GHARMULYA: Nepal Property Price Prediction

by sabina karki

Project Summary

Problem

Lack of accessible, reliable house price estimates in Nepal.

Solution

ML-based web app (GHARMULYA) predicts prices based on features.

Impact

Helps users estimate fair market value before buying/selling.

Team Roles

Sabina: Frontend development & Data collection

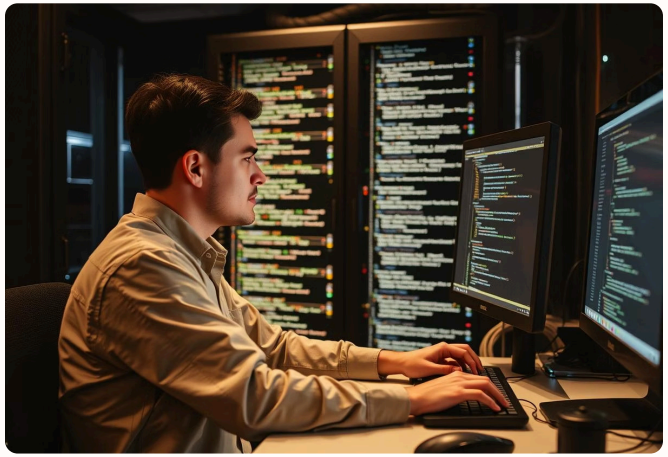
Web scraping, UI design (React), user flows.

