RELIEFHUB

A Disaster Response and Recovery System

Team Members

Ashish Giri

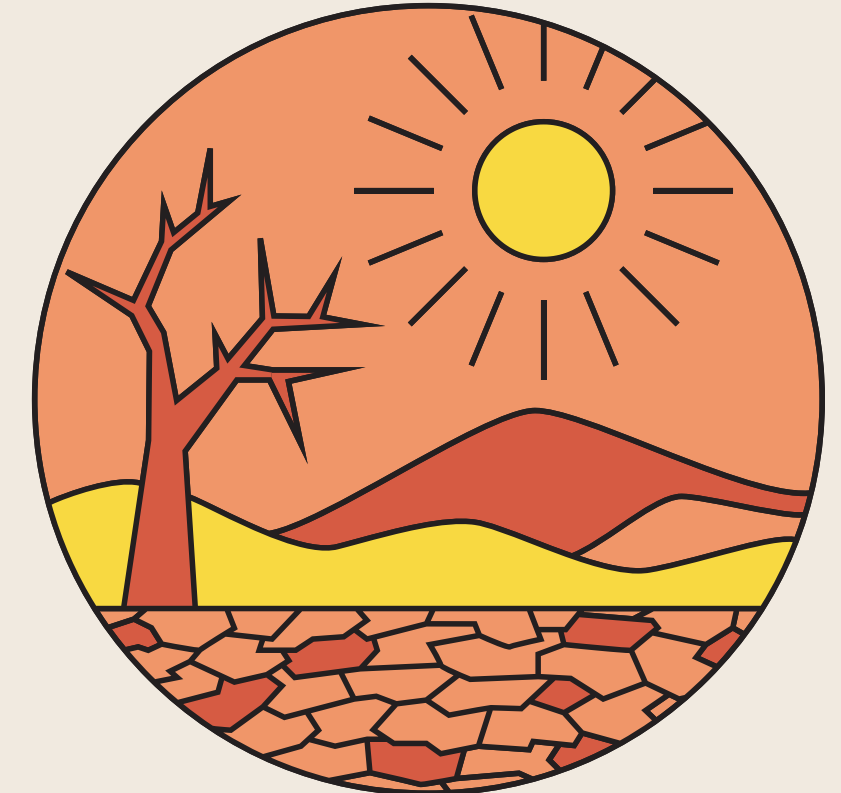**Shantanu Gondane**

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PROBLEM STATEMENT

Current disaster response lacks an integrated platform for real-time data dissemination, predictive modeling, and community engagement. Existing solutions struggle with fragmented information on disaster-prone areas, safe zones, and effective communication. Limited resources hinder robust survey capabilities essential for targeted relief operations. Addressing these challenges requires an AI-driven, user-friendly interface utilizing LangFlow, OpenAI, and custom APIs via Streamlit for effective disaster preparedness and response.

SOLUTION

Our disaster response and recovery project leverages advanced technologies such as LangFlow, OpenAI, AI/ML APIs, and Streamlit to provide comprehensive support and information. The MapSection offers interactive maps highlighting disaster-prone areas, while the Natural Disasters section educates users on various calamities. Our Survey Tab collects crucial data and user locations, aiding in targeted relief efforts. Safe Zones identifies accessible shelters and essential services during emergencies. The Dashboard displays real-time data on flood-prone regions with prevention tips. Charts visualize historical disaster trends, and our Flood Prediction Model uses AI to forecast floods. Disaster Chat uses LangFlow to provide instant responses to user inquiries, and Notifications keep users updated with the latest information.

WORLD MAP

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Disaster-prone areas around the world are regions that are particularly susceptible to natural disasters due to their geographic, climatic, or geological conditions.

Pacific Ring of Fire:

Location: Pacific Ocean basin
Disasters: Earthquakes, volcanic eruptions, tsunamis

South Asian Monsoon Region:

Location: Indian subcontinent, Southeast Asia
Disasters: Floods, landslides

California:

Location: Western USA
Disasters: Earthquakes, wildfires

COMPETITOR ANALYSIS

NDMA

- Strengths: Official backing from the Indian government, comprehensive disaster alerts and information dissemination, wide user base due to governmental mandates.

- Weaknesses: Potentially bureaucratic interface, focus primarily on alerts rather than community engagement and real-time collaboration.

GRIHA

- Strengths: Real-time data sharing with local authorities, integrates community feedback, strong NGO partnerships.

- Weaknesses: Limited scalability beyond specific regions, reliance on external data sources and networks.

COMPETITOR ANALYSIS

Zonafide

- Strengths: Utilizes blockchain for secure data sharing during disasters, decentralized approach, global applicability.

- Weaknesses: Complexity in user adoption due to niche technology, concerns over data privacy and security, potentially limited use cases in all disaster scenarios.

DisasterReady

- Strengths: Comprehensive disaster response training modules, educational focus, scalable for organizations.

- Weaknesses: Less emphasis on real-time coordination and communication during actual disaster events, more focused on preparation rather than response.

OUR STRENGTHS AND USP

Key Strengths:

1. Advanced technology integration: LangFlow, OpenAI, AI/ML APIs, and Streamlit.

2. Comprehensive features: Interactive maps, real-time data, predictive models, and community engagement tools.

3. User-centric design: Intuitive interfaces and timely notifications.

4. Data-driven approach: Surveys for targeted relief efforts.

Future USPs:

1. Scalability and adaptability.

2. Enhanced predictive analytics.

3. Community resilience building.

4. Continuous feature refinement based on user feedback.

REVENUE MODEL

- **Affiliate Marketing: Recommending and linking to specific products like emergency kits or communication devices, earning a percentage of sales made through referral links.**

- **Advertising Model: Displaying ads from disaster relief organizations, government agencies, or businesses providing emergency supplies and services.**

