

# Rover

## Trip planning APP

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# Abstract

“Rover” is a trip planning application made for the traveller community. The name, rover, means "a person who spends their time travelling from place to place". The app allows users to plan for their trips as well as explore new destinations (group trips, food & drinks, attractions, events). Users can also share their plans and look at other users' plans to grow the community. As nowadays travellers prefer to gather information through peers' recommendation, online travel community has become the new trend (Casaló et al., 2011). The purpose of this APP is to provide the traveller community a platform to explore and share. To inspire them by hunting for the hidden gem in every city and celebrating the diversity in cultures.

One of the prominent challenges with current travel apps is their limited scope, often catering to only a few of the diverse needs of travellers. As a result, individuals find themselves needing to download and use multiple apps to address different aspects of their journeys. This fragmented approach creates inconvenience, app clutter, and a disjointed user experience. Travelers are left navigating through a maze of apps for accommodations, flights, transportation, sightseeing, and social interaction, among others.

The traveller community places great importance on the community aspect of a trip planning app. For these adventurous souls, connecting with like-minded individuals is an integral part of their journey. An ideal app would go beyond being a mere tool and foster a sense of belonging and collaboration among travellers. Therefore, Rover provides a platform to fulfil the need of travellers to share their travel experiences, tips, and recommendations, creating a vibrant community-driven hub (Huang et al., 2017).

The theme, logo, assets and initial user interface were designed using Procreate. Figma was used for wireframing and demonstration of the user interaction. The functional App was developed with Swift on Xcode.

# User Group Research and Persona

## Community:

The traveller community represents a diverse and multifaceted group of individuals who prioritize a lifestyle characterized by mobility and exploration or simply enjoys travelling. This community encompasses backpackers, digital nomads, van dwellers, and ordinary people who spend their free time travelling. Their needs and habits revolve around the pursuit of fun and adventure, as well as the desire for unique experiences and personal growth. Travelers often seek affordable and flexible accommodations, access to reliable transportation, and opportunities for cultural immersion. This community fosters a strong sense of connection and camaraderie, often forming tight-knit networks to share travel tips, experiences, and support (Lee et al., 2011).

## Persona:

User 1: Alice is a 28-year-old backpacker. She dreams to travel to every continent. She uses this app to her plan her trips and she always check out and get inspired by plans create by a few more experienced backpackers'. Sometimes she would just copy their plans and the trips turned out to be even more adventurous. She loves to write reviews and publish her plannings to contribute to the community.

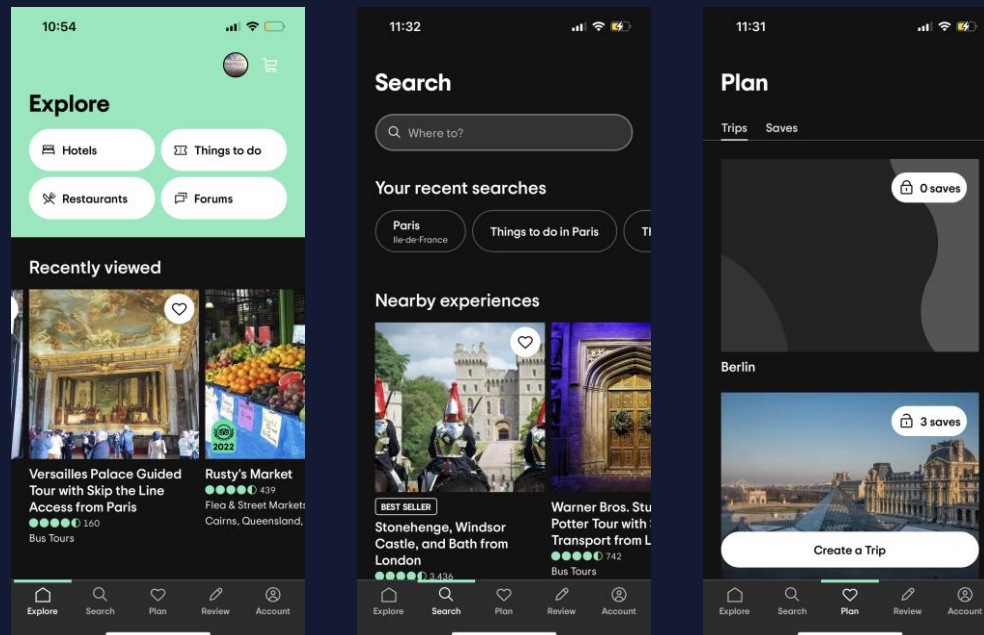
User 2: John is in his 40s. He has two daughters and a son. He plans trips with this app for every holiday. He believes travelling is a great way to learn and he always take his children to museums, seasonal exhibitions and events. He uses the app to find these information and he founds the reviews and highlights very helpful. When he is busy and does not have time to plan trips, he has the option to book guided trips or copy plans made by other users. He publishes trip plans as he believes they are a good way to record the trips and could help other families with young children.

