

Product Backlog: GeoGraph

Description : This backlog outlines high-level epics and user stories, breaking down the functionality of the Climate Data Visualization Website into manageable tasks.

Epic 1: User Authentication

- **Story**: As a user, I want to log in to the website to personalize my climate data experience.

Sub-tasks:

- Create a user registration page.
- Develop a login page with email/password authentication.
- Ensure password security and encryption.
- Implement error handling for invalid login attempts.

- **Story**: As a user, I want to log out of the website securely.

Sub-task:

- Implement a secure logout feature.

Epic 2: Data Visualization

- **Story**: As a user, I want to view climate data on a 3D globe.

Sub-tasks:

- Implement 3D globe visualization.
- Enable zoom, pan, and rotate interactions.
- Develop modes for historical data, projections, and comparisons.

Epic 3: Region-Specific Data

- **Story**: As a user, I want to select my region to access localized climate information.

Sub-tasks:

- Implement region selection feature.
- Provide data for daily, monthly, and yearly time scales.
- Enable data comparison between years or eras.

Epic 4: User Interaction - Data Filters and Search

- **Story:** As a user, I want to filter data and search for specific information.

Sub-tasks

- Implement search feature.
- Develop interactive elements (sliders, dropdown menus, checkboxes).
- Enable customization of data (time frames, regions, variables).
- Implement hover-over functionality for detailed information.
- Ensure responsiveness and smooth interactions.

Epic 5: Data Sources and Updates

- **Story:** As a user, I want to know the sources of climate data on the dashboard.

Sub-tasks:

- Clearly display sources of climate data on the dashboard.

Epic 6: Data Download and Sharing

- **Story:** As a user, I want to download climate data in various formats.

Sub-tasks:

- Implement data download functionality (CSV, PDF reports).
- Provide social media sharing options.
- Ensure user-friendly sharing interface.