- **White Label Solutions: Providing a customizable disaster response platform that can be tailored and deployed by regional governments or large corporations.**
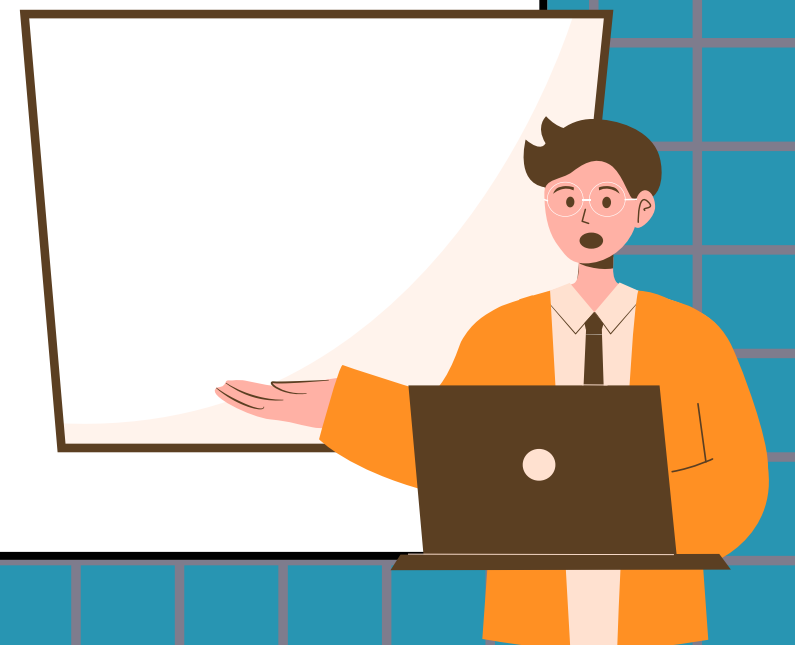
Check out our stunning, interactive homepage designed to catch your eye instantly. It's a captivating blend of innovation and style, welcoming you to explore with every click.
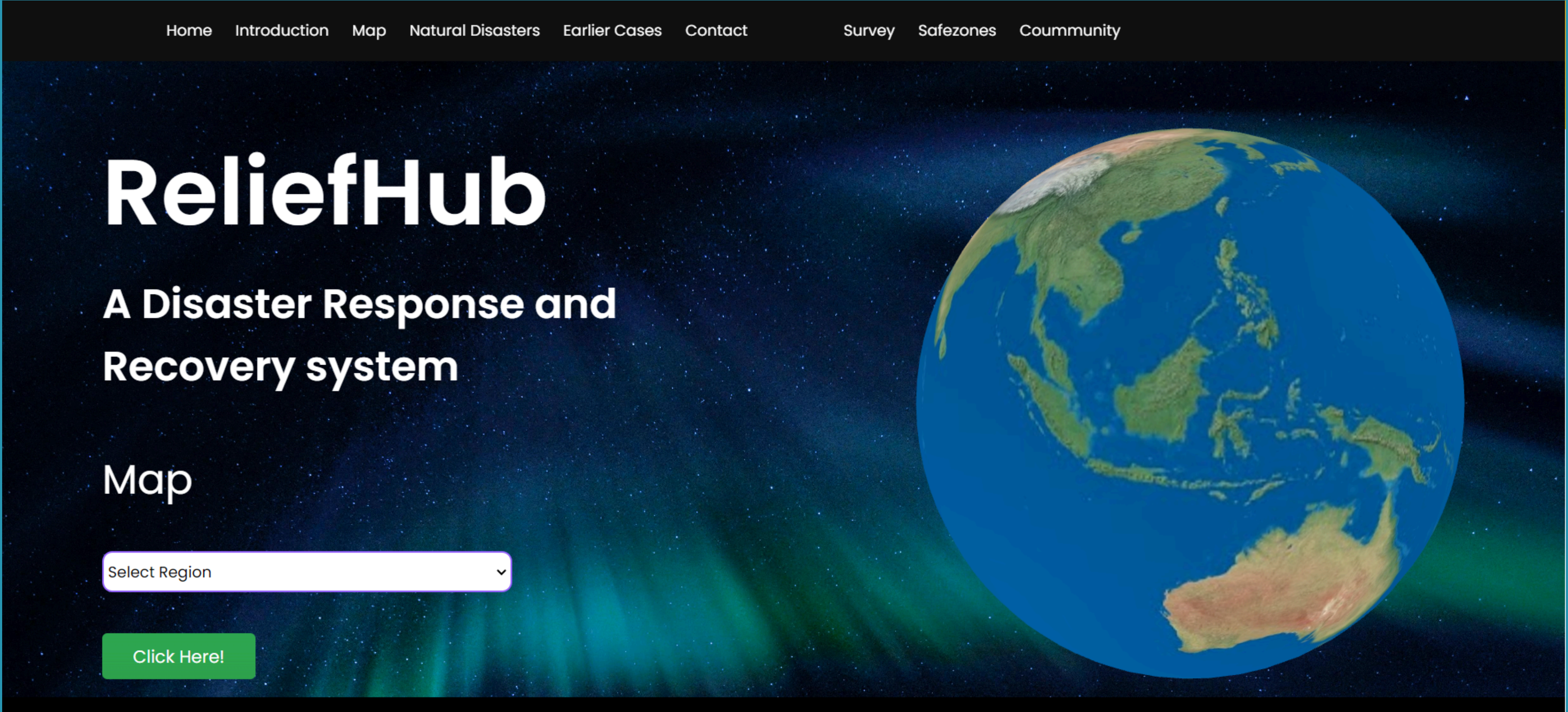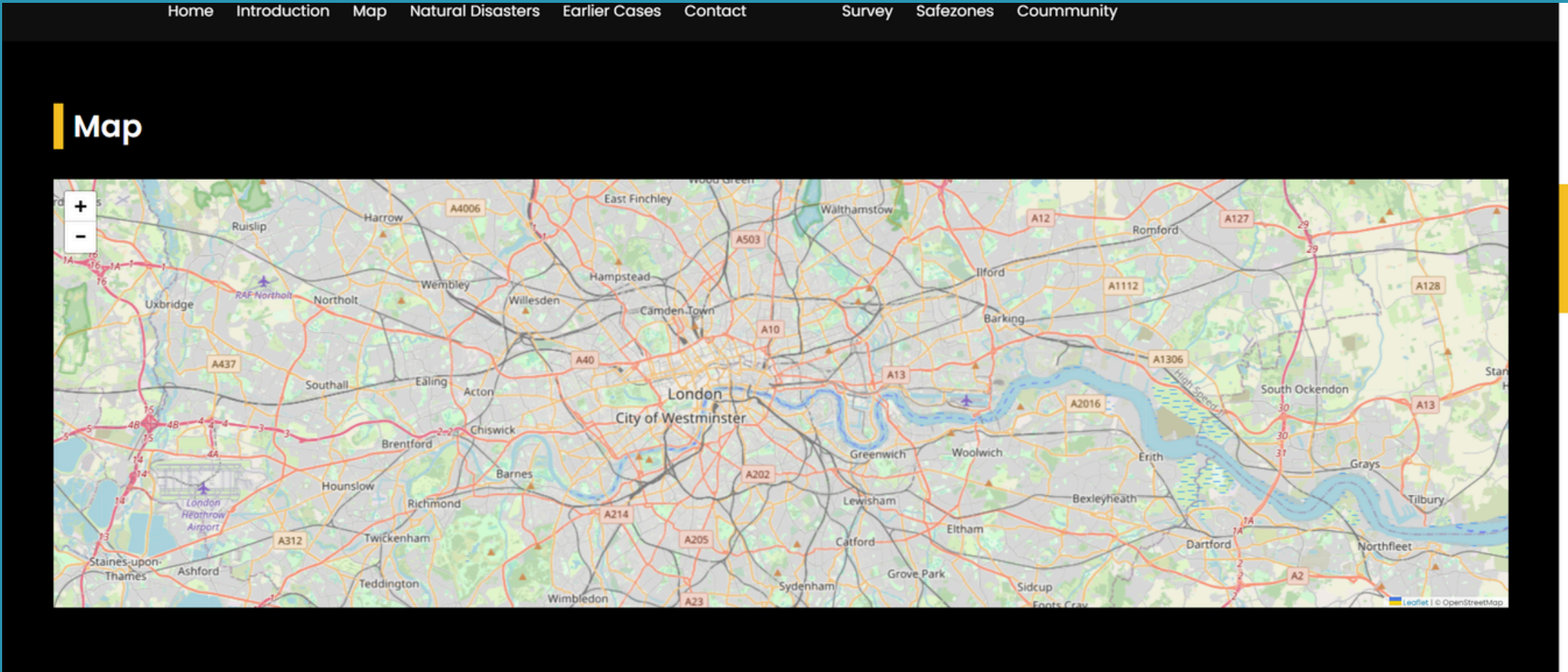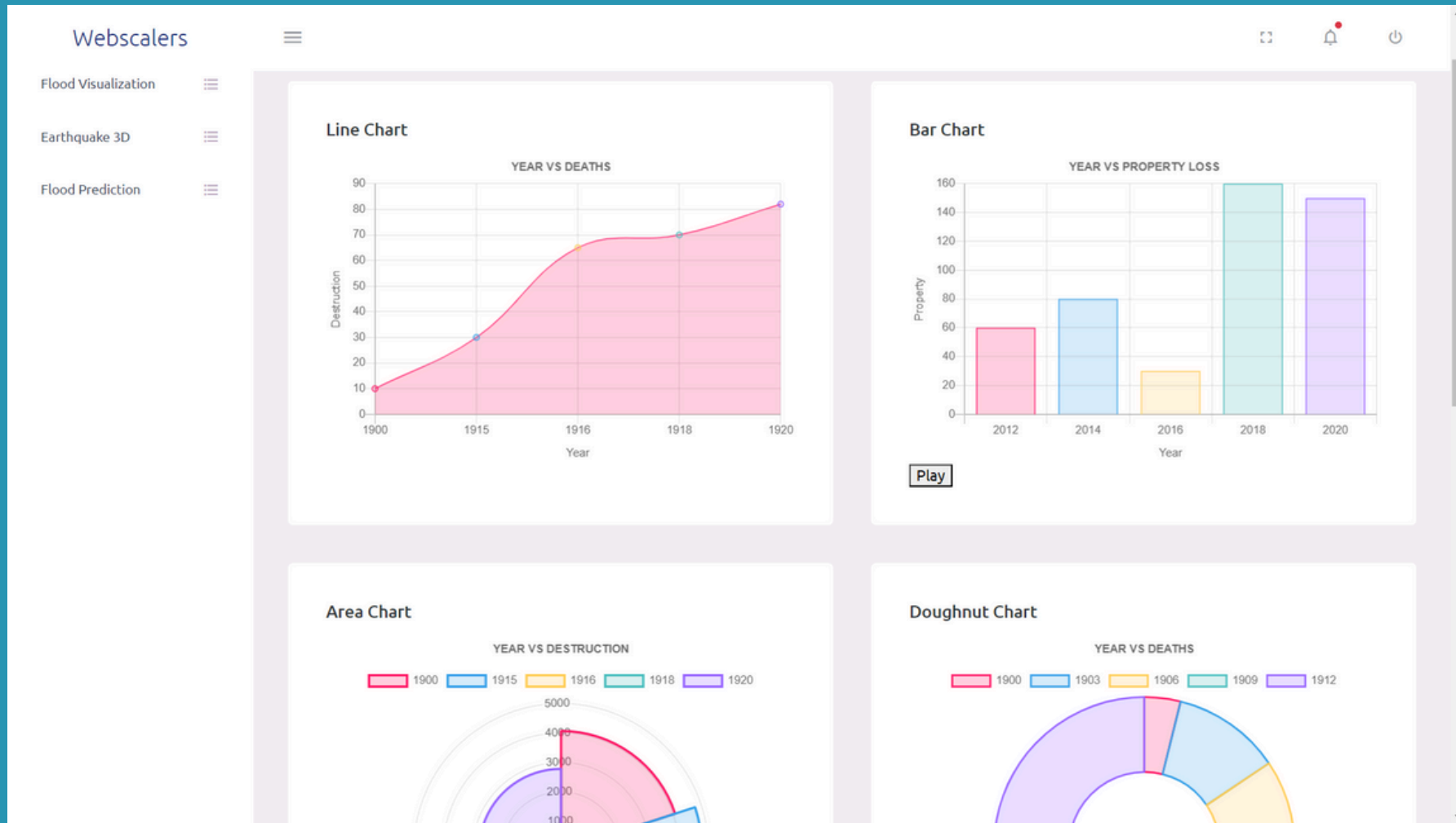
The homepage includes an interactive map feature.