## User groups:

- Backpackers/digital nomads/van dwellers
  - Budget options
  - Vibrant community
  - Inspiring and informative
  - Fun to explore
- Family-traveller
  - Appropriate for all ages
  - Simple to understand and interact with
- Couple-traveller
  - Food & drink information
  - Share planning
- Group-traveller
  - Guided group trips
  - Share planning



# Case Studies



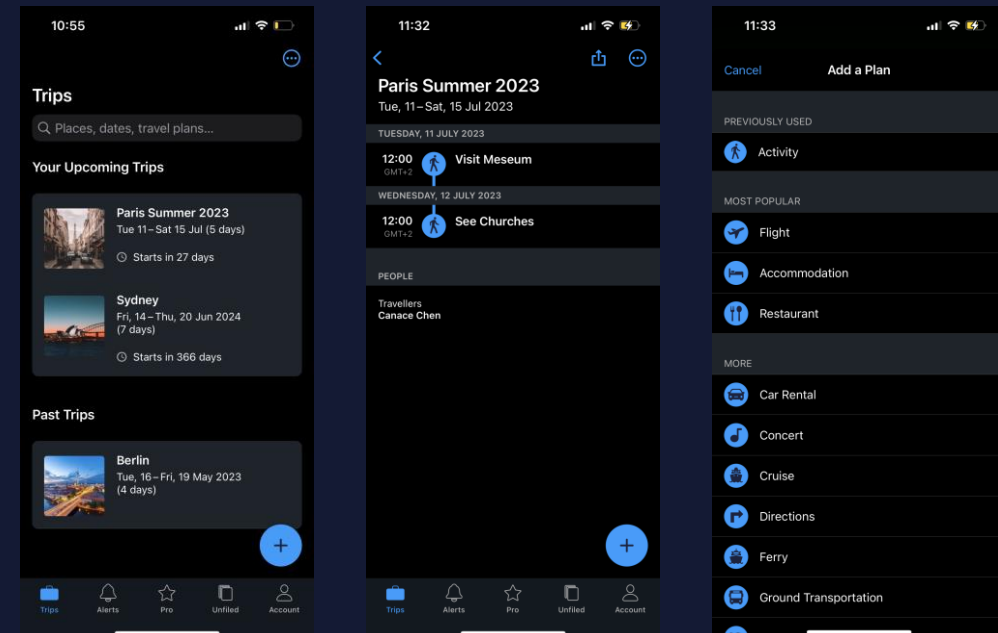
## Case study 1— TripAdvisor

Functionalities: trip planning, reviews, booking & reservations, guided trips, forum, maps

Pros: active atmosphere, strong sense of community, dynamic content & use, large user group/data

Possible improvements:

- Allow user to set dates when creating a new plan
- Add places directly to specific dates
- Add transport to trip planning
- Allow users to see other users' plans (TripAdvisor limits plans to collaborators/people with a link)
- Add seasonal events (concerts, exhibitions, sport games, etc).



## Case study 2— Triplt

Functionalities: trip planning

Pros: detailed planning, clean & precise UI, categorises plans with “past trips” and “upcoming trips”.

Possible improvements:

- Have data on attractions/food and drink places, tours, etc (instead of requiring user to type all information by themselves)
- Allow user to rearrange the order of activities in a plan
- Allow user to write reviews & see other users' reviews
- Allow users to see other users' plans (Triplt only allows user to invite joint-travellers)
- Allow users to explore destinations
- Grow a community

