles. Map based on region rather than exact coordinates



Questions?

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