



## University of Asia Pacific

Computer Science and Engineering (CSE-306)

### Swimlane diagram

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Semester:	3-1
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# User Scenario

## *User Scenario: House Rental System*

### **Authentication:**

The platform could integrate with a trusted NID verification service that can confirm the user's identity based on their national identification number. The user would be prompted to enter their NID information during the account creation process, and the platform would send this information to the verification service for confirmation.

Once the user's identity is confirmed, they would be able to set up their account with a password and two-factor authentication (2FA) for added security. The platform could also store the user's NID information securely and use it to verify their identity in the future, such as when they make a rental transaction or update their account information.

By merging authentication and NID verification into a single process, the platform can provide a more convenient and secure experience for users. This approach eliminates the need for users to verify their email address or phone number separately and ensures that only authorized users can access the platform. It also makes it more difficult for fraudsters to create fake accounts and provides landlords with confidence that they are renting their property to genuine tenants.

### **Advertisement:**

After NID verification, the user is directed to the advertisement page, where they can browse through various rental properties. They can filter the results based on their specific search criteria, such as location, budget, number of bedrooms, and other relevant features.

### **Property Sell & Bargain:**

The user finds a property they like and decides to make an offer. The platform allows them to send a message to the property owner to express their interest and ask any questions. If the owner agrees to the user's terms, they can finalize the deal directly through the platform.

**Review & Rating:**

After moving in, the user can leave a review and rating for the property and the owner. This information is visible to other users and helps them make informed decisions about which properties to rent.

**Boosting:**

If the user's review for the property is not getting much attention, they can use the boosting feature to promote their review to the top of the list so that it's more visible to other users.

**Lease:**

Adding a lease feature to the house rental system can help facilitate a more secure and structured rental process for both tenants and landlords. This feature will enable users to create a legal document that outlines the terms and conditions of the rental agreement between the tenant and landlord.

**Virtual Reality:**

The user also notices that some properties offer a virtual tour feature. They can use this feature to view the property from the comfort of their home, which saves them time and money by not having to visit the property physically.

**Transportation:**

The platform also offers a transportation feature that allows users to search for nearby public transit options or even rent a car directly through the platform. This feature helps users easily navigate the new city and explore their surroundings.

**Secured Process of Contract and Delivery:**

The platform can also implement a secured process of contract and delivery. The contract can be signed digitally, and all information will be stored in a secure database. The platform can also offer a secure payment gateway, so tenants can make the payment for the rent without worrying about fraud or theft. This feature will prevent tenants from getting scammed, and landlords will also have a reliable payment process.

Once the payment has been processed, the platform can provide a secure delivery process to ensure the tenant receives the keys to the property. The keys can be delivered via a secure courier service, or a trusted third-party delivery service, with all relevant tracking details sent to both parties to ensure transparency and peace of mind.

## *System Reaction: House Rental System*

Level-0:

For both Owner and Tenants,

Action 1: Goes to website

Reply 1: Reaches the website

Level-1:

For Tenants,

Action 1: Shows the website UI

Reply 1: Sees the website.

Action 2: Search the advertisements.

Reply 2: Finds specified advertisements.

Action 3: Rent's the House.

Reply 3: Successfully rented.

For Owners,

Action 1: Shows the website UI.

Reply 1: Sees the website.

Action 2: Log into the website through owner panel.

Reply 2: Successfully logged in.

Action 3: Post the advertisements.

Reply 3: Added the advertisements post successfully.

Action 4: Response to the tenant's request.