# UI Design/Assets (Procreate)

## Theme & Logo

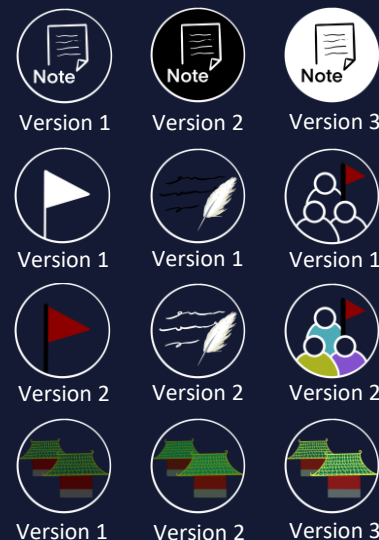
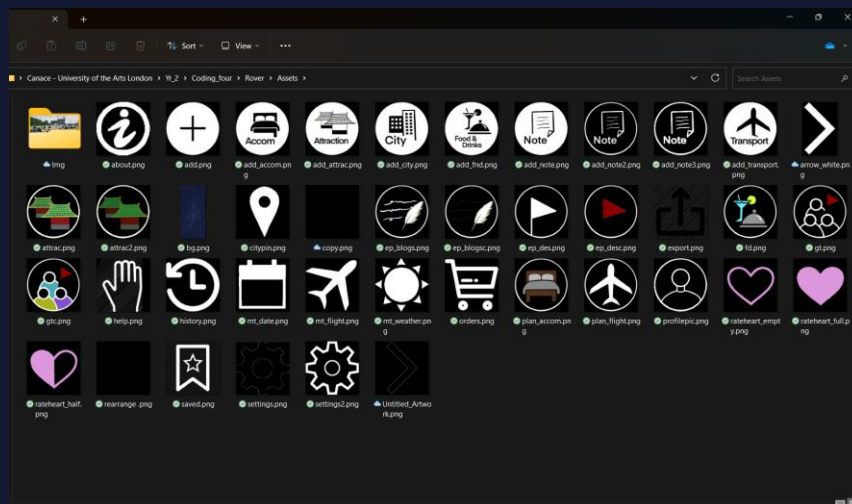


< Theme 1:  
The theme is based on the nature; the background colour represents sunshine, plants, ocean and freedom.

Theme 2: >  
The theme is inspired by planetary rover. It refers to the travellers who explores the world like a planetary rover.

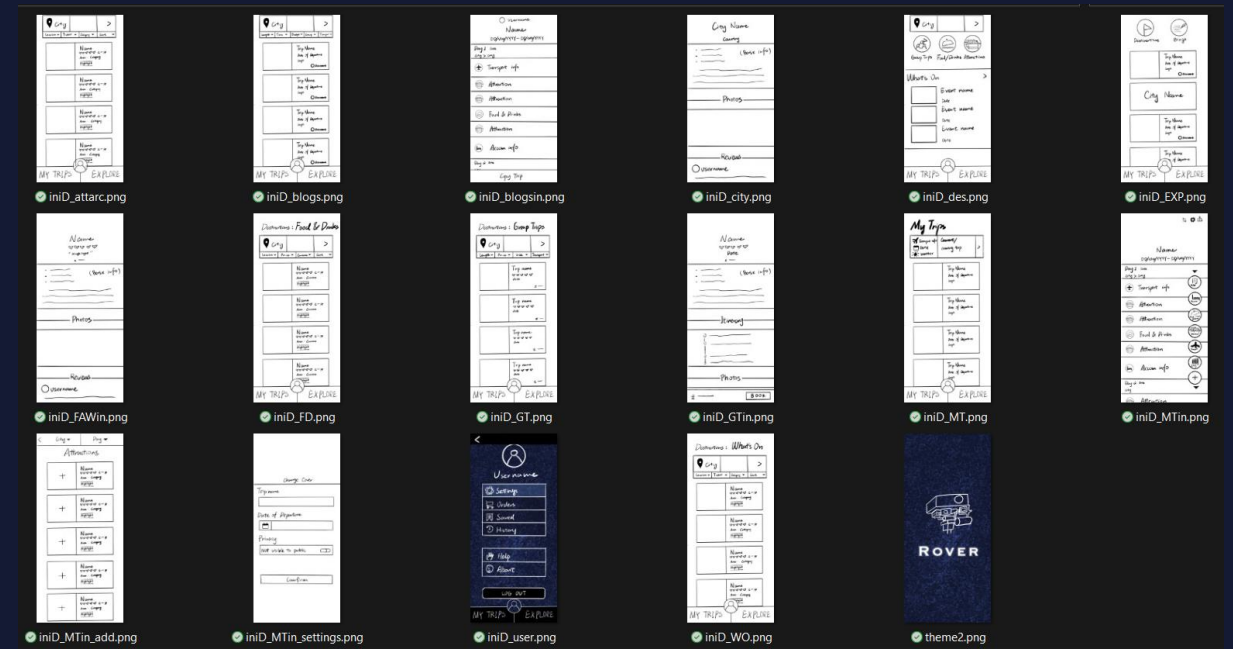


## Assets



All assets are designed and drawn with Procreate. I experimented with different shapes and colours and chose the ones with the best visibility and aesthetic.

