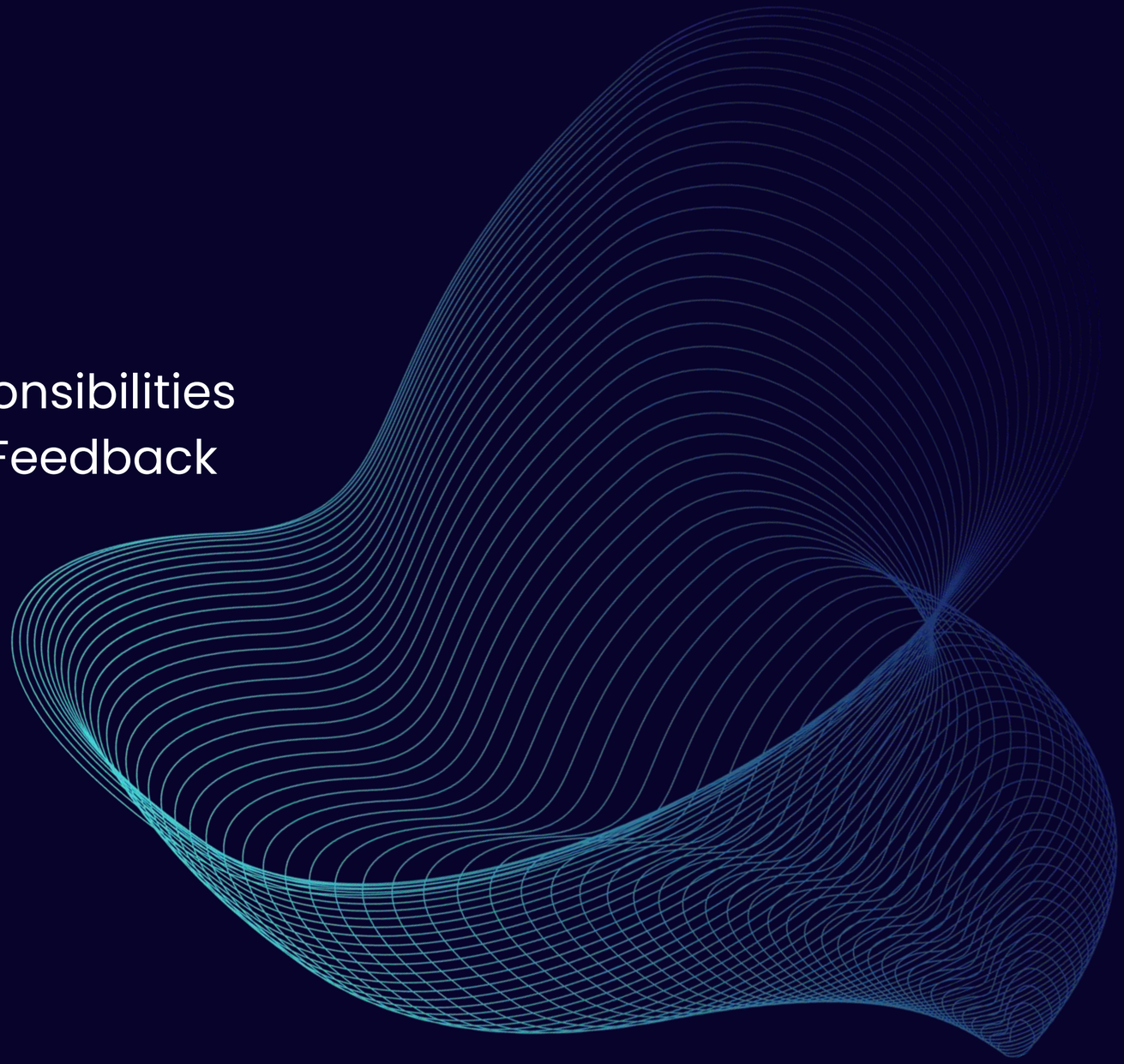
DestinEase

Travel advisor App

Team: Visionary Techs
CS-691-Capstone Project

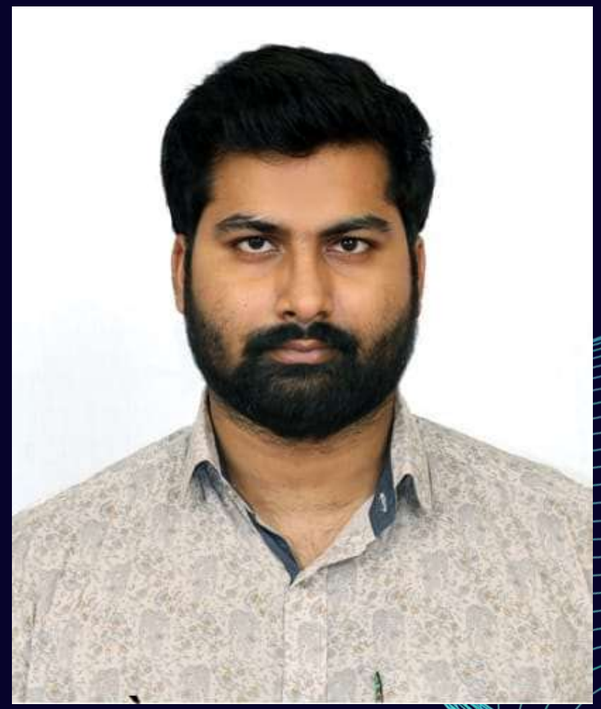
AGENDA

- Introduction
- Team Member Roles and Responsibilities
- Improvements from Professor Feedback
- Project Description
- Personas
- MVP and Technologies
- Diagrams
- Product Backlog & Sprint 1
- Metrics & Retrospective
- Project Demo and Github Link



Roles and Responsibilities

Ramanjul Reddy Kotlo
Project Manager & Developer



Manish Chowdary Veeravalli
Developer and UI/UX Designer

Satheesh Bollineni
UI/UX Developer

Roles and Responsibilities

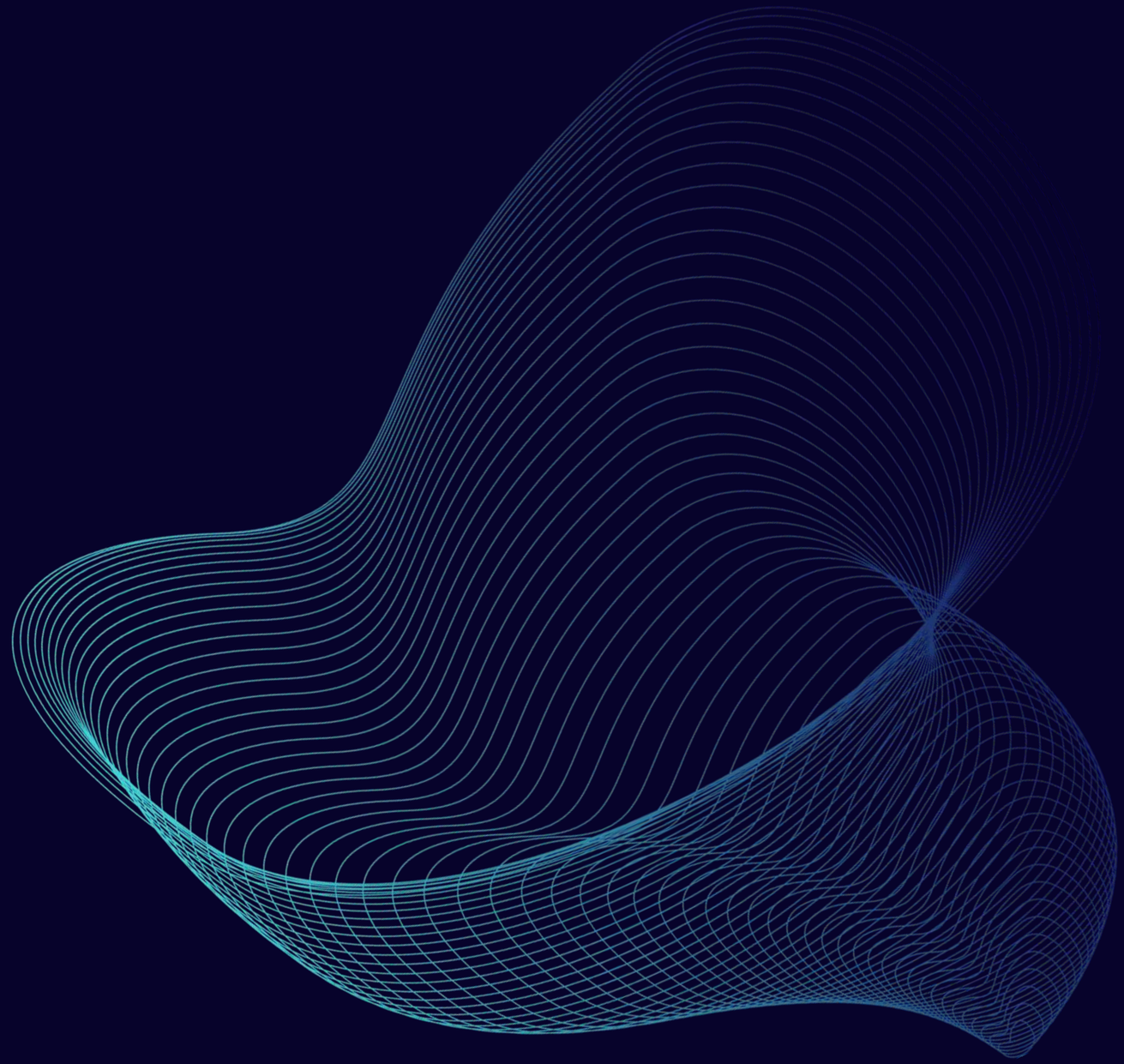
Siva Naga Mahesh Kadem
Quality Assurance (QA) Tester

Srija Vanka
Developer (Frontend)

Sandhya Sri
Developer(Backend)

Improvements

- Group Schedule Planning
- Team Collaboration
- Retrospective



Project Description

Project Name: DestinEase

Team: Visionary Techs

Project Description:

For **travel enthusiasts**
who **want personalized destination recommendations**,
DestinEase is a **travel recommendation platform**
that **uses artificial intelligence to analyze preferences such as budget, weather, and food interests, providing highly personalized destination suggestions**.
Unlike **manual travel research or generic travel platforms**,
our application **delivers real-time, up-to-date, and tailored recommendations, saving users time and effort in discovering ideal destinations**.