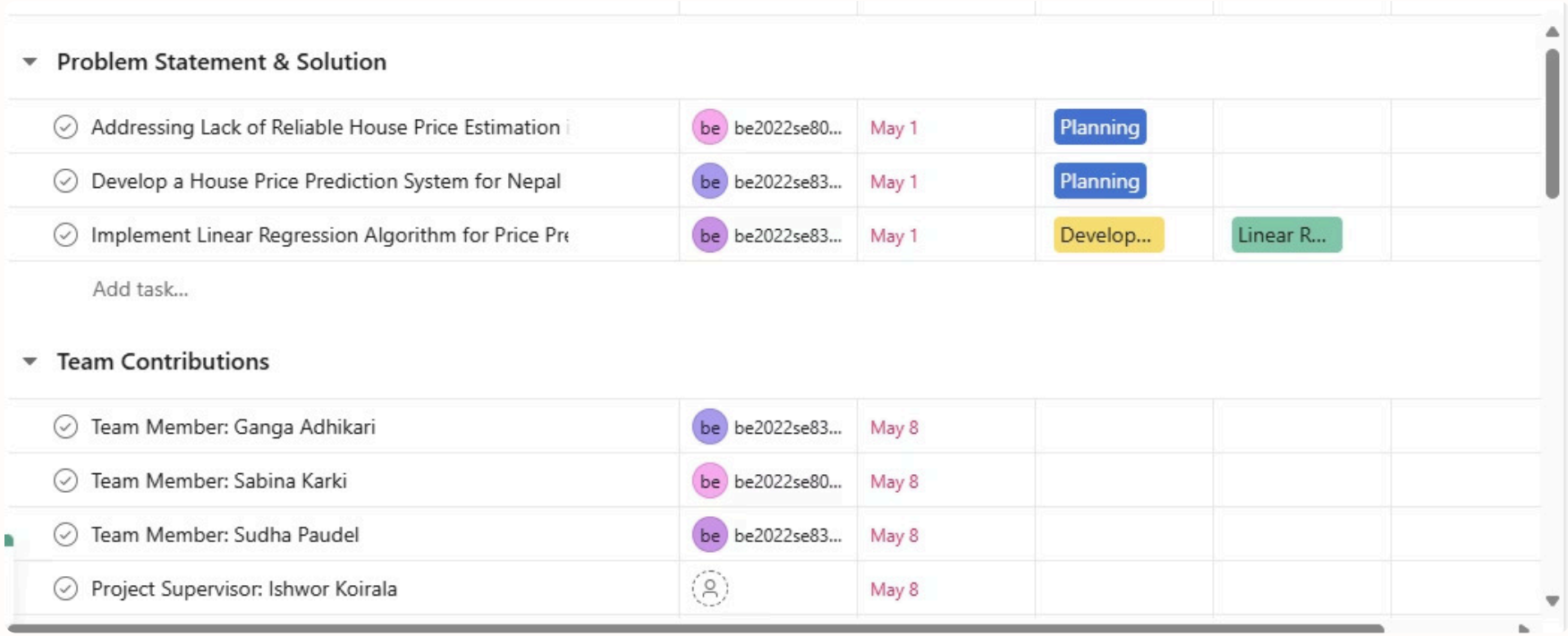
Sudha: ML development

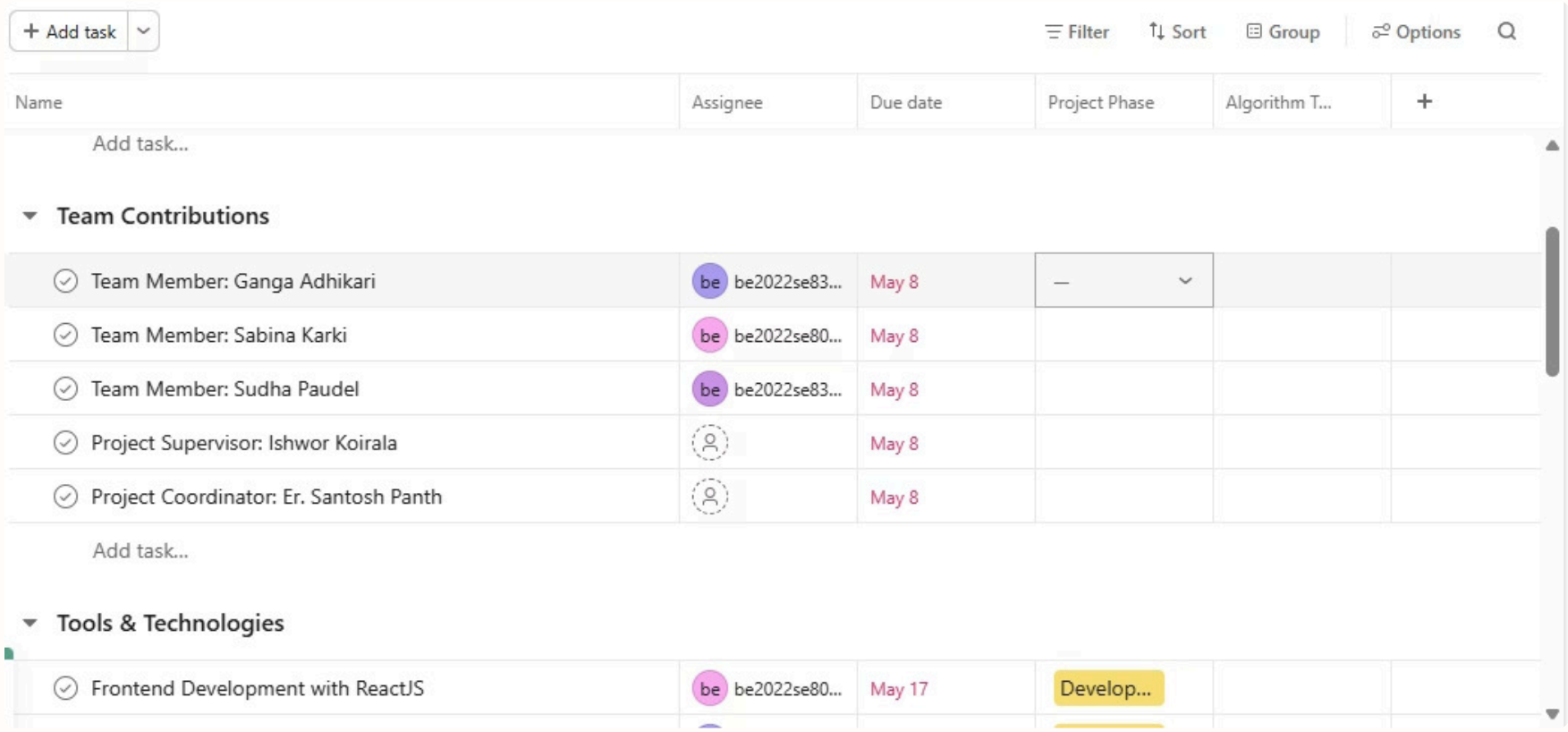
Data preprocessing, model training & evaluation.

Ganga: Backend Development

API creation, Flask integration, connecting frontend.







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Tools & Technologies

Frontend Development with ReactJS	be2022se80...	May 17	Develop...	
Backend Development with Node.js and Express.js	be2022se83...	May 17	Develop...	
Machine Learning Implementation with Python, Pan	be2022se83...	May 17	Develop...	Linear R...
ML Model Serving with Flask	be2022se83...	May 17	Deploy...	
Development Environment Setup with VS Code and	be2022se83...	May 17	Planning	

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Methodology & Implementation

Data Collection from Kaggle and Web Scraping	be2022se83...	May 25	Develop...	