## Initial UI Design



The initial UI was designed and drawn with Procreate. There were 19 pages (Food & Drink, Attractions and What's On information pages shared the same design) in total. There were 3 tabs: My trips, User and Explore. My trip is where user create their trip plans. User is a standard user account page. Explore allows users to explore new destinations and get inspired by the photos, reviews and other users' trip plans.

Original images:

<https://drive.google.com/drive/folders/14B0wM7OhZavQnN4T1ujJ4TS1btiMdaBG?usp=sharing>



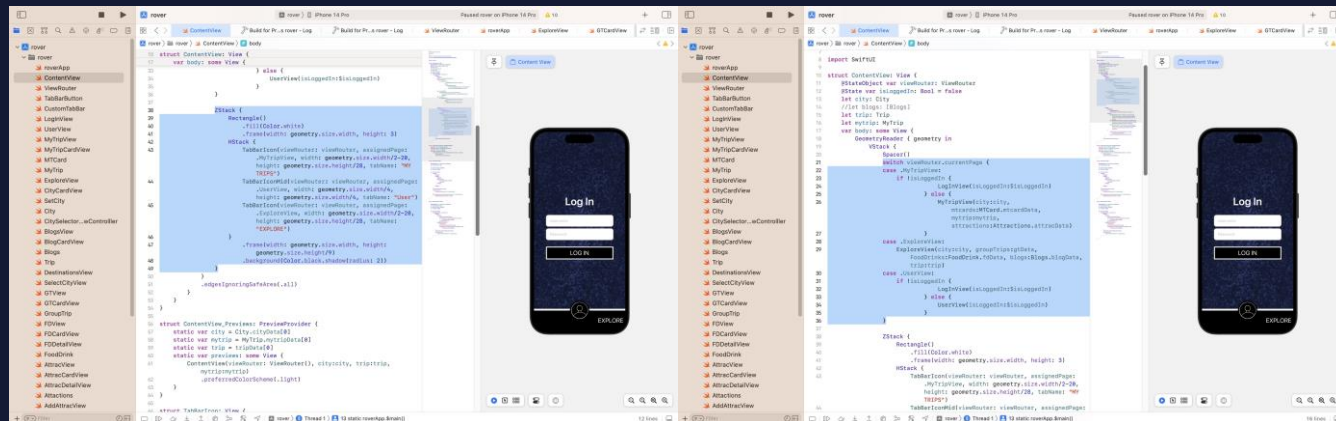
# UI Design/wireframe (Figma)

## Research:

User Experience Design (UXD) of Mobile Application: The navigation of the app should possess an intuitive, predictable, and consistent design, ensuring users can easily move through its interface. Additionally, the data should be readily available, easily accessible to users whenever they need it. Color plays a crucial role in app design, as it can evoke emotions, guide user behavior, enhance usability, and communicate information effectively. (Yazid and Jantan , 2017).