Benefit Outcomes:

- **Faster and more efficient travel planning** with personalized destination suggestions
- **Real-time data integration**, ensuring recommendations are always current (weather, pricing, etc.)
- **Enhanced user satisfaction** through tailored destination options that align with individual preferences

Github Link: https://github.com/htmw/2024F-Visionary-Techs/wiki

Team Working Agreement

TEAM WORKING AGREEMENT

Team Name: Visionary Techs

Team members:

1. Siva Naga Mahesh Kadem
2. Manish Chowdary Veeravalli
3. Srija Vanka
4. Sandhya Sri
5. Sateesh Bollineni
6. Ramanjul Reddy Kotlo

Roles and Responsibilities:

1. Ramanjul Reddy Kotlo – Project Manager & Developer
2. Manish Chowdary – Developer and UI/UX Designer
3. Srija Venka – Developer (Frontend)
4. Sandhya Sri – Developer (Bankend)
5. Sateesh Bollineni – Developer (ML Engineer)
6. Siva Naga Mahesh Kadem - Quality Assurance (QA) Tester

Terms of Agreement

Meetings and Communication

The team will collaborate with each other through various methods. For weekly meetings for meaningful team discussions, Zoom meetings will be used.

For Quick Comments, quick discussion, and emergencies are to be communicated through a WhatsApp app.

To share the sprint deliverables, resources sharing, and take notes, Google Docs will be used where all the team members can edit the document and also, we can use GitHub wiki page along with Google Docs for sharing recordings of weekly team meetings, Microsoft Word documents, and PowerPoints and others.

Work Distribution

All team members commit to sharing the workload equitably, ensuring that responsibilities are evenly distributed. In the event that any member feels overwhelmed, the team will promptly reassess and redistribute tasks to maintain balance and support each other's success.

Resolution Process

In the event of any disagreements regarding tasks or responsibilities, we will openly discuss the issue as a team and resolve it through a mutual agreement, ensuring that all opinions are considered and valid.

Timelines

We will establish clear and realistic timelines for each task to ensure steady progress throughout the project. All team members are expected to take ownership of their assigned tasks and commit to meeting these timelines, our collective commitment is to submit all deliverables on or before the agreed-upon timelines, ensuring that each member actively contributes their share. This collaboration fosters accountability and guarantees that the final outcome reflects the efforts and dedication of the entire team.

End-User Persona: The Practical Explorer

Maria Johnson

About

- **Age: 35 years**
- **Chicago, USA**
- **Female**
- **HR Manager**
- **Tech Savviness: Intermediate**

Travel Habits:

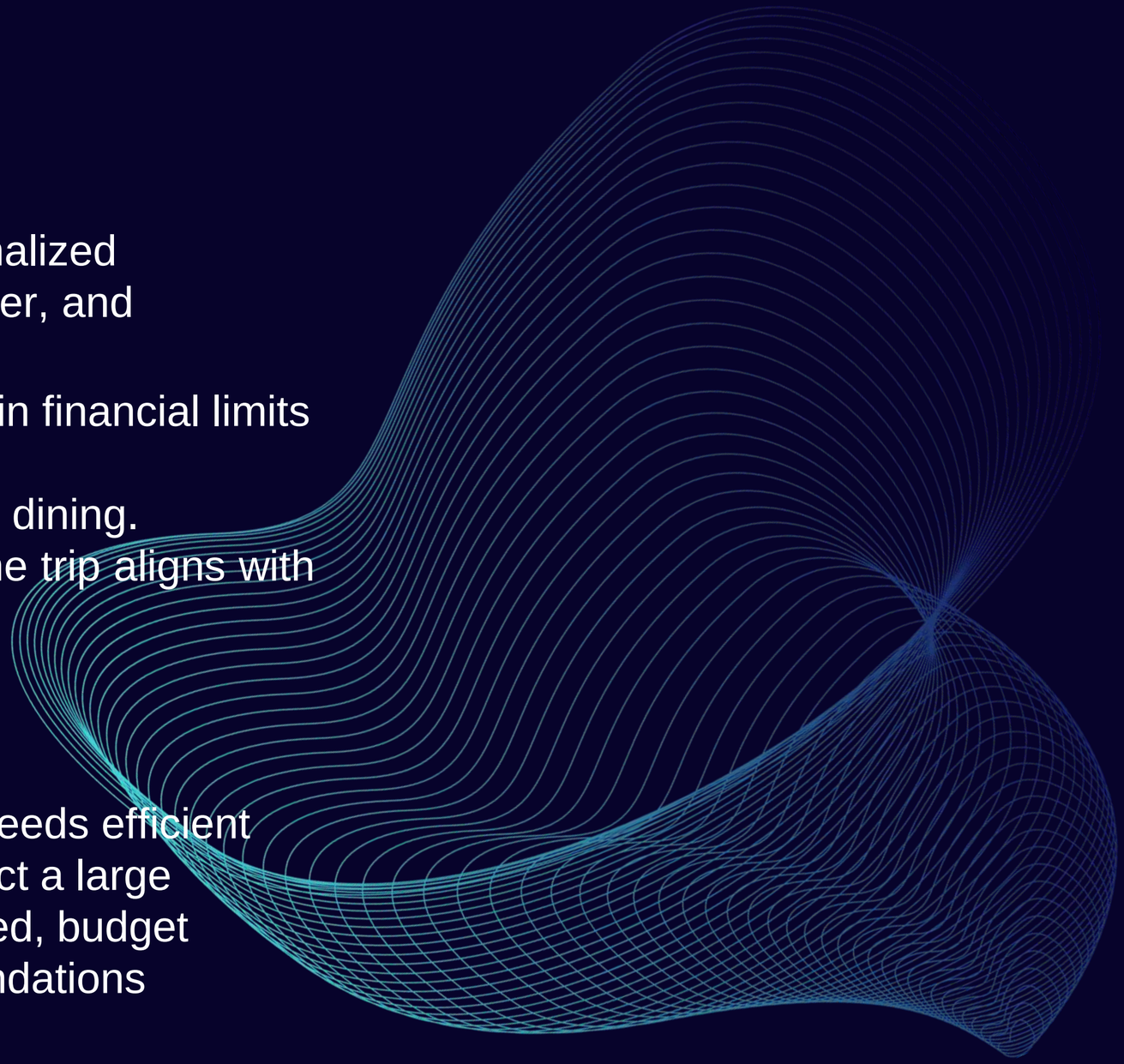
- Travels twice a year for leisure, seeking well-rounded vacations that balance adventure and relaxation.
- Prefers well-planned trips with detailed itineraries, comfortable accommodations, and reliable transportation.
- Often travels with family and friends, making group travel deals and suggestions important.
- Uses apps for convenience and values personalized recommendations based on preferences and budget.

What She Wants from the App:

- Simple, easy-to-use interface with personalized recommendations for destinations, weather, and activities.
- Budget tracking features to keep her within financial limits while planning a vacation.
- Family-friendly suggestions for travel and dining.
- Weather-based travel advice, ensuring the trip aligns with her preferred climate.

Why She Matters:

- She’s a practical, frequent traveler who needs efficient travel planning solutions. Her needs reflect a large segment of users who rely on personalized, budget conscious, and well-organized recommendations



End-User Persona: The Travel Vlogger

Isabella Cruz

About

- **Age: 29 Years**
- **Barcelona, Spain**
- **Female**
- **Travel Vlogger & Social Media Influencer**
- **Tech Savviness: Advanced**

Travel Habits:

- Travels frequently to exotic locations, documenting her experiences for her YouTube channel and Instagram followers.
- Seeks unique, off-the-beaten-path destinations to offer fresh content to her audience.
- Often collaborates with brands for sponsored trips, so she looks for destinations that are trendy and Instagrammable.
- Needs accurate weather information and affordable flights for planning content around seasonal events and festivals.

What She Wants from the App:

- Destination recommendations based on current trends and popular social media hashtags.
- Suggestions for visually appealing, photo-friendly places (e.g., natural landscapes, cultural landmarks).
- Real-time flight and accommodation deals to help plan last-minute trips.
- Ability to integrate with her social media platforms for easy sharing of reviews and recommendations.

Why She Matters:

- As a social media influencer, her use of the app can drive brand visibility, with her audience potentially becoming users. Her recommendations could help shape travel trends among her followers.

End-User Persona: The Impulse Traveler

Steve Miller

About

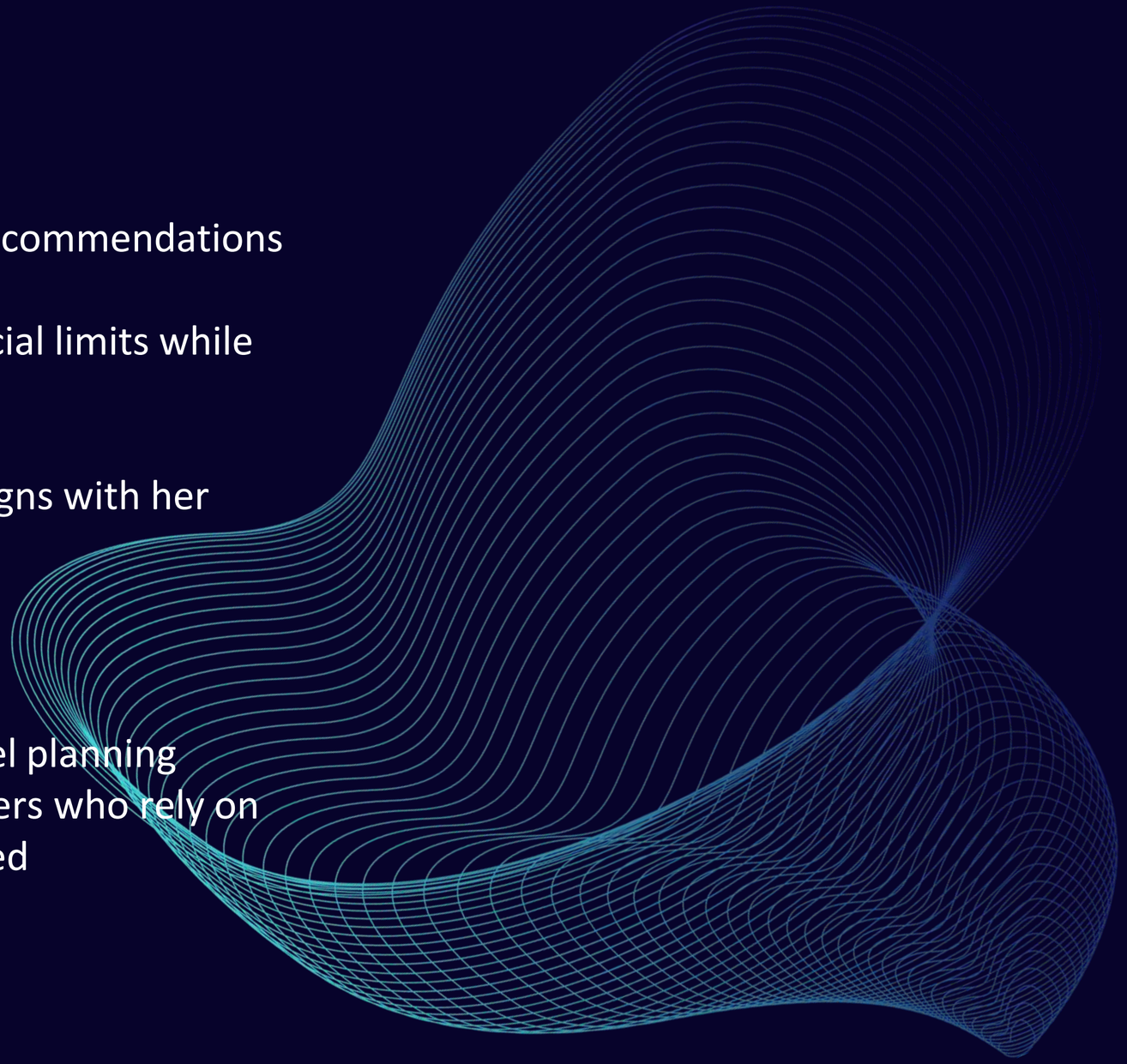
- **Age: 41 Years**
- **Dallas, USA**
- **Male**
- **Real Estate Broker**
- **Tech Savviness: Beginner**

