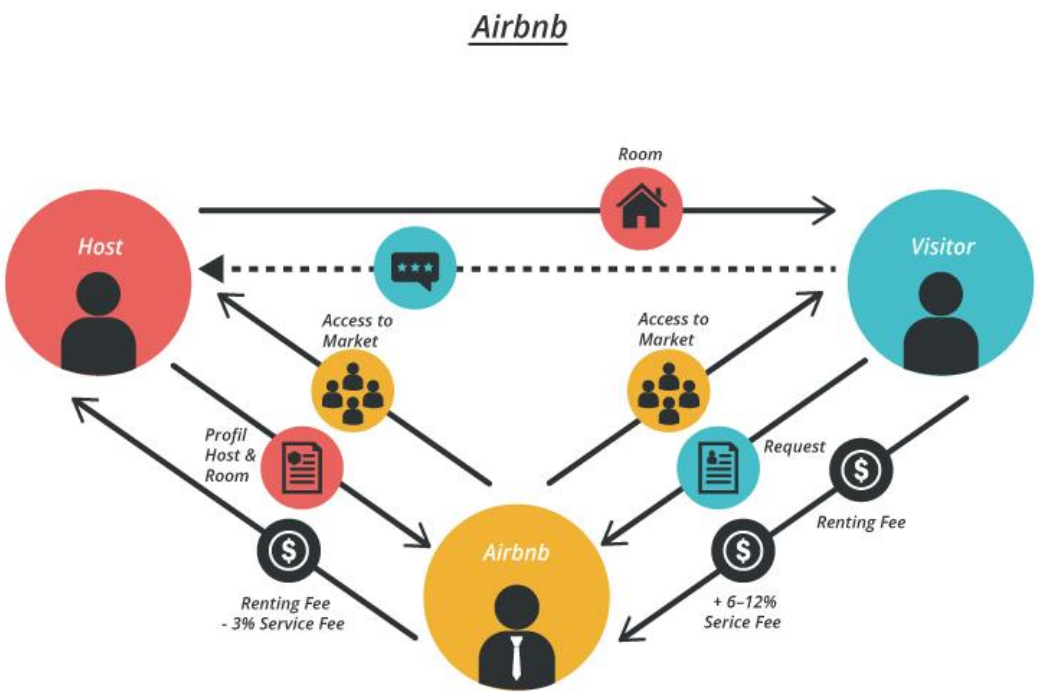
High Level System Design

Objective: Develop a high-level system design for a hypothetical new feature or solution for Airbnb. This could be an extension of the platform, a new feature for hosts or guests, or a tool to improve Airbnb's internal operations.

Problem

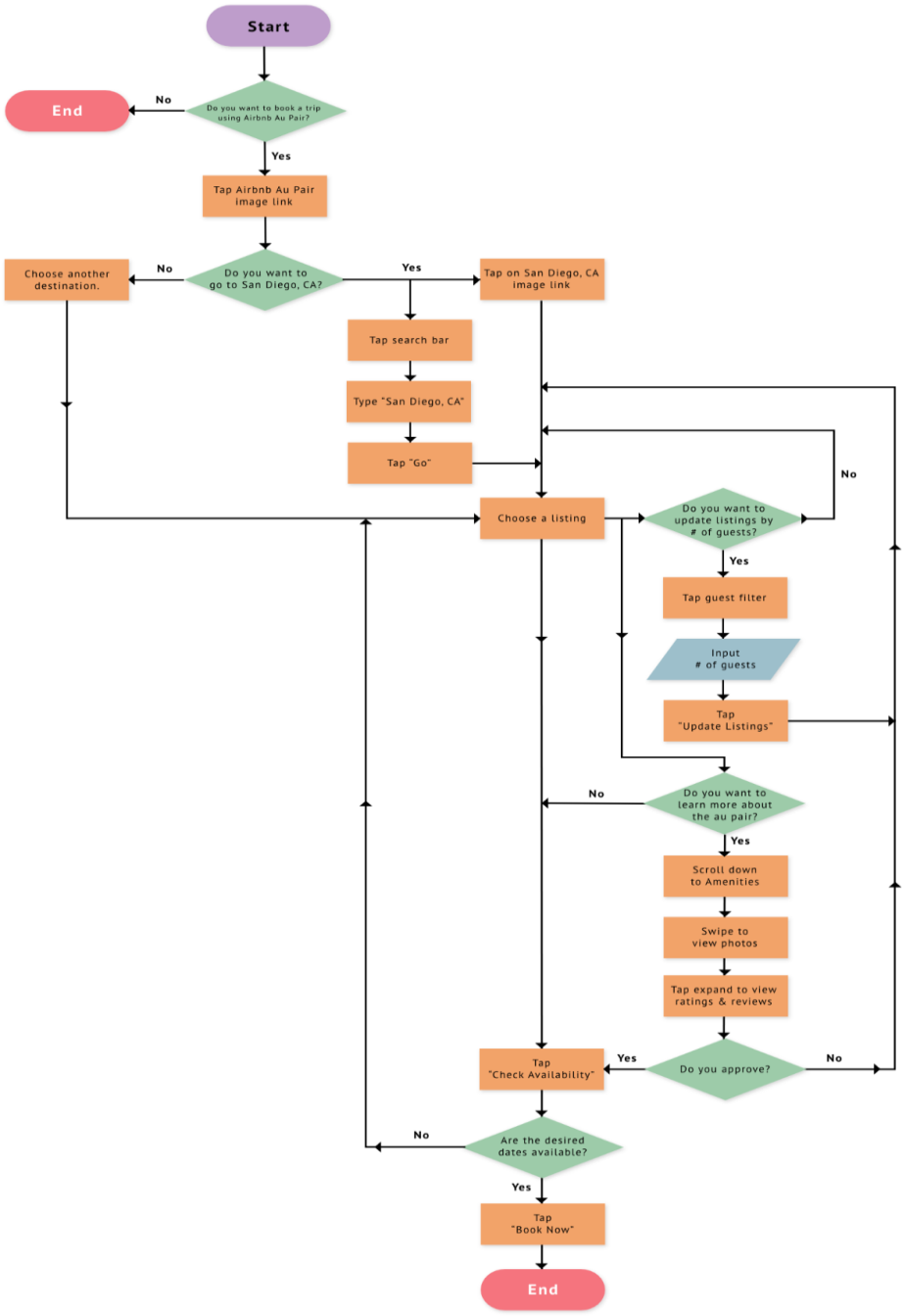
Airbnb is a popular platform for people to rent out their homes or other properties to travellers. However, one of the challenges that Airbnb faces is that it can be difficult for travellers to find the perfect place to stay. This is because there are so many different properties available, and it can be difficult to compare them all.