+ Add task | Filter | Sort | Group | Options

Name	Assignee	Due date	Project Phase	Algorithm T...
Add task...				
Methodology & Implementation				
Data Collection from Kaggle and Web Scraping	be be2022se83...	May 25	Develop...	
Data Pre-Processing	be be2022se83...	May 25	Develop...	
Exploratory Data Analysis	be be2022se83...	May 25	Develop...	
Model Selection and Training	be be2022se83...	May 25	Develop...	Linear R...
Model Evaluation	be be2022se83...	May 25	Testing	Linear R...
Implement Agile Methodology	be be2022se80...	May 25	Planning	
Create and Manage Product Backlog	be be2022se80...	May 25	Planning	
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Deliverables & Outcomes				

Name	Assignee	Due date	Project Phase	Algorithm T...	+
Create and Manage Product Backlog	be be2022se80...	May 25	Planning		
Add task...					
Deliverables & Outcomes					
Home Page Interface	be be2022se80...	Jun 15	Develop...		
Login Page Interface	be be2022se80...	Jun 17	Develop...		
Input Form Interface	be be2022se83...	Jun 15	Develop...		
Predicted Price Interface	be be2022se83...	Jun 19	Develop...		
Final Project Evaluation	be be2022se83...	Jun 4 – Jul 8	Testing		
Project Completion and Submission	be be2022se83...	Jul 10	Deploy...		
Add task...					

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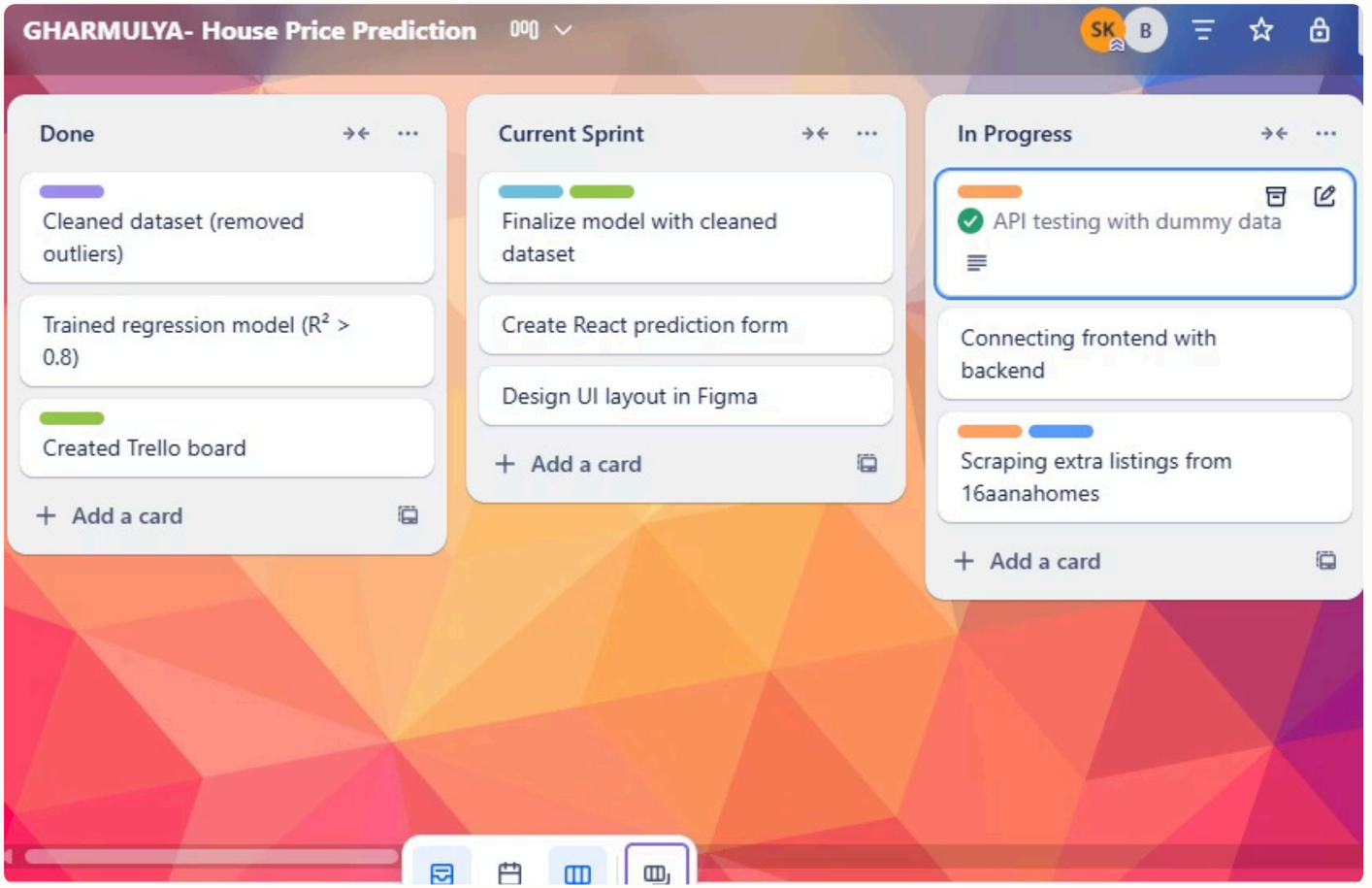
Planning Process