Travel Habits:

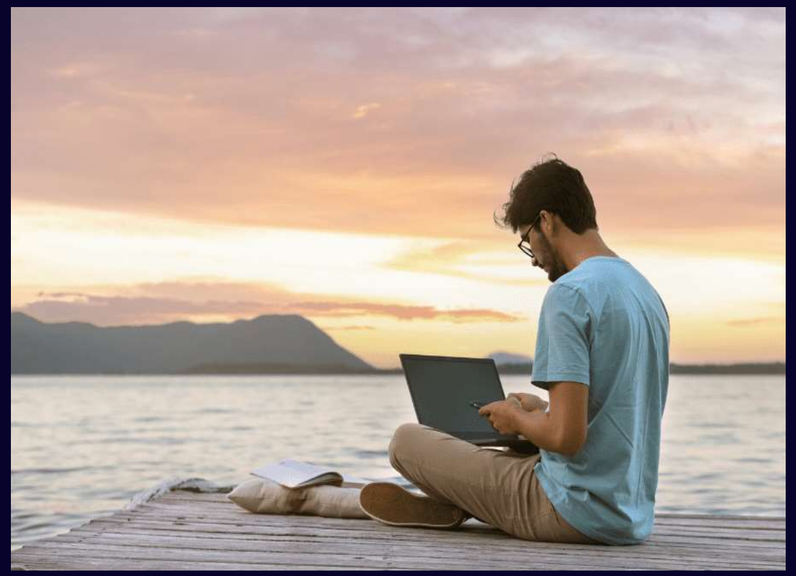
- Travels impulsively, usually deciding at the last minute without much planning.
- Prefers to book travel through a travel agent or simple online tools without much concern for research or reviews.
- Often makes spontaneous weekend trips without needing detailed itineraries or recommendations.
- Doesn't care much about flight prices, weather conditions, or specific local food options.

What He Wants from the App:
Simple, easy-to-use interface with personalised recommendations for destinations, weather, and activities.
Budget tracking features to keep her within financial limits while planning a vacation.
Family-friendly suggestions for travel and dining.
Weather-based travel advice, ensuring the trip aligns with her preferred climate.

Why He Matters:
He is a frequent traveler who needs efficient travel planning solutions. Her needs reflect a large segment of users who rely on personalized, budget conscious, and well-organized recommendations



End-User Persona: The Digital Nomad



Liam O’Connor

About

- **Age: 33 Years**
- **Dublin, Ireland**
- **Male**
- **Freelance Web Developer**
- **Tech Savviness: Advanced**

Travel Habits:

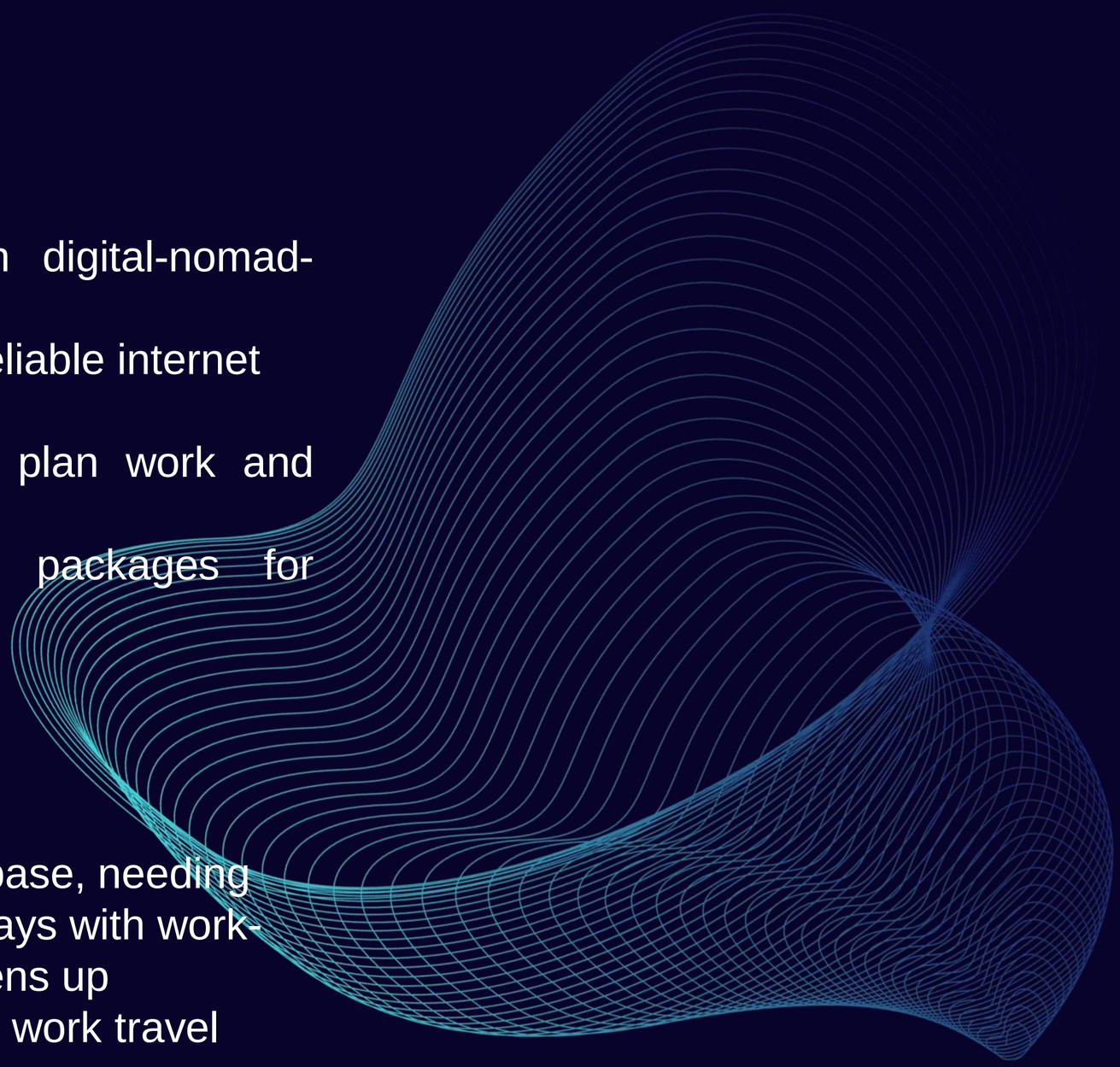
- Travels frequently while working remotely, staying in destinations for 2-3 months at a time.
- Values locations with reliable internet connectivity, affordable accommodations, and coworking spaces.
- Prefers to immerse himself in local culture, exploring offbeat locations, food, and activities during his downtime.
- Looks for flexible flight options and long-term accommodation deals.

What He Wants from the App:

- Flexible, long-term stay suggestions in digital-nomad-friendly locations.
- Destination recommendations based on reliable internet access and remote work setups.
- Weather forecasts and local events to plan work and leisure activities.
- Affordable flight and accommodation packages for extended stays.

Why He Matters:

- Digital nomads represent a growing user base, needing specialized travel planning for long-term stays with work-friendly setups. Catering to their needs opens up opportunities for expansion into the remote work travel market.



MVP

User Registration and Profile Creation:

- Users can sign up and log in via email or social media accounts (Google, Facebook).
- Basic user profiles are created and stored securely.

Travel Preferences Input:

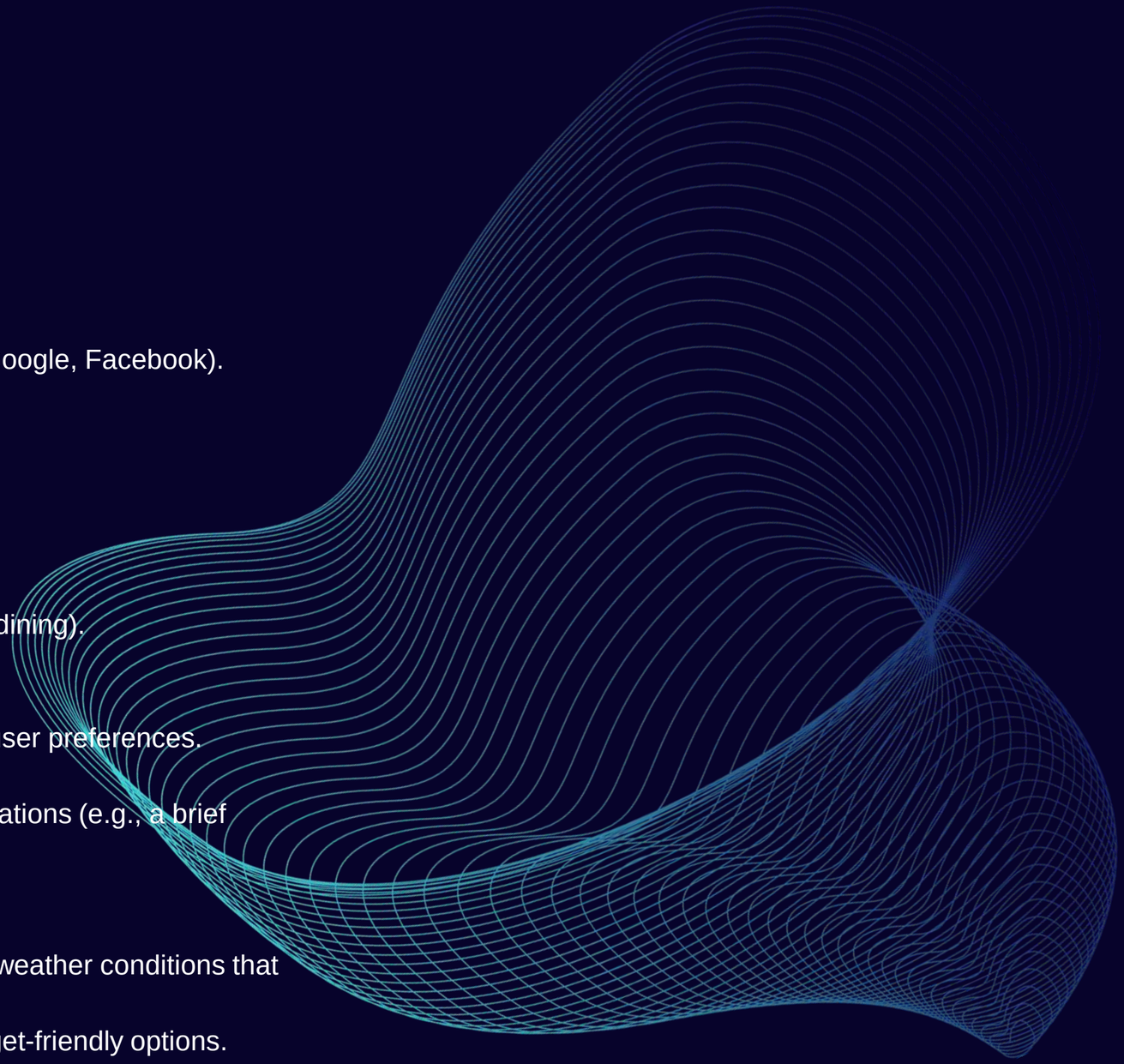
- Users can input key preferences:
  - Budget (low, medium, high).
  - Preferred weather conditions (e.g., warm, cold, moderate).
  - Food preferences (e.g., local cuisine, vegetarian options, fine dining).