Explore our advanced dashboard with top tools to help you prepare for disasters. Stay ahead with features designed for proactive readiness.
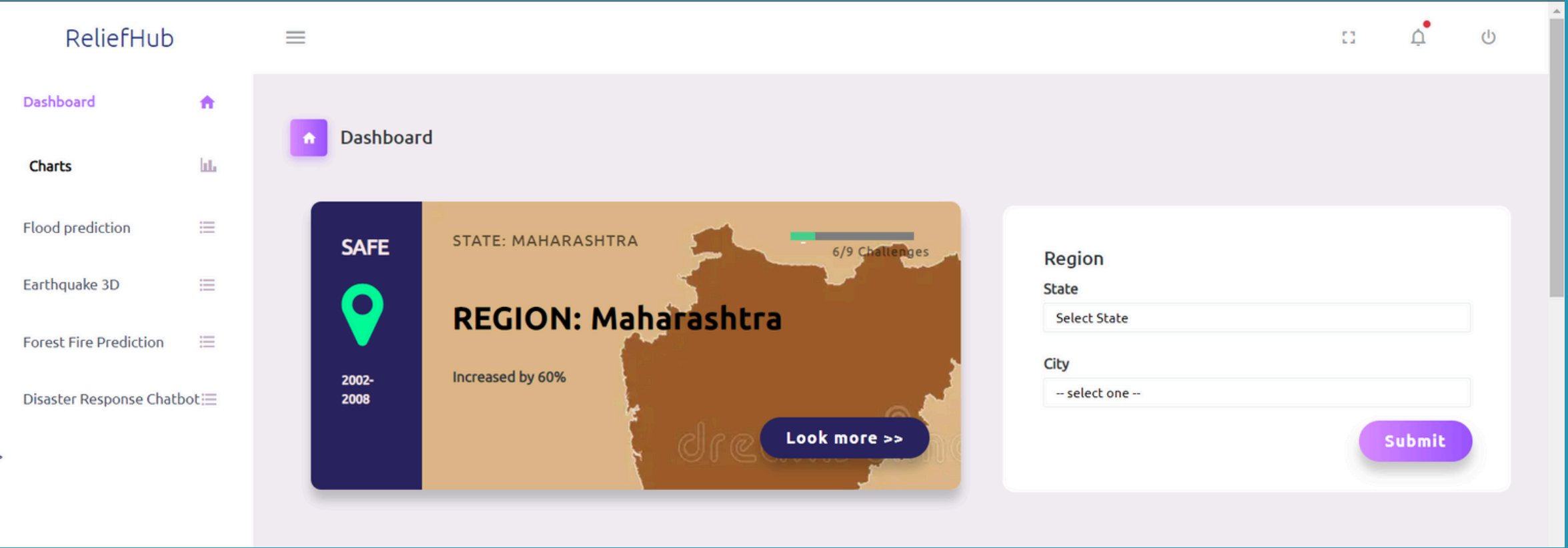
Discover the impact of past disasters in the region through our interactive charts! Explore detailed visualizations of various disaster types, their economic losses, and fatalities over the years. Engage with the data to gain insights into historical patterns and trends.