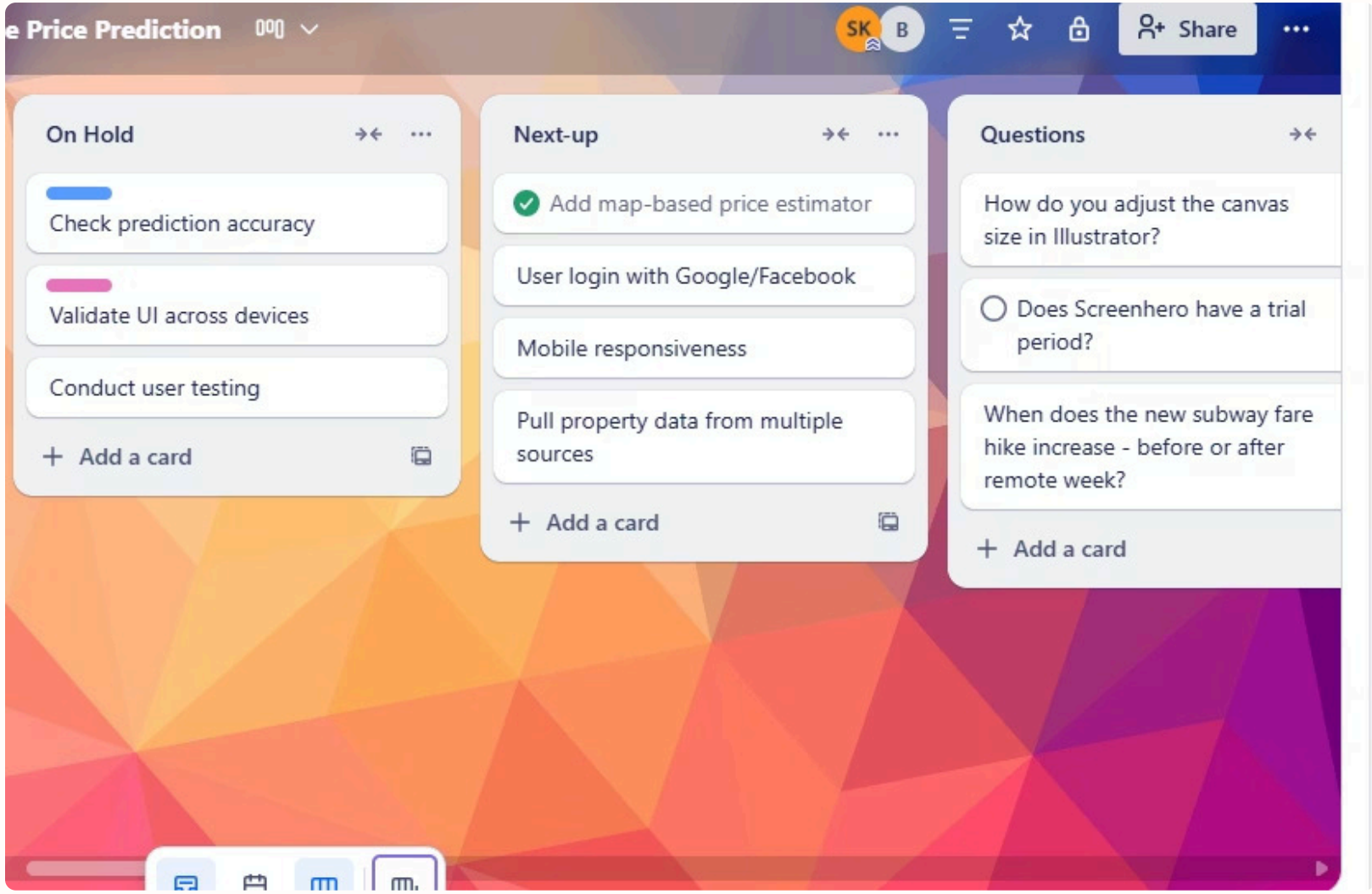
Tools Used

- Trello for backlog and sprint planning.
- GitHub for codebase and versioning.
- Google Meet for standups.