Personalized Destination Recommendations:

- A recommendation engine suggests travel destinations based on user preferences.
- Suggestions adjust dynamically if preferences are updated.
- The system provides basic information about the suggested destinations (e.g., a brief description, key highlights).

Basic Real-Time Data Integration:

- Integration with weather APIs to suggest destinations with current weather conditions that match user preferences.
- Integration of basic flight and accommodation data to provide budget-friendly options.



Tools and Technologies

Programming Languages and Frameworks

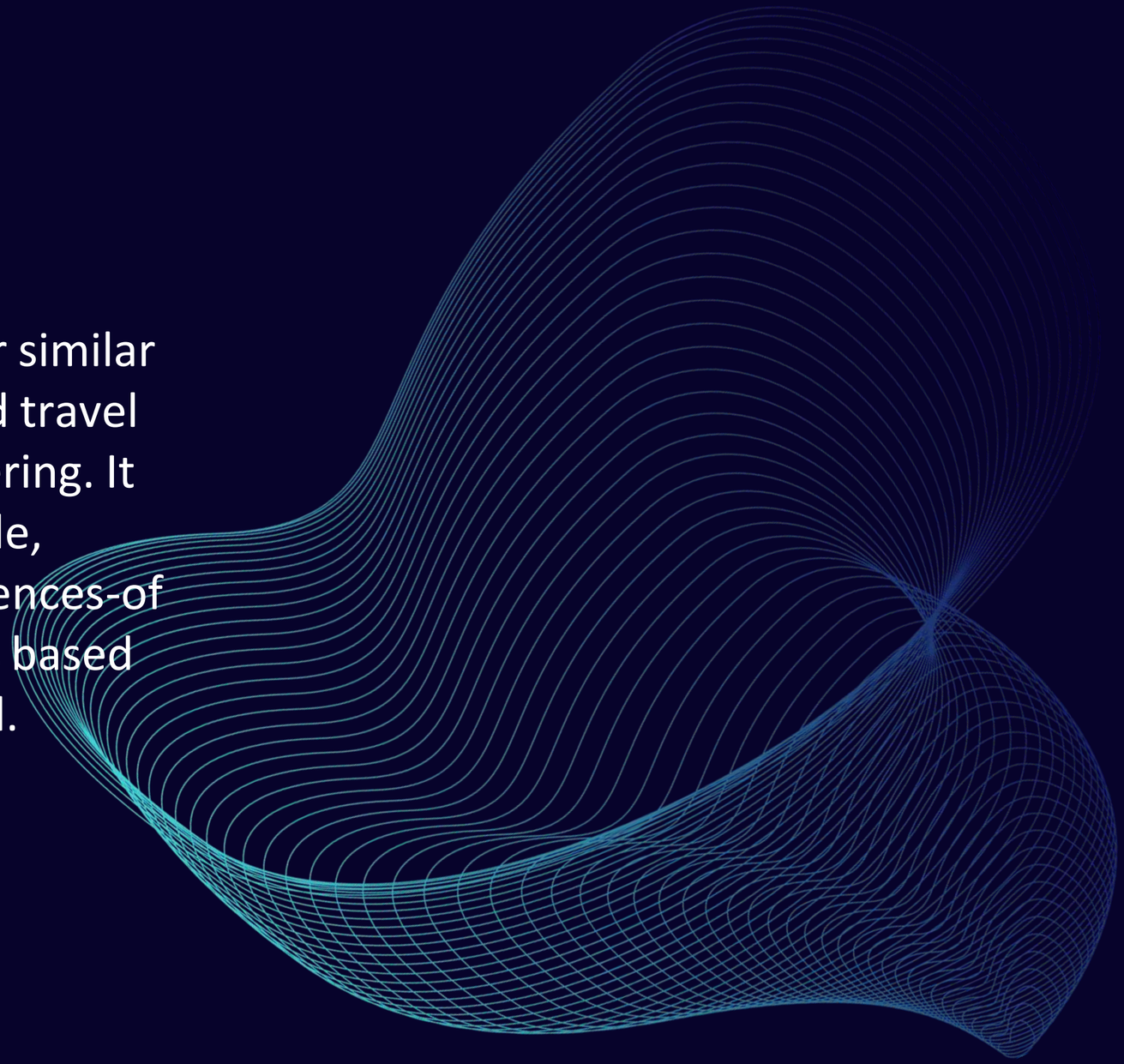
Cloud and Database

Other tools

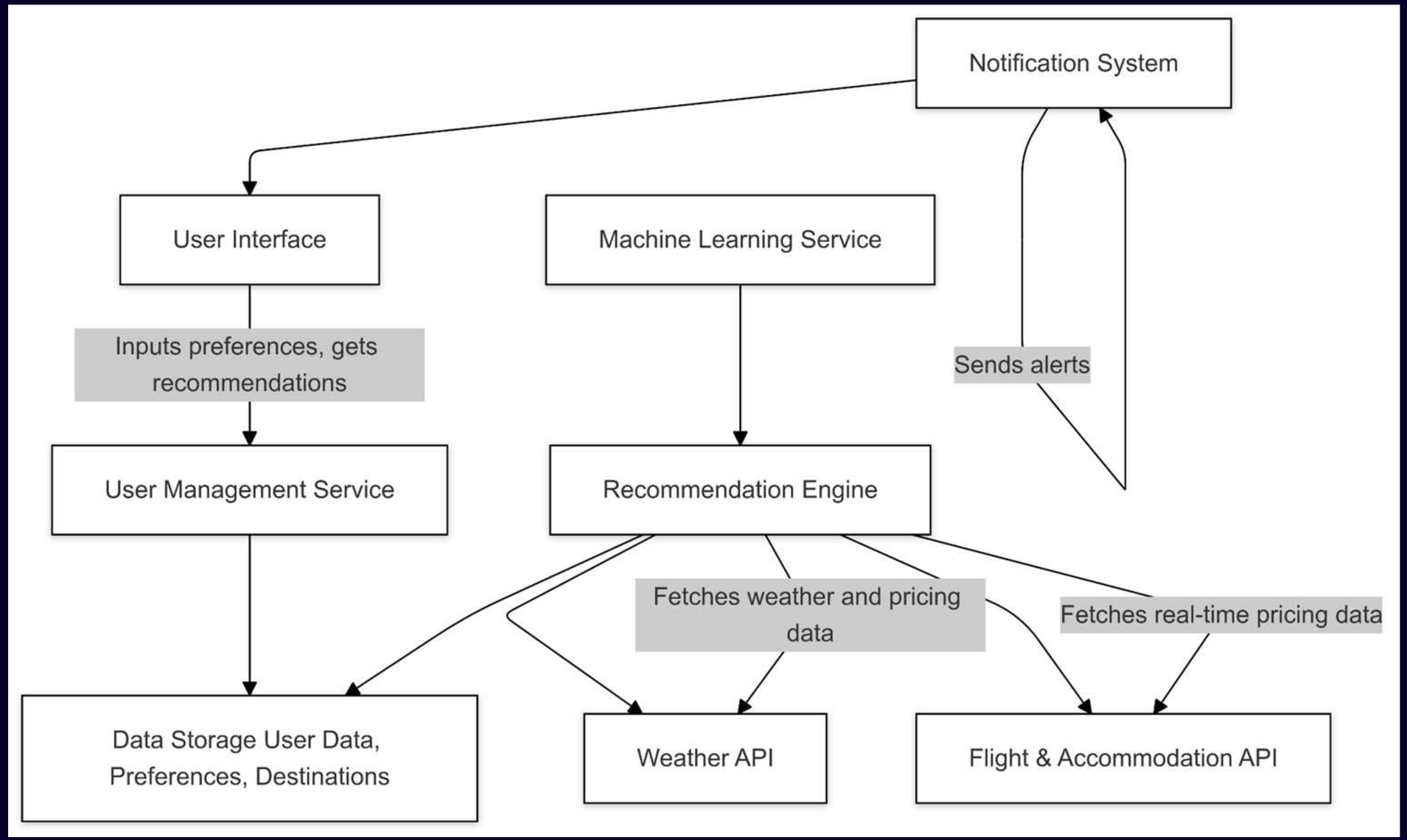
Algorithms

Collaborative Filtering (CF)