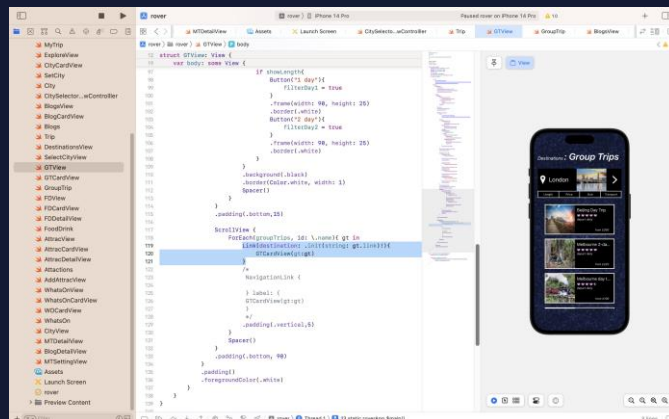
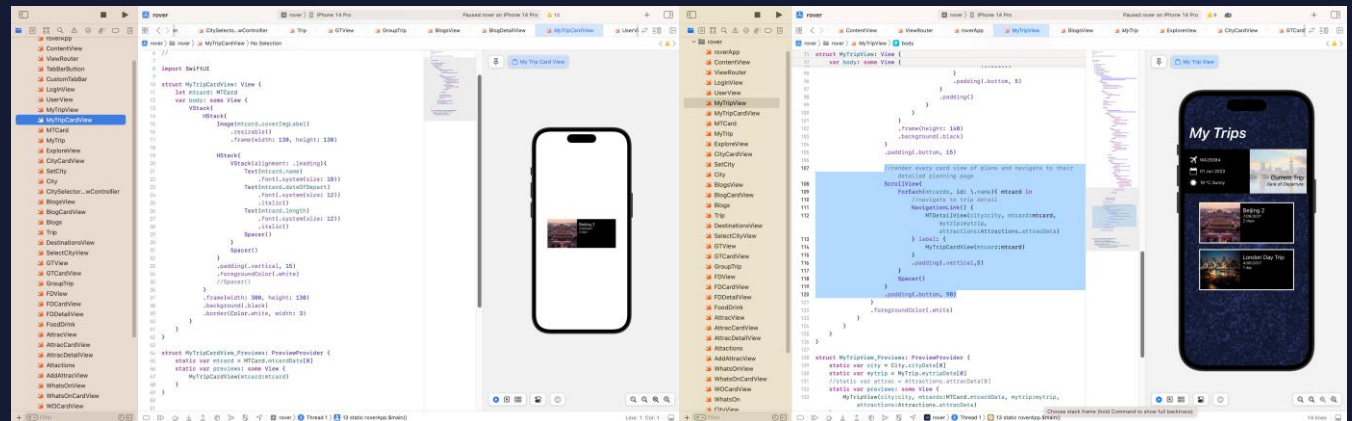


# App Development (Xcode)

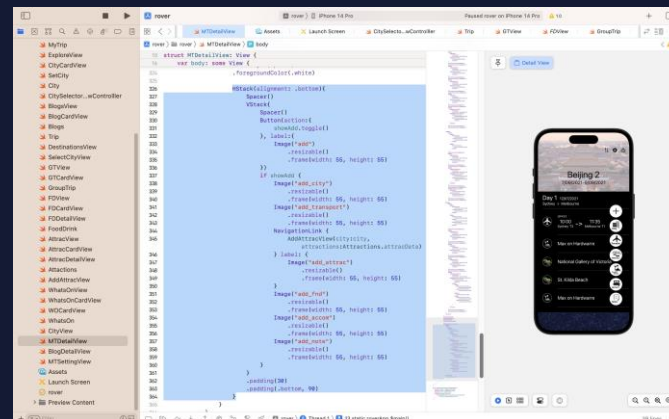


< Custom Tab bar: a custom tab bar was implemented by creating an enum called page and switching cases when tapping different tabs. Since MyTripView and UserView requires the user to log in, but ExploreView does not, a @State variable was created to check whether the user has logged in. Without logging in, the user will see LoginView on MyTripView and UserView tabs.

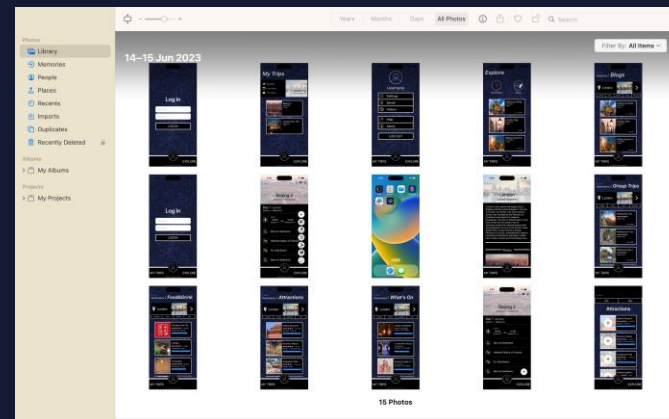
> CardView: there are multiple CardViews used in the app. The cards display key information from the arrays and are created in separate files. They are linked to Main Views via ForEach to loop through and generate a card for every property in the array. NavigationLink and Link are used to direct the user to the information page/webpage.



^ Link: group trip/what's on event cards direct to external websites on Safari instead of information pages to avoid inaccurate and obsolete information.



^ Expand Button: when the “+” button in MTDetailView is tapped, the add options will expand. This is done by creating a @State var and use toggle() to change its state.