Backlog Creation

- Started with epics: Data, ML model, Frontend.
- Broke into user stories: "Scrape 50 listings," "Train model."
- Prioritized by user value.





Sprint Demonstrations

Sprint 1

Scraped and cleaned data; designed wireframes.

Sprint 2

Trained regression model (80% R^2); created prediction API.

Sprint 3

Built responsive UI; integrated ML model with frontend.

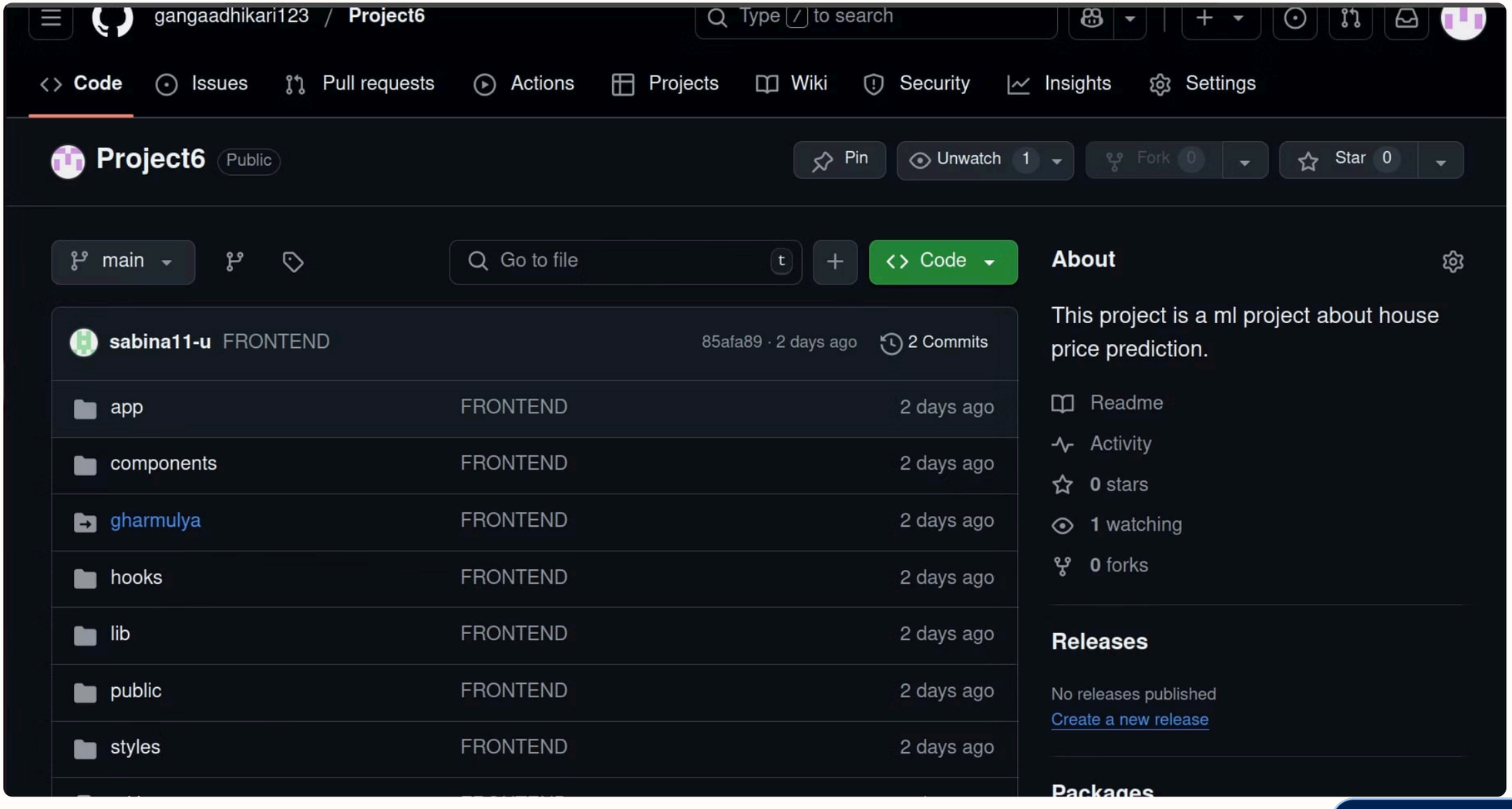
Retrospective Learnings