Featuring bar plots, scatter plots, and more, these visualizations offer an engaging and detailed look at the economic losses, fatalities, and patterns of various disaster types over the years. Explore and understand the full impact with just a few clicks
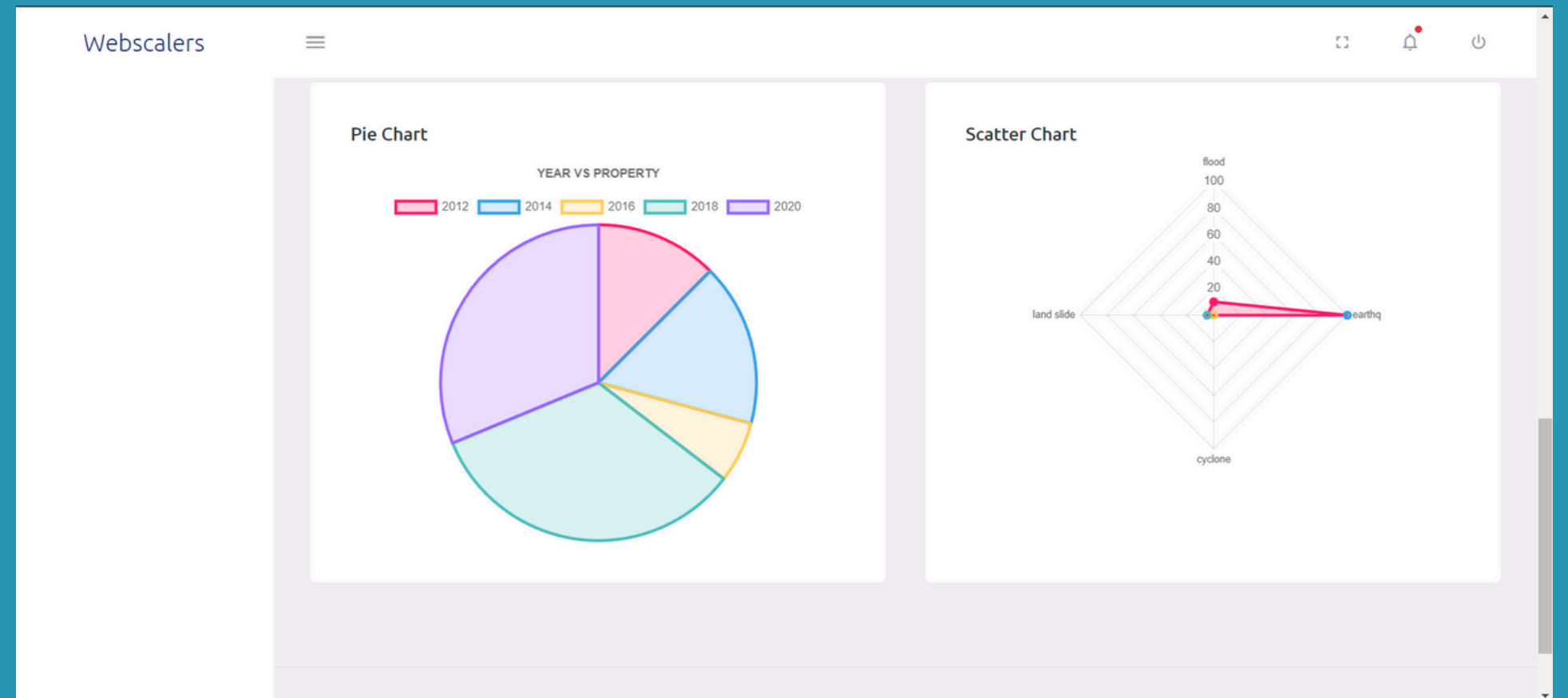
Welcome to our survey section! Here, we gather your location and contact details to provide tailored assistance and support during disasters. Your participation helps us reach out and make a meaningful impact in times of need.