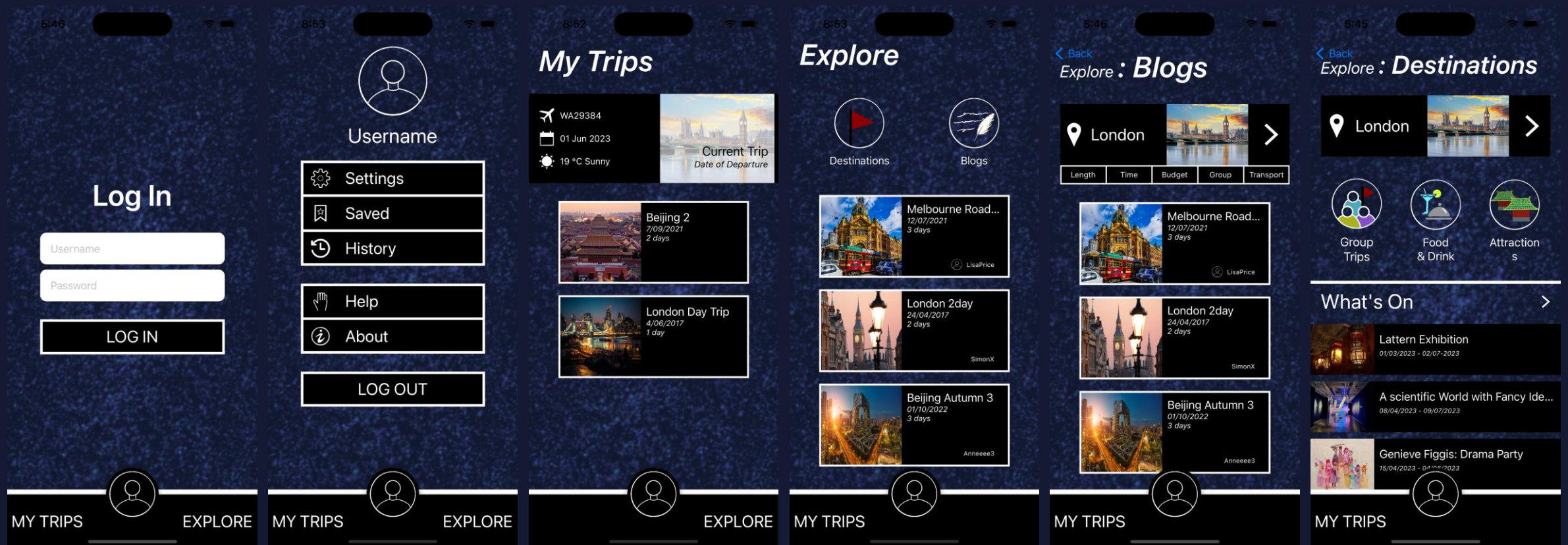


^ A screenshot of all pages in the app when running in the Xcode Simulator.

Full Code:  
[21020295/Rover](https://github.com/21020295/Rover)  
([arts.ac.uk](https://arts.ac.uk))



# Final Prototype



Video:

<https://drive.google.com/file/d/1GIQdbRclWEgjec1EWShlh9H3VvOXzWaZ/view?usp=sharing>



# Evaluation

## Self-evaluation:

The final product fulfils all the identified needs of the traveller community. Users can conveniently plan their trips and discover new destinations through accessible features such as Group Trips, Food & Drinks, Attractions, and Events. The inclusion of a publishing platform for trip plans holds immense value, as it enables users to share their itineraries, recommendations, and experiences, fostering a collaborative environment within the community. This not only allows travellers to optimize their own travel experiences but also promotes the growth and development of the entire community.

Overall, the final product successfully integrates essential functionalities and user-friendly design, empowering travellers to embark on their journeys with confidence and making the traveller community a thriving and supportive network.

## Possible improvement:

1. The project scope was adjusted to focus on a subset of functions and prioritize the user interface due to the overwhelming workload associated with the initial goal of creating a fully functional app.
2. The research for the project primarily relied on academic papers, articles, and online posts, highlighting the potential benefit of conducting user research surveys and gathering usage feedback to enhance the app's effectiveness and user experience.
3. The current app implementation allows users to share their individual plans, but there is room for improvement by incorporating collaborative planning features. This would be particularly beneficial for users who travel together and wish to plan their trips collectively, fostering better coordination and group dynamics.

By considering these points, future iterations of the app can focus on expanding functionality, conducting user research, and implementing collaborative planning features, ultimately providing a more comprehensive and user-centred experience for the traveller community.

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