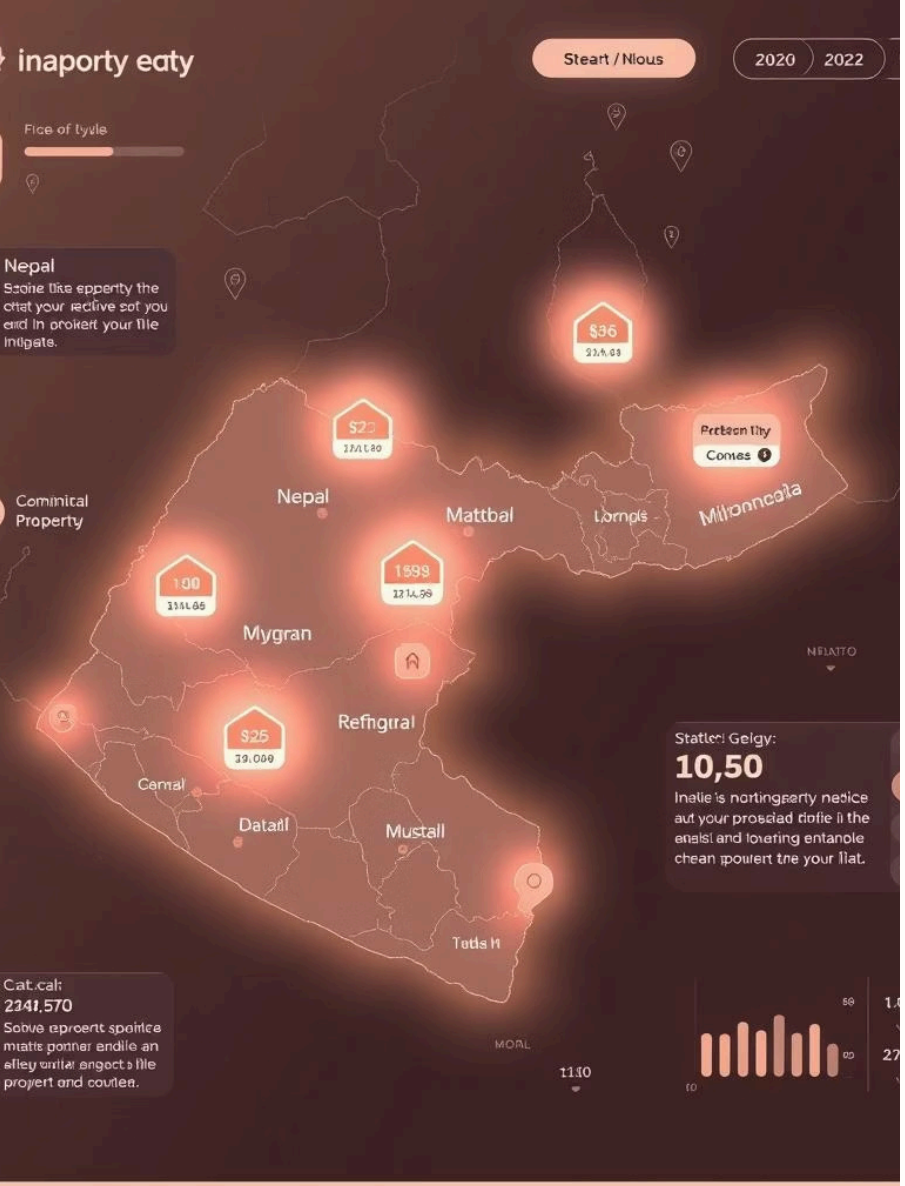
What Went Well

- Agile helped adapt to changes.
- Clear communication in a small team.

Challenges & Changes

- Data cleaning took longer.
- UI/backend version conflicts.
- Simplified frontend, re-trained model.





Next Steps

Future Enhancements

Add authentication (Google/email login).

Deployment

Deploy fully online (GCP or Heroku).

Data & Visualization

Increase dataset size; add map-based price visualization.