http://localhost:8000 wants to   ×

⊙ Know your location

Allow while visiting the site

Allow this time

Never allow

Locality Survey Form

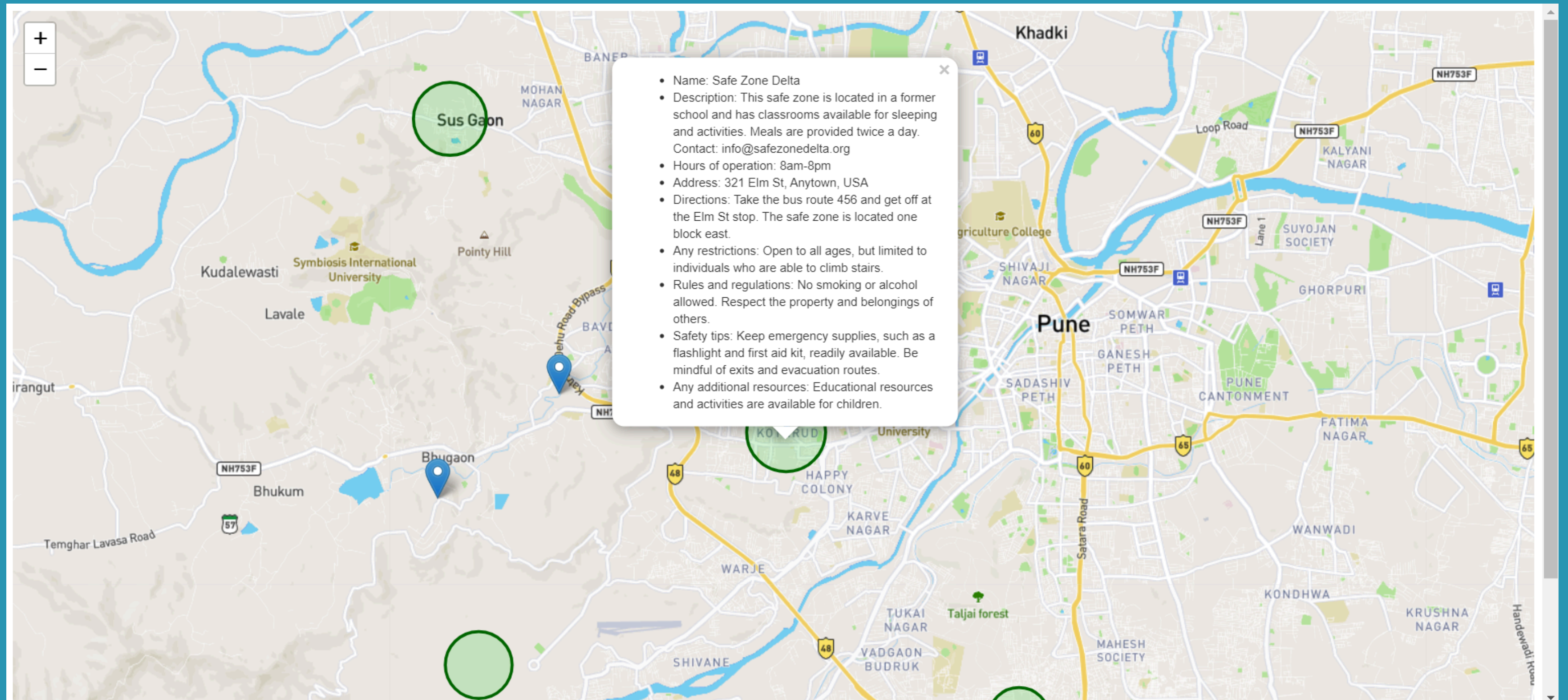| Location	Images	Questions	Timeline	Data	Submit
①	②	③	④	⑤	⑥

## Basic Info:

State

11

City

Data

Latitude & Longitude

NEXT

Welcome to the Safe Zone section! Here, you can locate nearby relief camps, police stations, and hospitals on an interactive map. Find the nearest safe zones and essential services to ensure your safety and well-being during emergencies.

- Name: Safe Zone Delta
- Description: This safe zone is located in a former school and has classrooms available for sleeping and activities. Meals are provided twice a day. Contact: info@safezonedelta.org
- Hours of operation: 8am-8pm
- Address: 321 Elm St, Anytown, USA
- Directions: Take the bus route 456 and get off at the Elm St stop. The safe zone is located one block east.
- Any restrictions: Open to all ages, but limited to individuals who are able to climb stairs.
- Rules and regulations: No smoking or alcohol allowed. Respect the property and belongings of others.
- Safety tips: Keep emergency supplies, such as a flashlight and first aid kit, readily available. Be mindful of exits and evacuation routes.
- Any additional resources: Educational resources and activities are available for children.