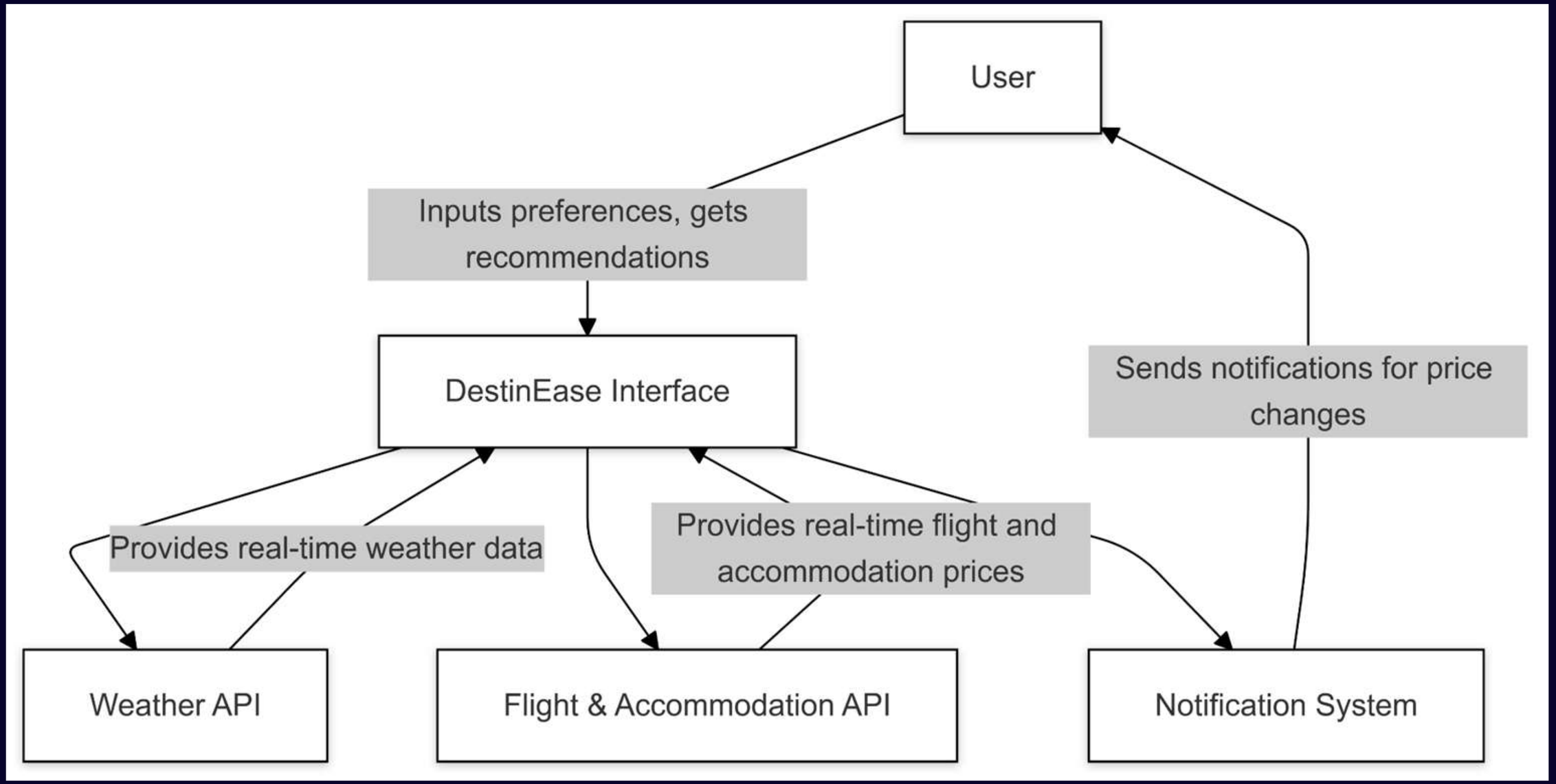
The preferences and behaviors of other similar users can be borrowed for personalized travel recommendations by collaborative filtering. It learns from the interactions-for example, selecting destinations, updating preferences-of users to make smart recommendations based on what similar users liked or preferred.