Solution

One way to address this challenge is to develop a new feature that allows travellers to compare different properties side-by-side. This feature would allow travellers to see the prices, amenities, and other details of different properties, so they can make an informed decision about where to stay.

User Flow



System Design

The system design for this new feature would include the following components:

- **User interface:** The user interface would allow travellers to search for properties, view property details, and compare different properties side-by-side.
- **Database:** The database would store the information about all of the properties available on Airbnb. This information would include the property's price, location, amenities, and other details.
- **Servers:** The servers would process the requests from the user interface and return the results.

Data Flow

The data flow for this system would be as follows:

1. The user would enter their search criteria into the user interface.
2. The user interface would send the search criteria to the servers.
3. The servers would query the database for properties that match the search criteria.
4. The servers would return the results to the user interface.
5. The user interface would display the results to the user.

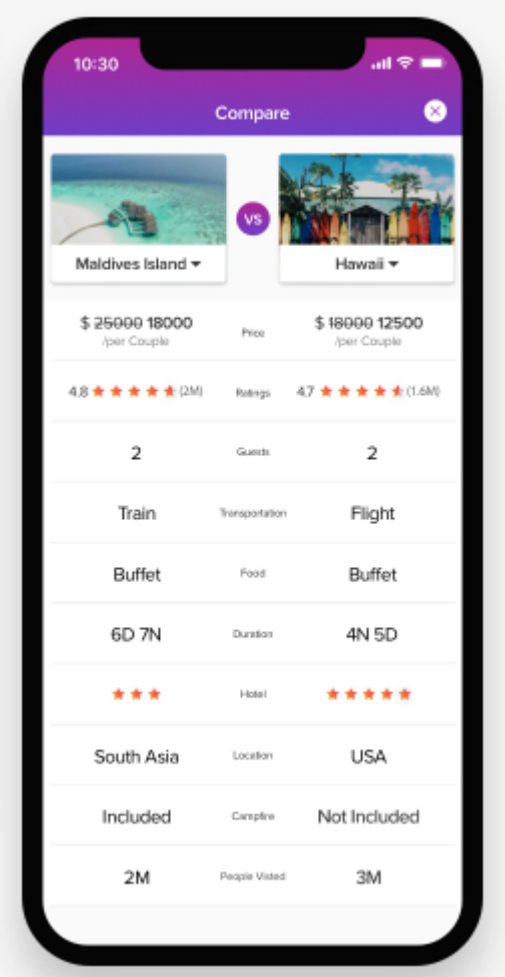
Assumptions

The following assumptions were made during the design process:

- The system will be used by a large number of users.
- The system will need to be able to handle a large volume of requests.
- The system will need to be secure.

Visual Representation

The following diagram shows a potential UI design for comparing properties:



Written Explanation

The system will use a client-server architecture. The user interface will be a web application that will be accessed by users through their web browsers/APP. The servers will be responsible for processing the requests from the user interface and returning the results. The database will store the information about all of the properties available on Airbnb.

The system will use a variety of security measures to protect user data. These measures will include user authentication, data encryption, and intrusion detection.

The system will be scalable to handle a large number of users. This will be achieved by using a distributed architecture and by using caching and load balancing techniques.

The system will be reliable and available. This will be achieved by using a redundant infrastructure and by using a variety of failover techniques.

Conclusion

The system design presented in this document is a high-level overview of a new feature that could be implemented by Airbnb. The system would allow travellers to compare different properties side-by-side, which would make it easier for them to find the perfect place to stay. The system would be scalable, reliable, and secure.