Introducing our LangFlow integration with our RAG-based LLM! Easily input your desired data to build a custom chatbot. Export the configuration as a JSON file and seamlessly use it in our Streamlit application to create a user-friendly interface. Effortlessly design and deploy your chatbot for enhanced user interaction.
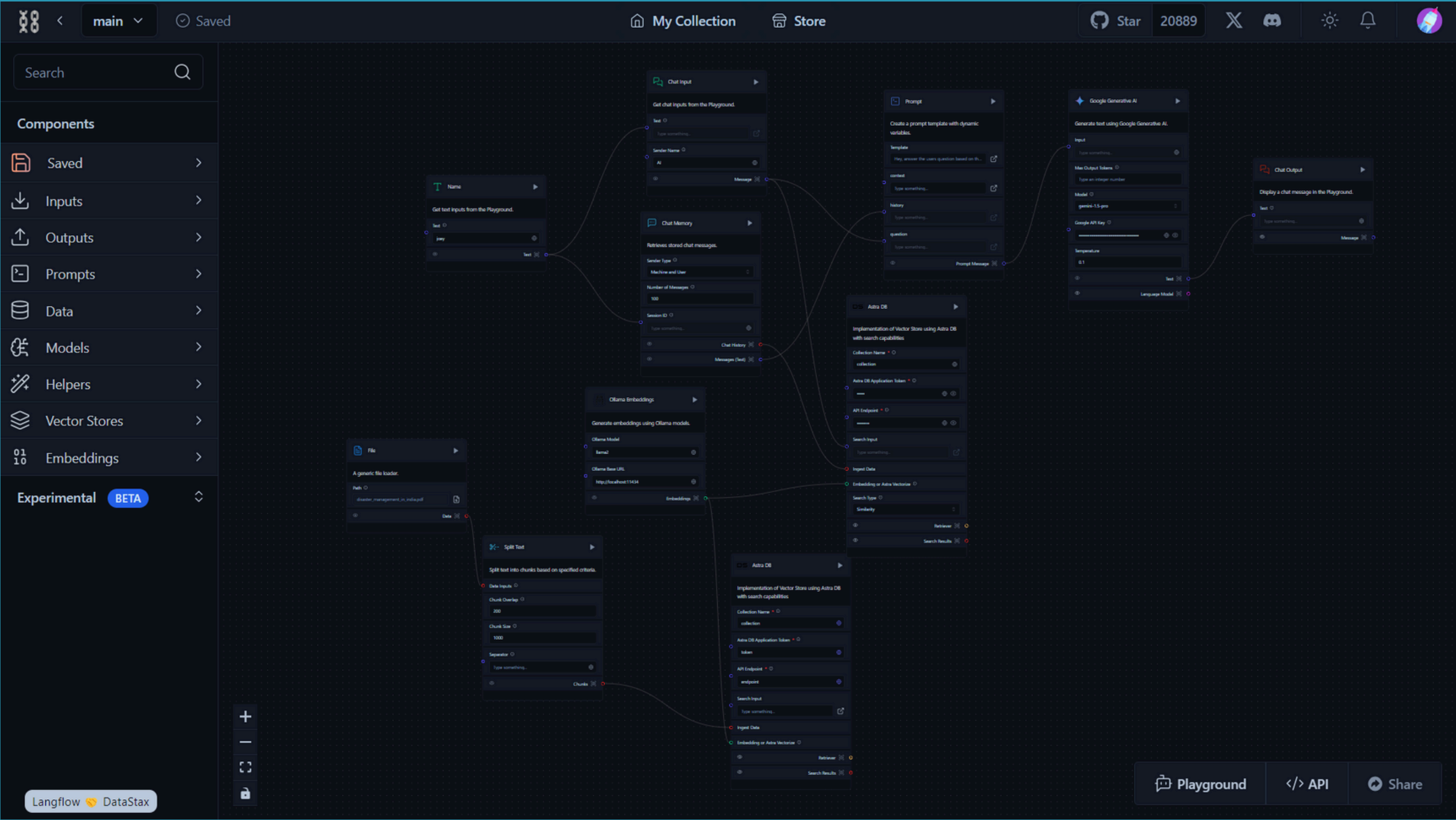
Meet our main LLM chatbot, designed to assist you during emergencies. Equipped with advanced capabilities, this chatbot provides timely and accurate support, guiding you through critical situations with ease and efficiency.

Disaster ChatBot using Langflow

Input:

brief guide on how to survive in earthquake

Ask the question

The Response is

Before an Earthquake:

- **Learn earthquake preparedness:** Familiarize yourself with earthquake evacuation routes and safest places in your home and workplace.
- **Secure your surroundings:** Bolt heavy furniture to walls, strap mirrors and picture frames, and secure potential hazards like bookshelves and electronics.
- **Stock emergency supplies:** Keep a backpack or kit containing water, non-perishable food, a first aid kit, a flashlight, a whistle, and personal hygiene items.

During an Earthquake:

- **Drop to the ground, take cover under a sturdy table or desk:** Stay away from windows, outside doors, and unsecured objects.
- **Stay low and stay calm:** Cover your head and neck with your arms. Remain under cover until the shaking stops.
- **If you're outside, move to an open area away from buildings, trees, and power lines:** Drop to the ground and seek shelter if possible.
- **If you're driving, pull over to the side of the road:** Stop the car, stay inside, and wait for the shaking to cease.