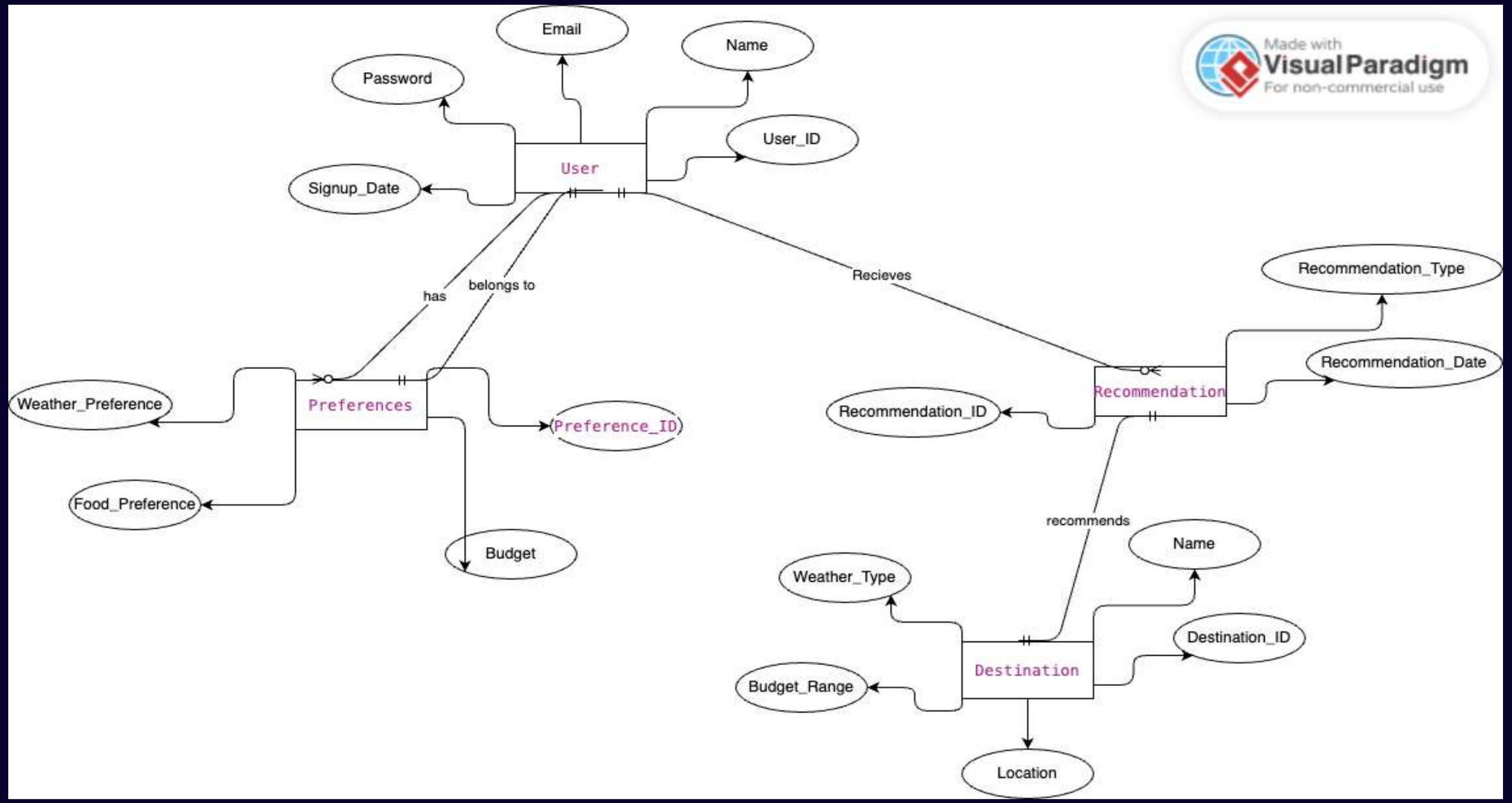
Architecture Diagram



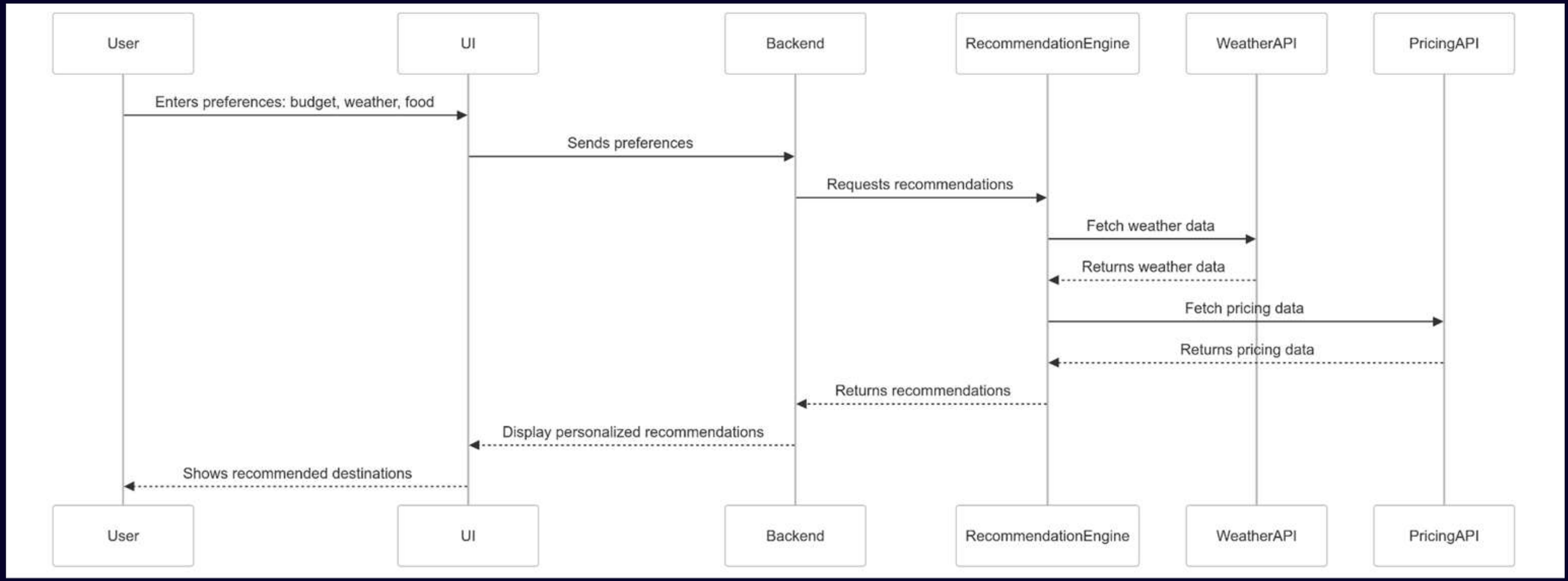
Context Diagram



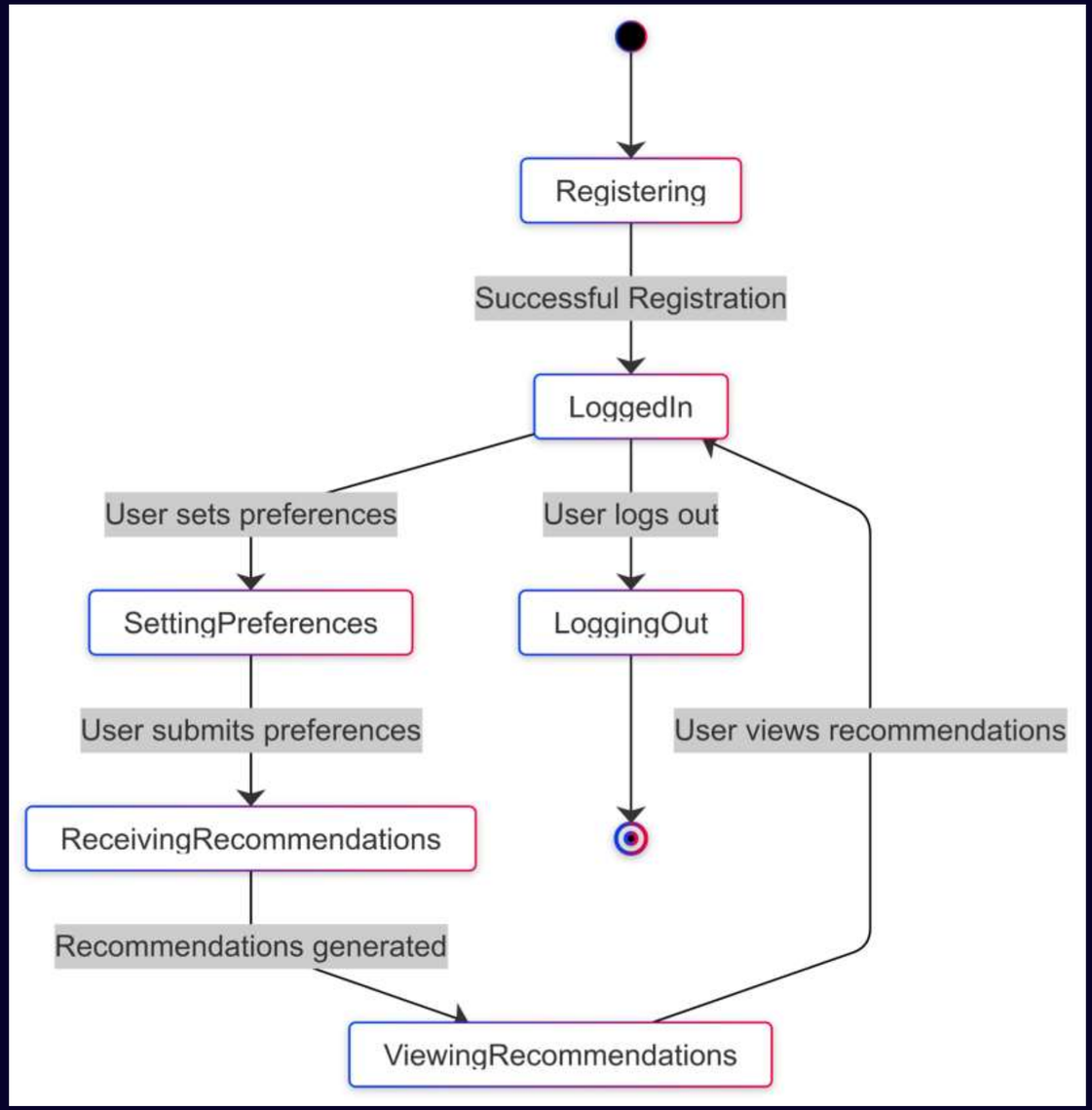
ER Diagram


Email
Name
Password
User_ID
User
Signup_Date
has
belongs to
Recieves
Recommendation_Type
Recommendation_Date
Weather_Preference
Preferences
Preference_ID
Recommendation_ID
Recommendation
Food_Preference
Budget
recommends
Name
Weather_Type
Destination_ID
Destination
Budget_Range
Location
Made with
Visual Paradigm
For non-commercial use

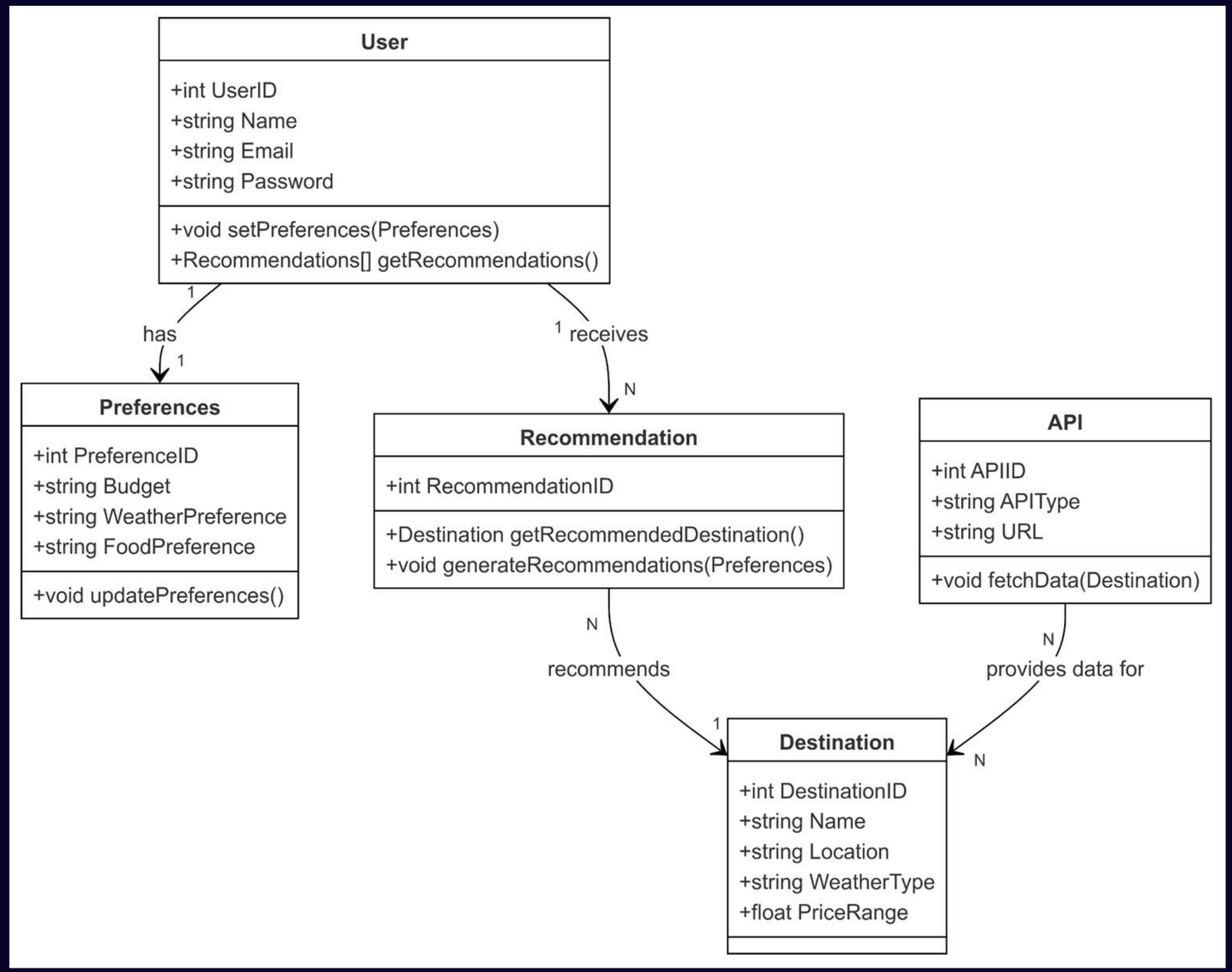
Sequence Diagram



State Diagram



Class Diagram



Product Backlog

Epic	User/Technical Story	Acceptance Criteria	Priority	Sprint
Epic 1: User Preferences Setup and Travel Recommendations	User Story 1.1: User Registration & Login	• Users can sign up using email or social login (e.g., Google, Facebook). • Users can log in to the platform.	High	Sprint 1
	User Story 1.2: Preference Setup	• Users can input a budget, preferred weather conditions, and food preferences. • Data is saved in the user profile for future use.	High	Sprint 1
	User Story 1.3: Basic Destination Recommendation Engine	• The platform suggests destinations based on user input preferences. • Recommendations update if preferences change.	High	Sprint 1

Product Backlog

Epic	User/Technical Story	Acceptance Criteria	Priority	Sprint
Epic 2: Real-Time Data Integration and Trip Planning	User Story 2.1: Real-Time Weather Integration	• The platform integrates weather APIs to provide real-time weather data. • Destination suggestions are filtered by user-preferred weather conditions.	Medium	Sprint 2
	User Story 2.2: Budget-Friendly Destination Suggestions	• The platform provides destination suggestions based on real-time flight and accommodation pricing. • Recommendations adjust according to the user's budget input.	High	Sprint 2
	User Story 2.3: In-App Notifications for Price Changes	• Users are notified in-app if the price for a recommended destination changes.	Medium	Sprint 3

Product Backlog

Epic	User/Technical Story	Acceptance Criteria	Priority	Sprint
Epic 3: Smart Recommendation System	User Story 3.1: Machine Learning-based Recommendation Engine	• The system uses a machine learning model to refine destination recommendations based on user interactions. • Personalized recommendations improve over time.	High	Sprint 3
	User Story 3.2: Smart Filters	• Users can apply multiple filters to recommendations, such as food type, cost, weather, and proximity to landmarks.	Medium	Sprint 3
Technical Stories	Technical Story 1: Database Setup	• A scalable database schema is designed and implemented. • User data, preferences, and destination information are securely stored and retrievable.	High	Sprint 1

Sprint 1 Stories

Story/Task	Acceptance Criteria (AC)	Story Points
User Story 1.1: User Registration & Login	• Users can sign up using email or social login (Google, Facebook). • Users can log in to the platform.	3
User Story 1.2: Preference Setup	• Users can input budget, weather, and food preferences. • Data is saved in the user profile for future use.	5
User Story 1.3: Basic Destination Recommendation	• The platform suggests destinations based on user preferences. • Recommendations update if preferences change.	8
Technical Story 1: Database Setup	• A scalable database schema is designed and implemented. • User data is securely stored and retrievable.	5

Sprint 1 Stories Completed

Story/Task	Status	Story Points
User Story 1.1: User Registration & Login	Completed	3
User Story 1.2: Preference Setup	Completed	5
User Story 1.3: Basic Destination Recommendation	Completed	8
Technical Story 1: Database Setup	Completed	5