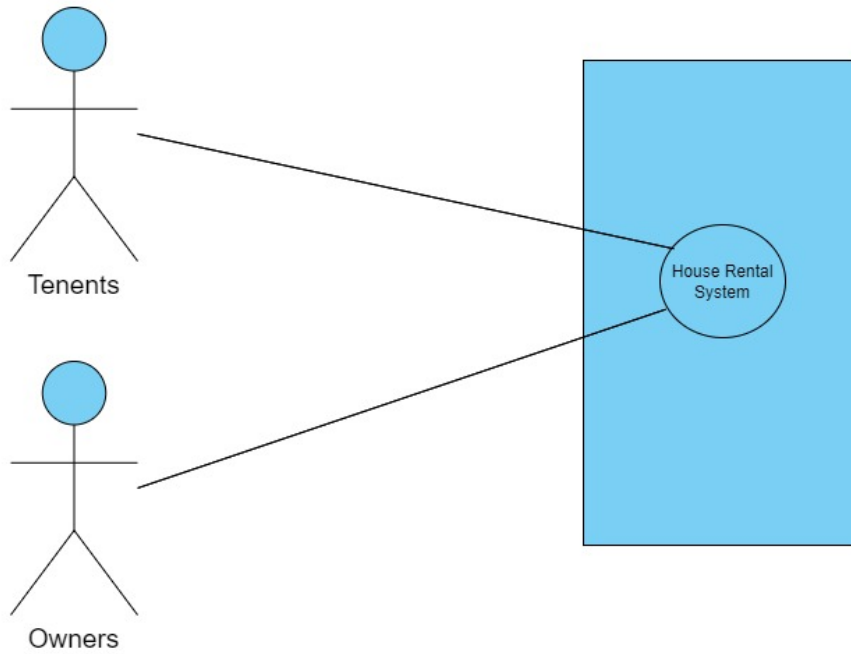
Reply 4: Successfully rented.

Action 5: Log out from the website.

Reply 5: Successfully logged out.