Welcome to our Earthquake Visualization! This interactive tool displays the magnitudes of numerous past earthquakes in the region, offering a clear and comprehensive view of seismic activity over time. Explore the data to understand the impact and frequency of these natural events.
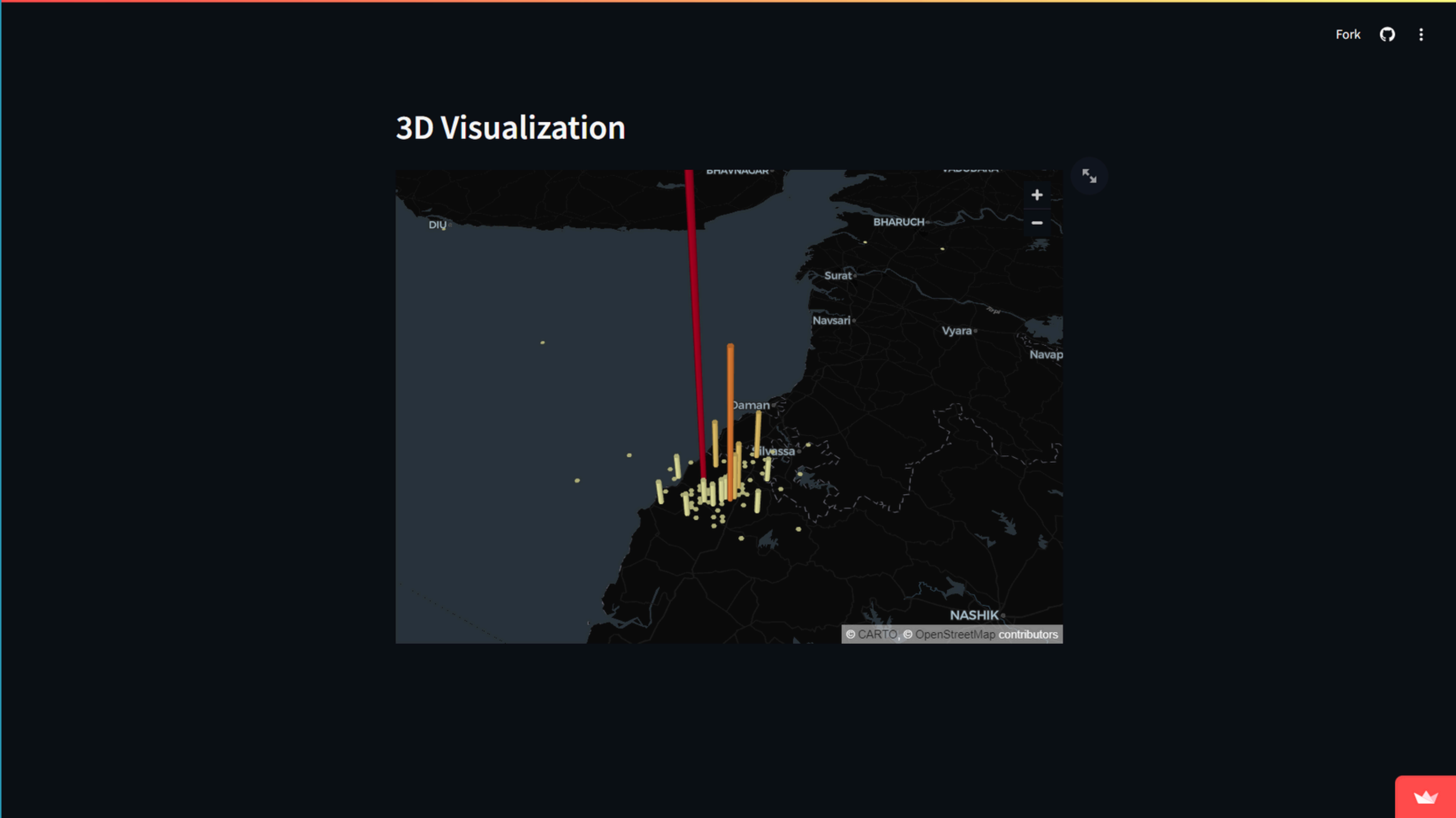
Let us introduce you to our Forest Fire Prediction Model, a cutting-edge AI solution designed to predict forest fires with remarkable accuracy. By analyzing vast datasets and environmental factors, our model provides early warnings to help mitigate the devastating impact of wildfires. Protecting our forests and communities has never been more efficient and reliable.
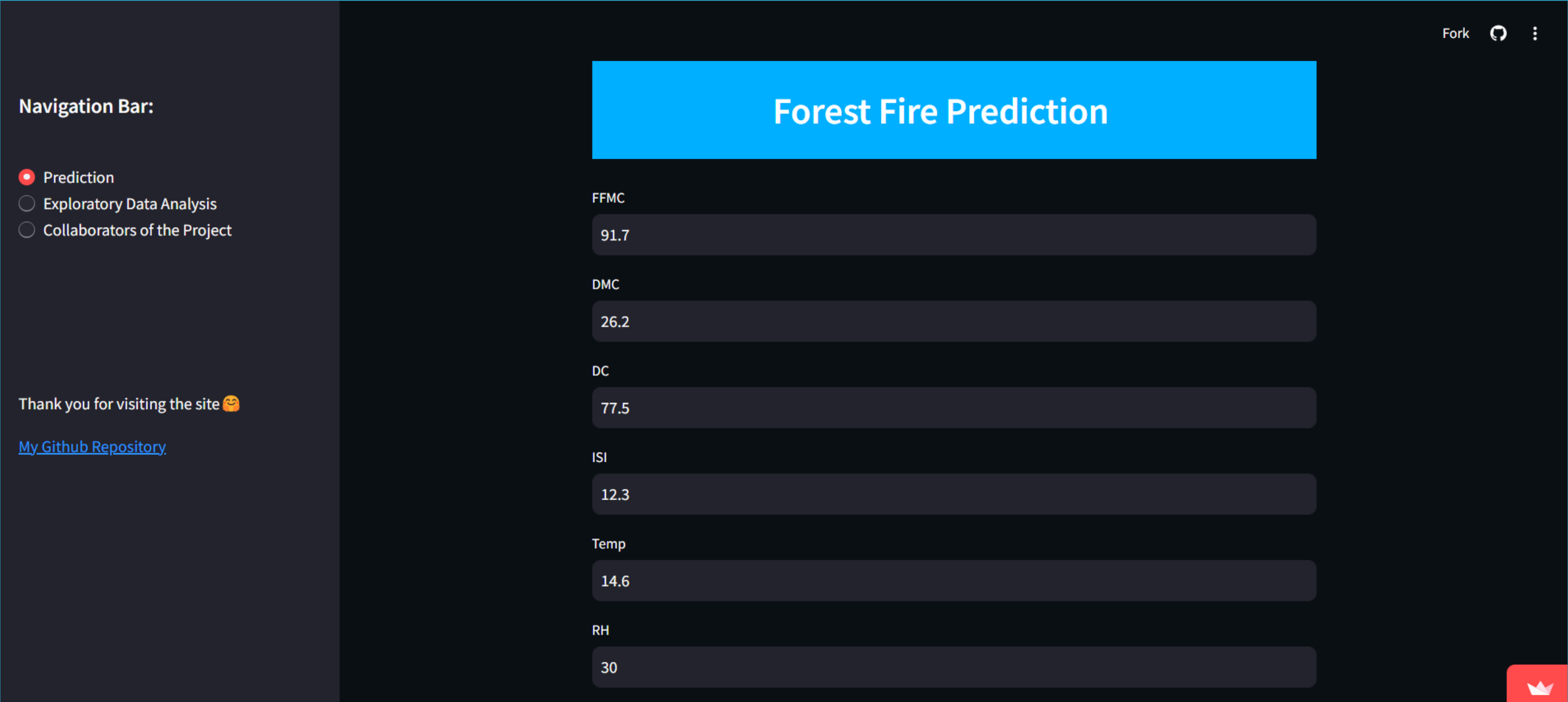
Explore probability scores and view detailed maps of at-risk locations to stay informed and prepared. By analyzing vast datasets and environmental factors, our model provides early warnings to help mitigate the devastating impact of floods.

