DARK SKY FINDER

By Team Stars

Meet Our Team

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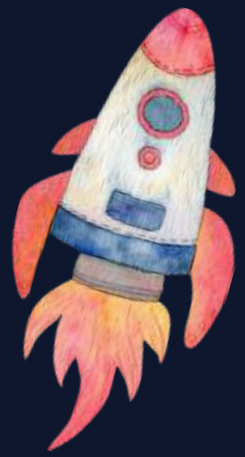


Introduction

Overview: Dark Sky Finder is an application designed to help users find the best stargazing spots in India, providing real-time data on weather, air quality, wind speed, and light pollution for optimal stargazing conditions.

Problem Statement: With increasing light pollution and unpredictable weather, stargazing enthusiasts struggle to find ideal locations. Dark Sky Finder helps them locate the best spots for stargazing by providing all the necessary data in one place.

The Problem

Challenges:

- Increasing light pollution that hampers the visibility of stars.
- Unpredictable weather patterns that ruin stargazing trips.
- Lack of a consolidated platform for all stargazing-related information.

Why This Matters: Stargazing offers an enriching experience. It requires clear skies, minimal light pollution, and stable weather. Our app ensures that stargazing enthusiasts can access up-to-date information to make their trips more enjoyable.

Our Solution

1

Features of Dark Sky Finder:

- Interactive map of India with marked stargazing locations.
- Real-time data on weather conditions, air quality, wind speed, and light pollution.
- Alerts to inform users whether conditions are suitable for stargazing.

2

Technology Used:

- Frontend: HTML, CSS, JavaScript (Leaflet.js for the map)
- APIs Used: OpenWeatherMap for weather data, WAQI for AQI data, LightPollutionMap for light pollution data.
- Wix site builder

The Process

Research: We started by identifying the challenge stargazers face—finding a location with good conditions. We researched APIs that provide real-time data on weather, air quality, and light pollution.

Development Phases:

- Idea Formation: Defining the scope and vision of the site.
- Design & Development: Creating the map interface, integrating APIs, and building the front-end.

Finally building our site using WIX, and adding different pages to it.

Challenges We Faced

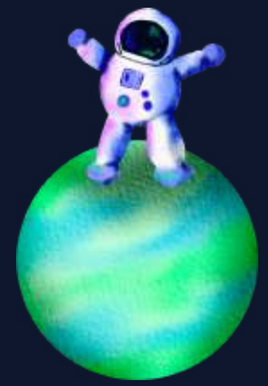
API Limitations:
Some APIs had usage limits, slowing down our testing and development. We had to optimize our code to handle limited calls.

Data Synchronization:
Ensuring that weather, air quality, and light pollution data updated synchronously for the user was a challenge.

Designing the UI:
Striking a balance between displaying all data clearly and maintaining a user-friendly interface.

Result

Working Product:
Dark Sky Finder is fully functional. Users can check the suitability of various stargazing locations based on weather, air quality, and light pollution.



Learnings

Skills Gained:

- Working with real-time APIs for data fetching.
- Strengthening front-end development skills, particularly using Leaflet.js.
- Collaborating under tight deadlines to complete the project.

Challenges Overcome:

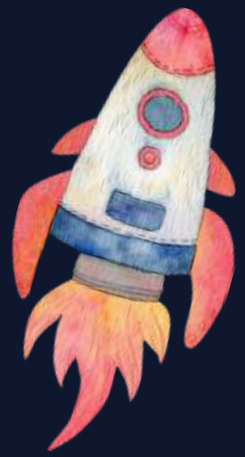
- Efficient handling of APIs.
- Ensuring a smooth user experience despite multiple data sources.
- Meeting deadlines while ensuring site quality.

Future Improvements

Planned Features:

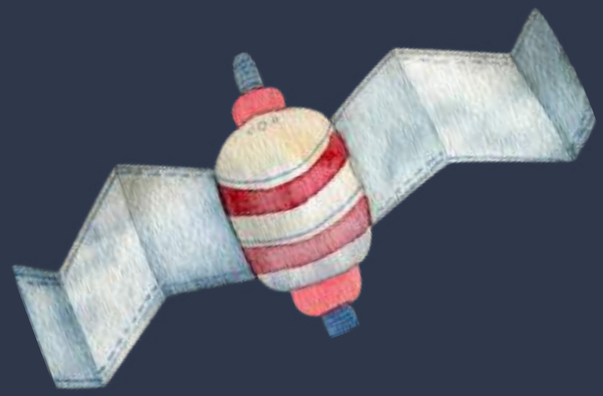
- Integrating additional data sources such as meteor showers, moon phases, etc.
- Developing a mobile version app for easier access.
- Notifications for users when conditions are ideal for stargazing.

Scalability:
Expanding to more countries and stargazing spots for a global audience.



Conclusion

Summary: Dark Sky Finder combines weather data, air quality, wind speed, and light pollution information to provide users with the best stargazing locations. Our site is ready for future improvements and can be expanded for a global user base.



Thank you!