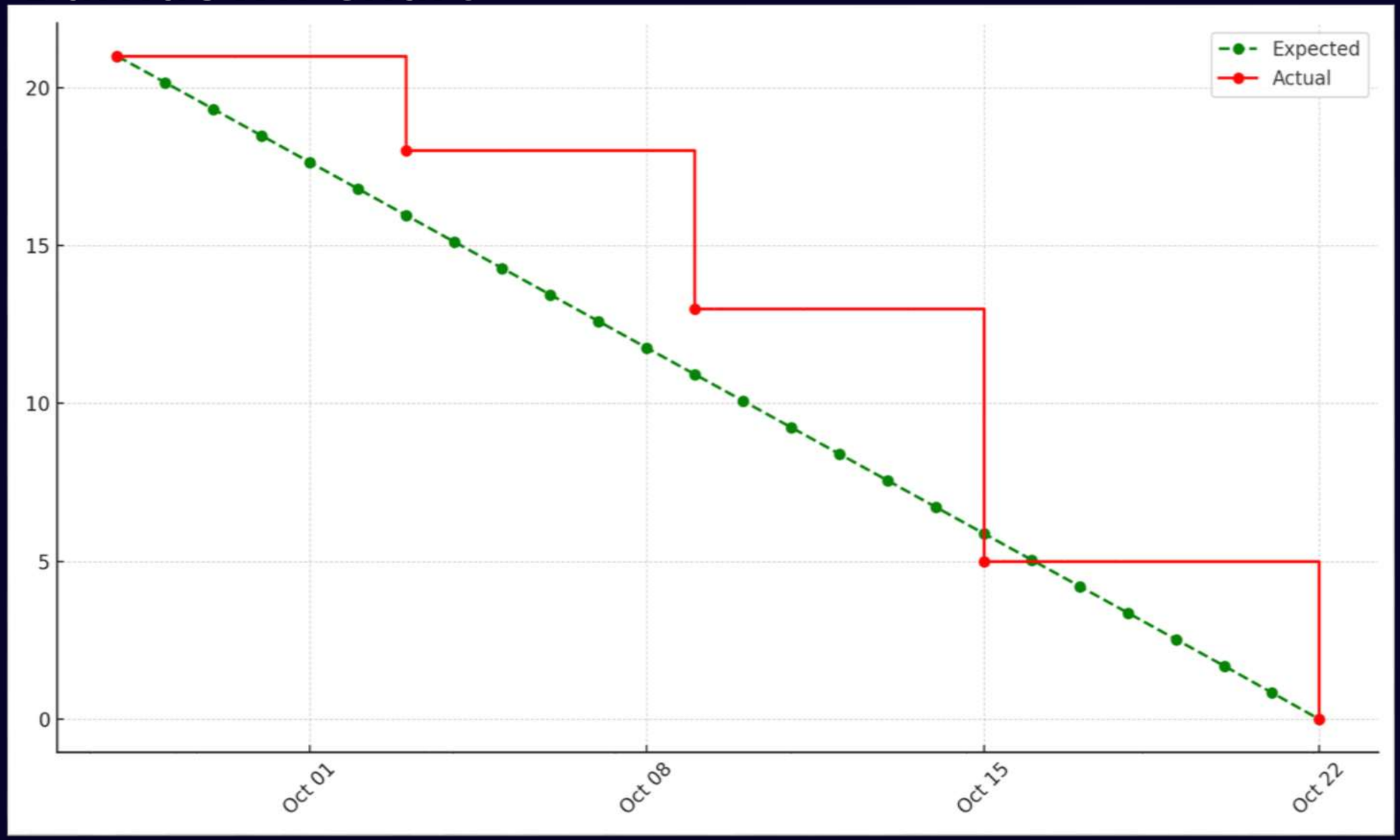
Test Cases Sprint 1

Test Case ID	Story/Task	Test Description	Expected Outcome	Actual Outcome	Pass/Fail
TC1	User Story 1.1: User Registration	Test user registration via email.	User is able to sign up using their email.	User successfully signs up.	Pass
TC2	User Story 1.1: Social Login	Test user login via Google.	User is able to log in using Google credentials.	User successfully logs in via Google.	Pass
TC3	User Story 1.2: Preference Setup	Test input of budget preferences.	User can input budget preference (e.g., low, medium, high).	Budget preference is saved.	Pass
TC4	User Story 1.2: Weather Preferences	Test input of weather preferences.	User can input preferred weather conditions.	Weather preference is saved.	Pass
TC5	User Story 1.2: Food Preferences	Test input of food preferences.	User can input food preferences (e.g., vegetarian).	Food preference is saved.	Pass
TC6	User Story 1.3: Recommendation	Test that the system suggests a destination based on preferences.	User receives relevant destination recommendations.	Destination suggestions provided.	Pass
TC7	User Story 1.3: Recommendation	Test recommendations update when preferences are changed.	Recommendations are updated if user changes preferences.	Recommendations updated accordingly.	Pass
TC8	Technical Story 1: Database Setup	Test database can store user preferences and retrieve them.	User preferences are securely stored and retrievable.	Data is stored and retrievable.	Pass

Team Velocity

Metric	Expected	Actual	Status
Story Points Committed	21	21	✓
Story Points Completed	21	21	✓

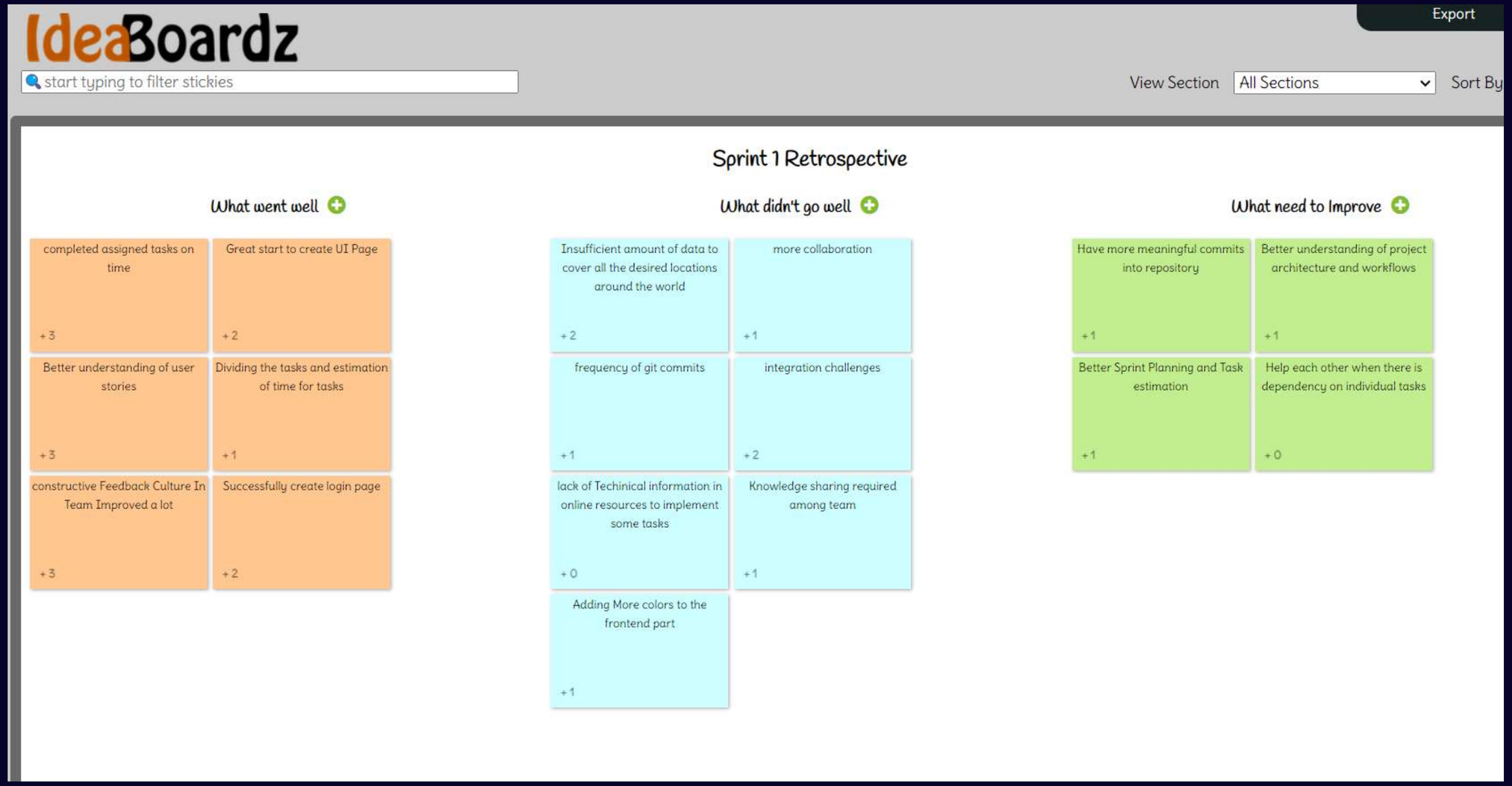
Burndown Chart



Completed/Committed Ratio

Metric	Expected	Actual	Status
Committed Story Points	21	21	✓
Completed Story Points	21	21	✓
Completed/Committed Ratio	100%	100%	✓