The next page features visualizations illustrating the demographic impact of floods, offering clear insights into affected communities. Explore detailed maps and data representations to understand the geographic and demographic patterns of flood vulnerability, aiding in proactive disaster preparedness and response strategies.
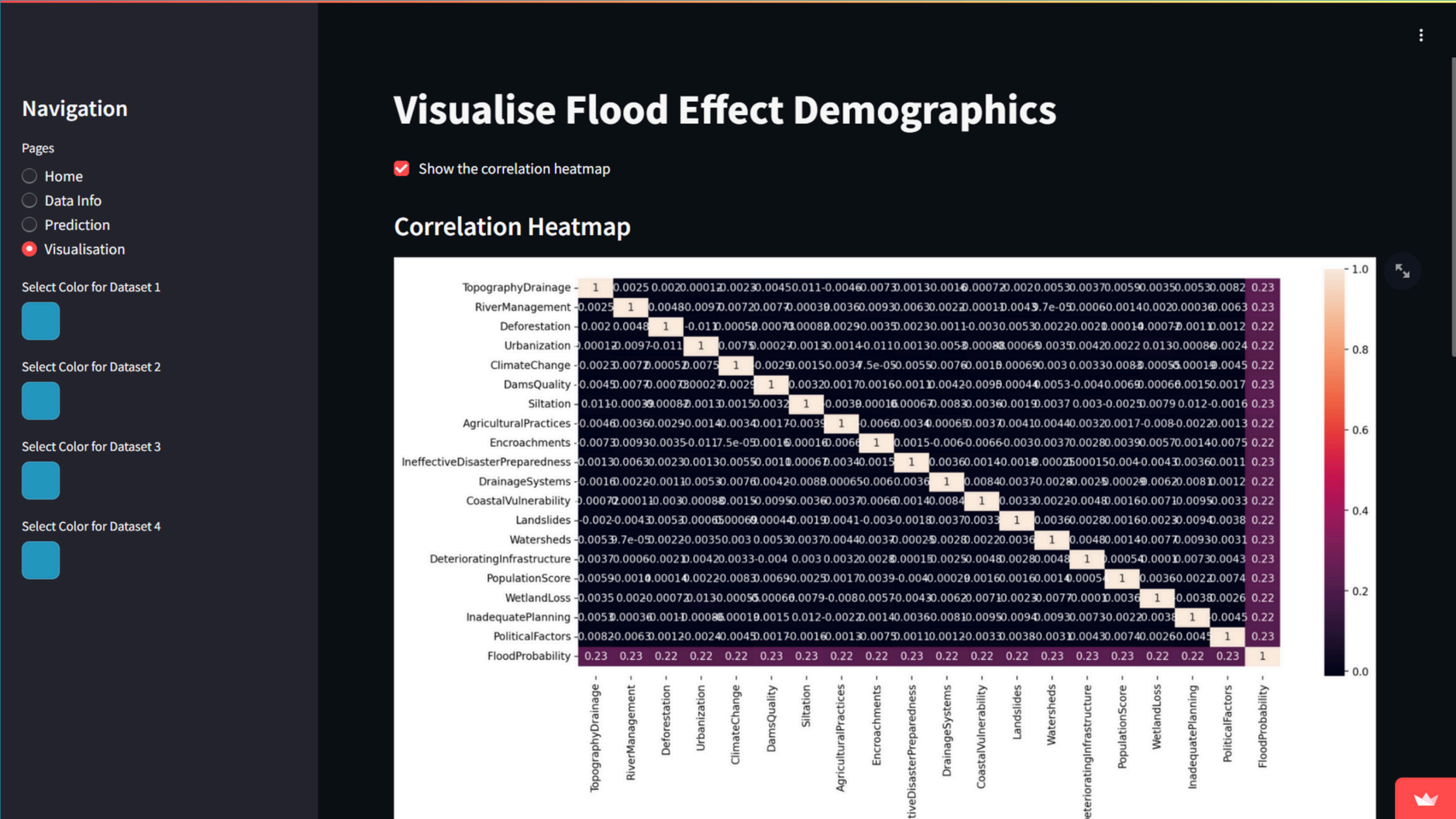
FUTURE PROSPECTS

- Develop an online platform for transparent donations and project management.
- User profiles for engagement, project tracking, and reporting.
- Multiple donation channels (direct, events, partnerships).
- Educational resources and social media for awareness campaigns.
- Notification system for emergency alerts and fundraising needs.
- Volunteer coordination and feedback mechanisms for community engagement.
- Collaborate with NGOs, governments, and international organizations.
- Scalable infrastructure and sustainable funding model for long-term viability.
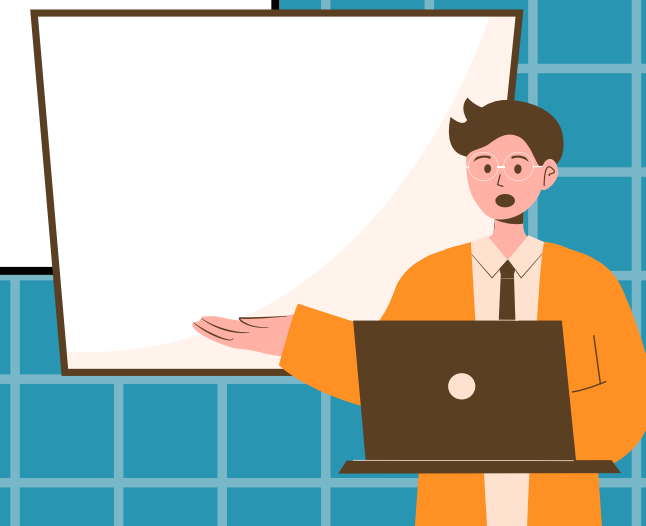
Communities post-various events in region

Greenery Every Very

on 28 april there is plantation drive. target to plant at least 500 new plants and give water, soil to exisiting plants. Location: kothrud pune, maharashtra. timing: 7am onwards

User1
10h ago

NO PLASTIC HEAR

Plastic

No To Plastic, Cleaning Rivers

Plastic is a dangerous substance for our earth. we need to reduce the use and try to recycle more and more.On 1 May there i drive to clean the xyz river, 8am onwards. Location: mula mutha river

Jony Doe
Yesterday

Survey

Take Up The Survey

to increase the correctness of data surveys are necessary, so there is a drive for basic locality survey for kothrud region on 3 May, 10 am on wards. It will help Government to understand localiy and its patterns.

John Doe
2d ago

more coming....