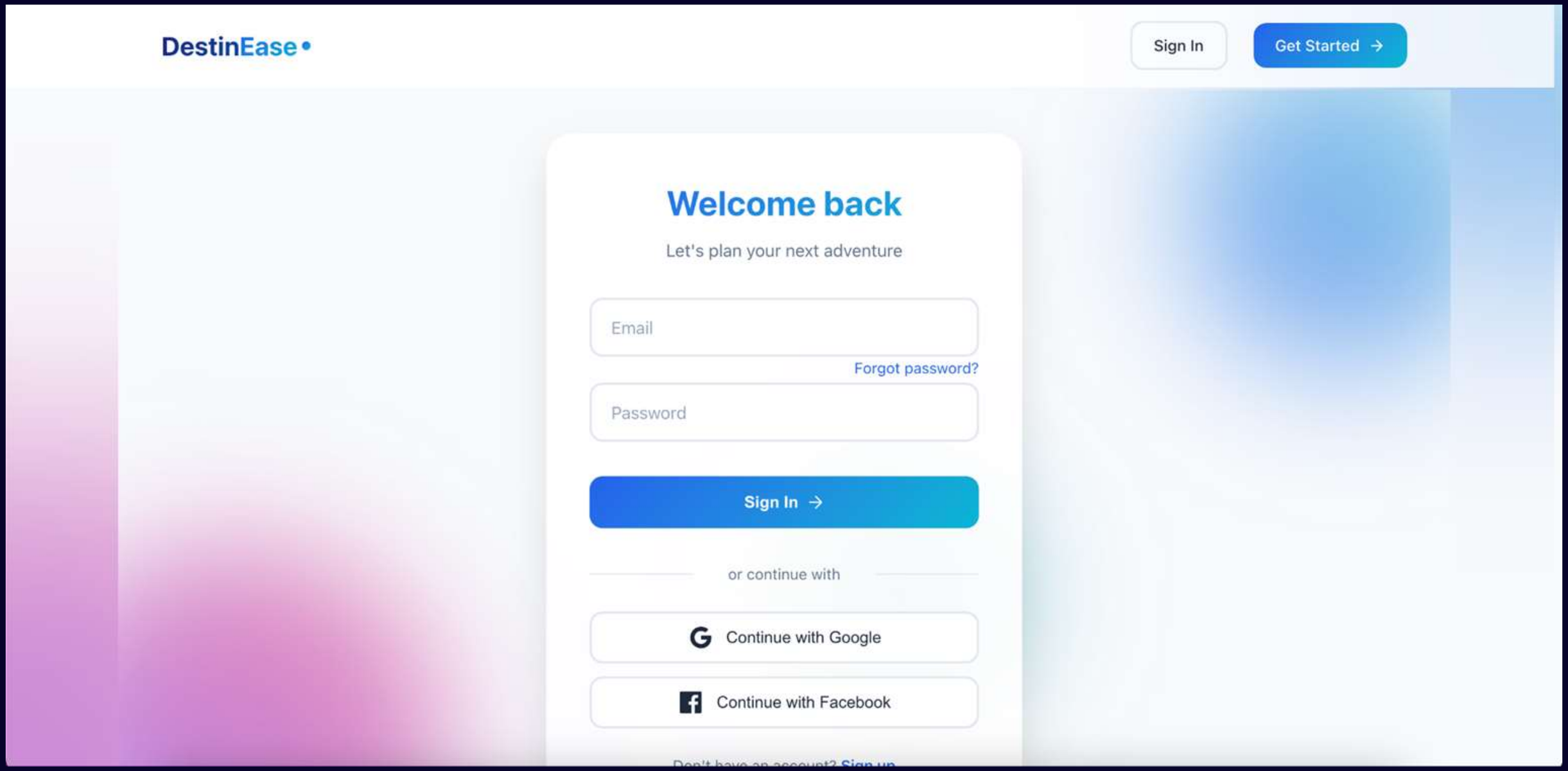
Sprint 1 Retrospective



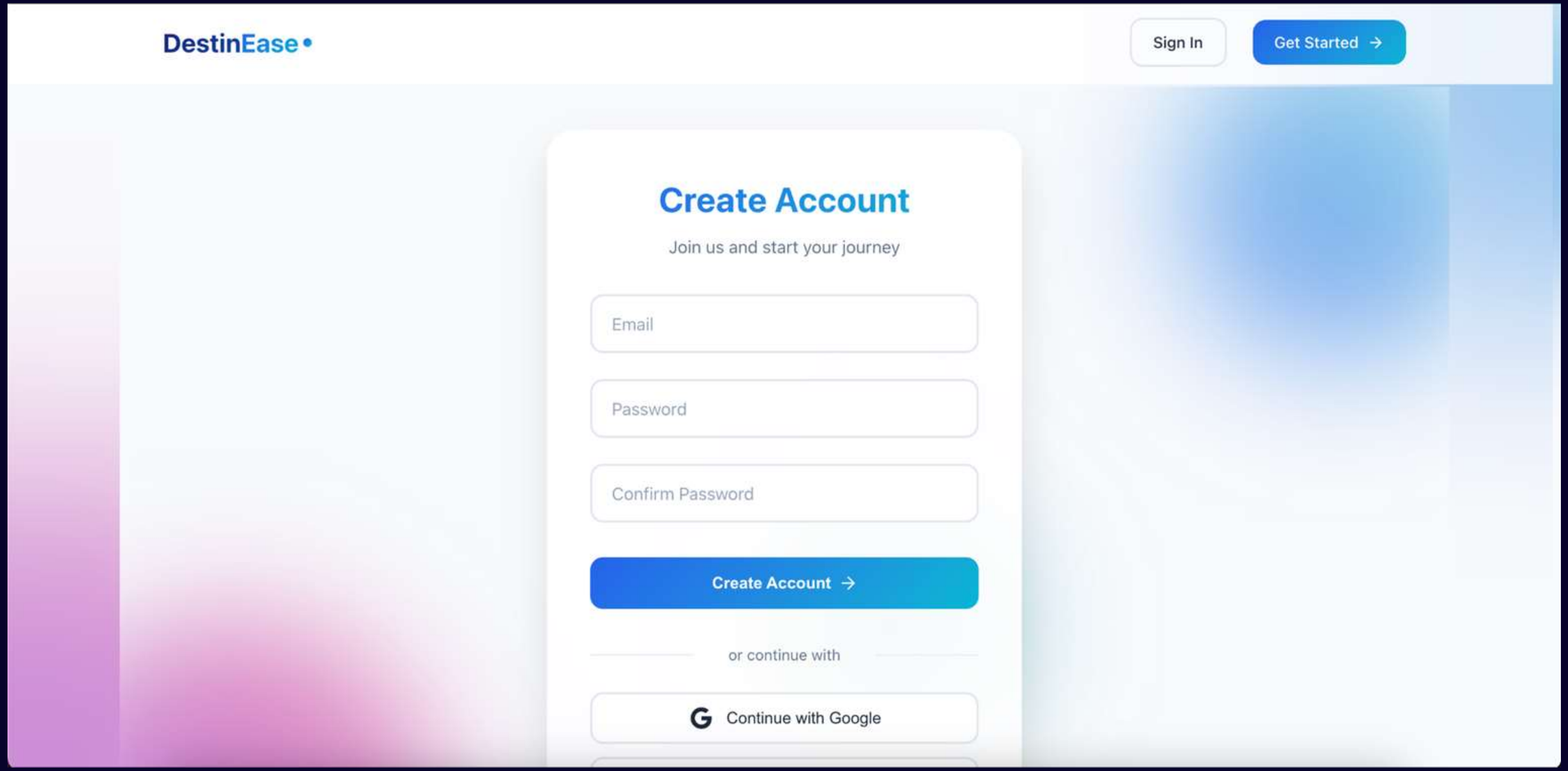
Sprint 2

Story/Task	Acceptance Criteria (AC)	Story Points	Carryover from Sprint 1
User Story 2.1: Real-Time Weather Integration	• Integrate weather APIs to provide real-time weather data. • Destination suggestions reflect the user's weather preferences.	5	No
User Story 2.2: Budget-Friendly Destination Suggestions	• Use APIs for real-time flight and accommodation pricing. • Destinations are adjusted based on user budget.	8	No
Technical Story 2: API Integration for Weather and Price	• Implement API connections to fetch real-time weather and pricing data. • API responses are integrated with the recommendation system.	5	No
Technical Story 3: Database Optimization	• Optimize database queries for real-time data fetching. • Ensure seamless retrieval of updated weather and pricing data.	3	No
User Story 1.3: Basic Destination Recommendation (Enhancement)	• Improve destination recommendations based on updated preferences. • Test system behavior with updated user input.	5	Yes (enhancement from Sprint 1)

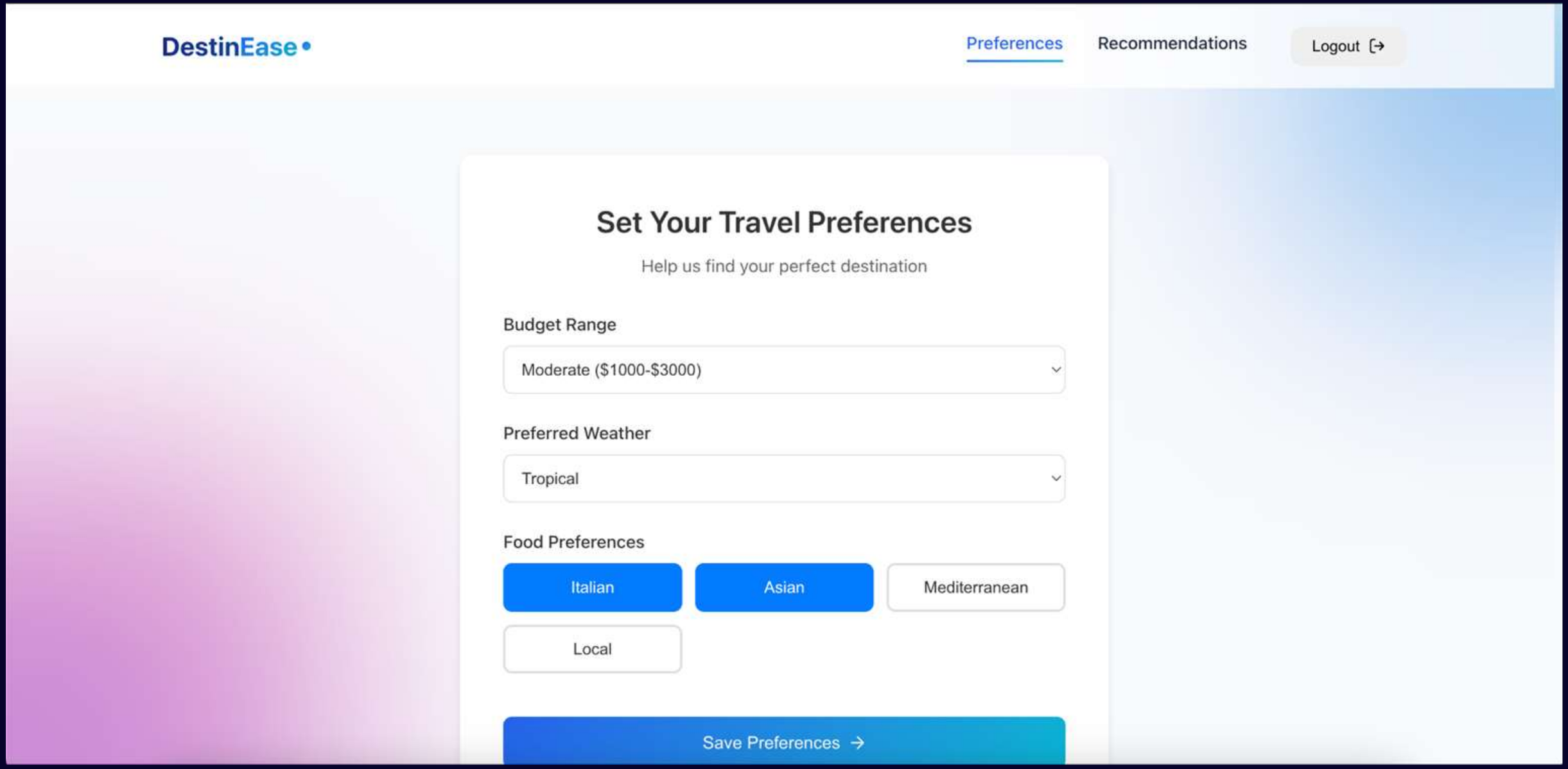
Application Screenshots - Log in



Application Screenshots - Sign Up



Application Screenshots - Preference



Application Screenshots- Basic Recommendations

DestinEase

Preferences Recommendations Logout

Your Travel Recommendations

Personalized destinations based on your preferences

All Tropical Moderate Cold

Bali, Indonesia

Tropical paradise with rich culture and beautiful beaches

$$ Asian Local

Explore →

Bangkok, Thailand

Vibrant city with stunning temples and world-famous street food

$ Asian Local

Explore →

Cancun, Mexico

Caribbean paradise with white sand beaches and ancient ruins

$$ Local Mediterranean

Explore →

API

Creating an Account:
API: curl -X POST http://localhost:5980/api/register -H "Content-Type: application/json" -d '{"email": "test@example.com", "password": "password123"}'
Response:
{"token":"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpZCI6MSwiZW1haWwiOiJ0ZXN0QGV4YW1wbGUuY29tIiwiaWF0IjoxNzI5NjA0NDMwfQ.Q1F7soUck4FqmqaPYOMXu8eHPTvPWebOVvH2uItrWuA","user":{"id":1,"email":"test@example.com"}}%

Setting Preference
API: curl -X POST http://localhost:5980/api/preferences -H "Content-Type: application/json" -H "Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpZCI6MSwiZW1haWwiOiJ0ZXN0QGV4YW1wbGUuY29tIiwiaWF0IjoxNzI5NjA0NDMwfQ.Q1F7soUck4FqmqaPYOMXu8eHPTvPWebOVvH2uItrWuA" -d '{"budget": "moderate", "weather": "tropical", "foodPreferences": ["Asian", "Local"]}'
Response:
{"userId":1,"budget":"moderate","weather":"tropical","foodPreferences":["Asian","Local"]}%

Wiki page link

https://github.com/htmw/2024F-Visionary-Techs/wiki

Live Demo