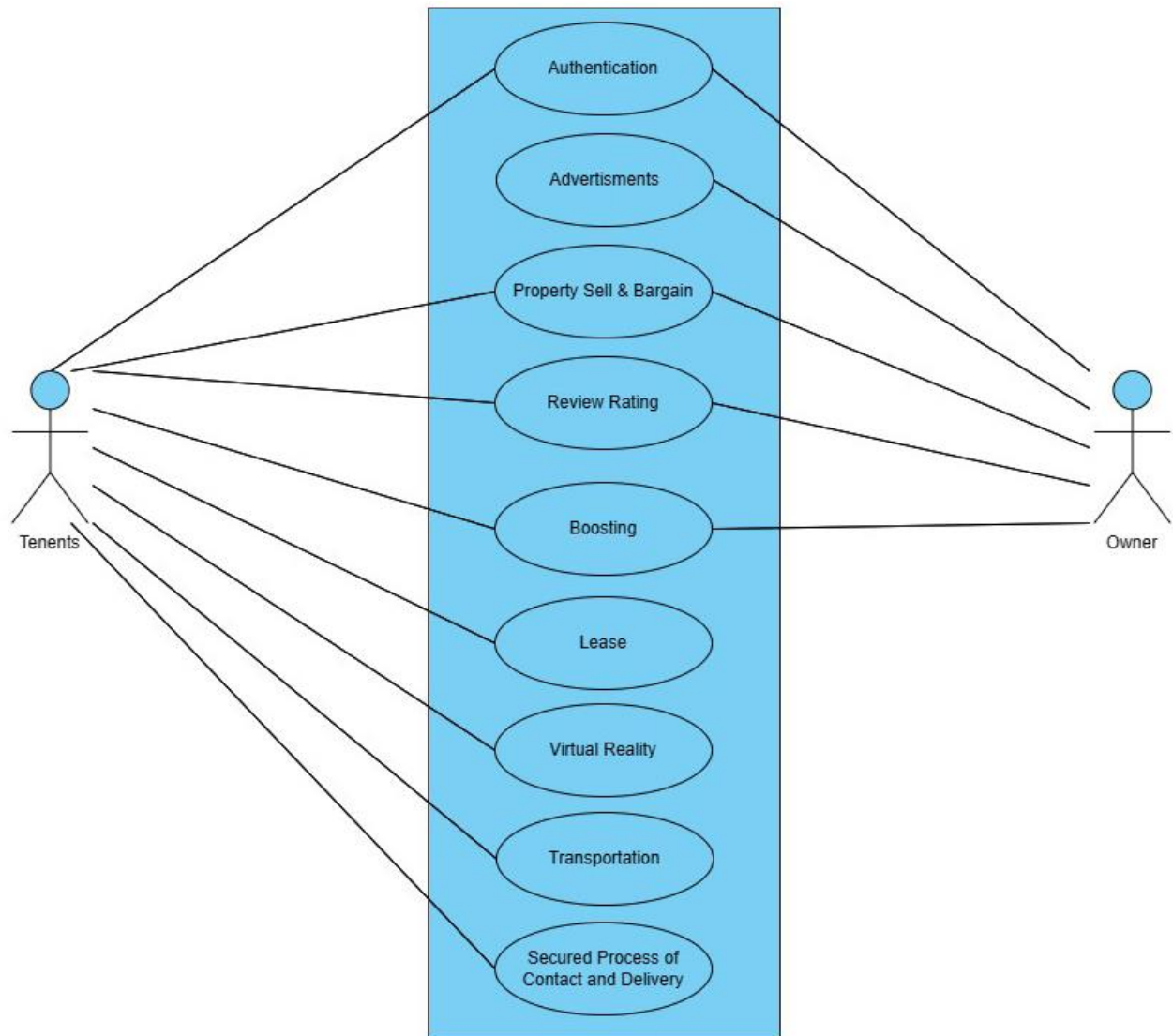
# Use Case Diagram: House Rental System

## Level 0 Use Case Diagram House Rental System



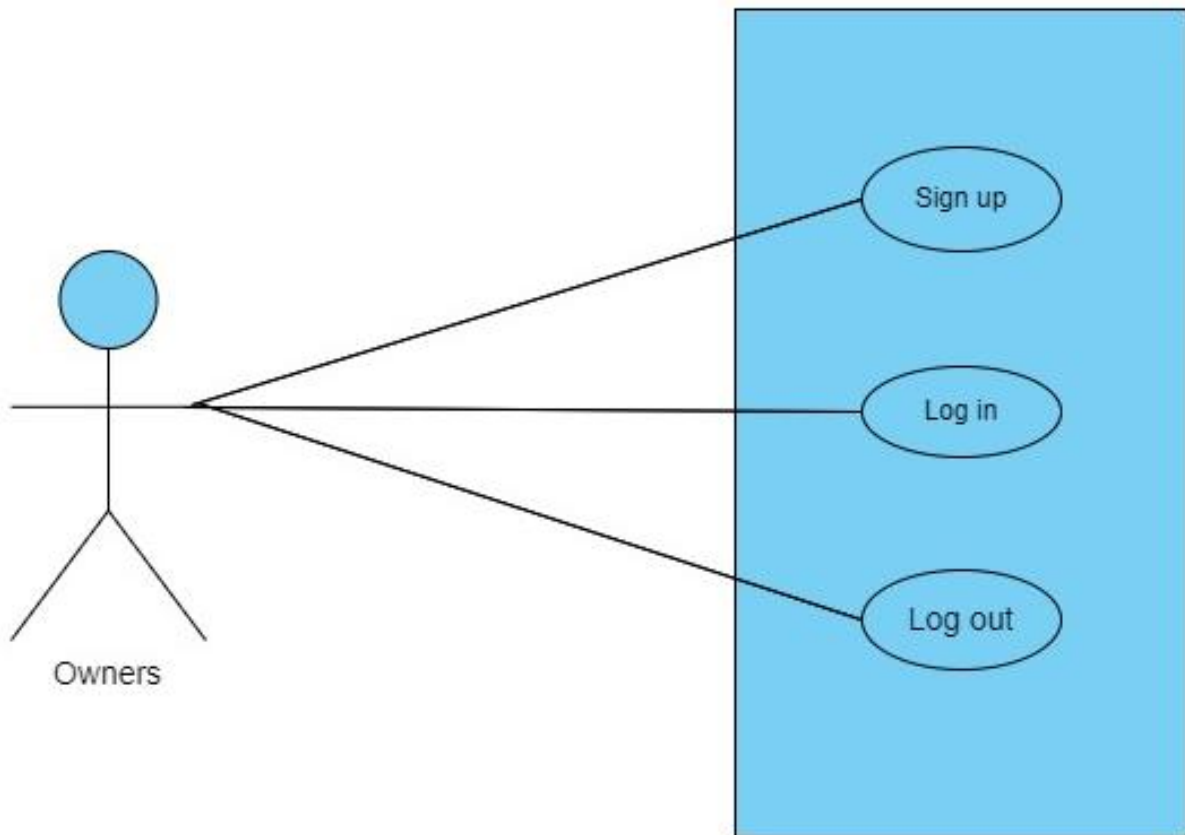
*Figure: Level 0*

## Level 1 Use Case Diagram House Rental System



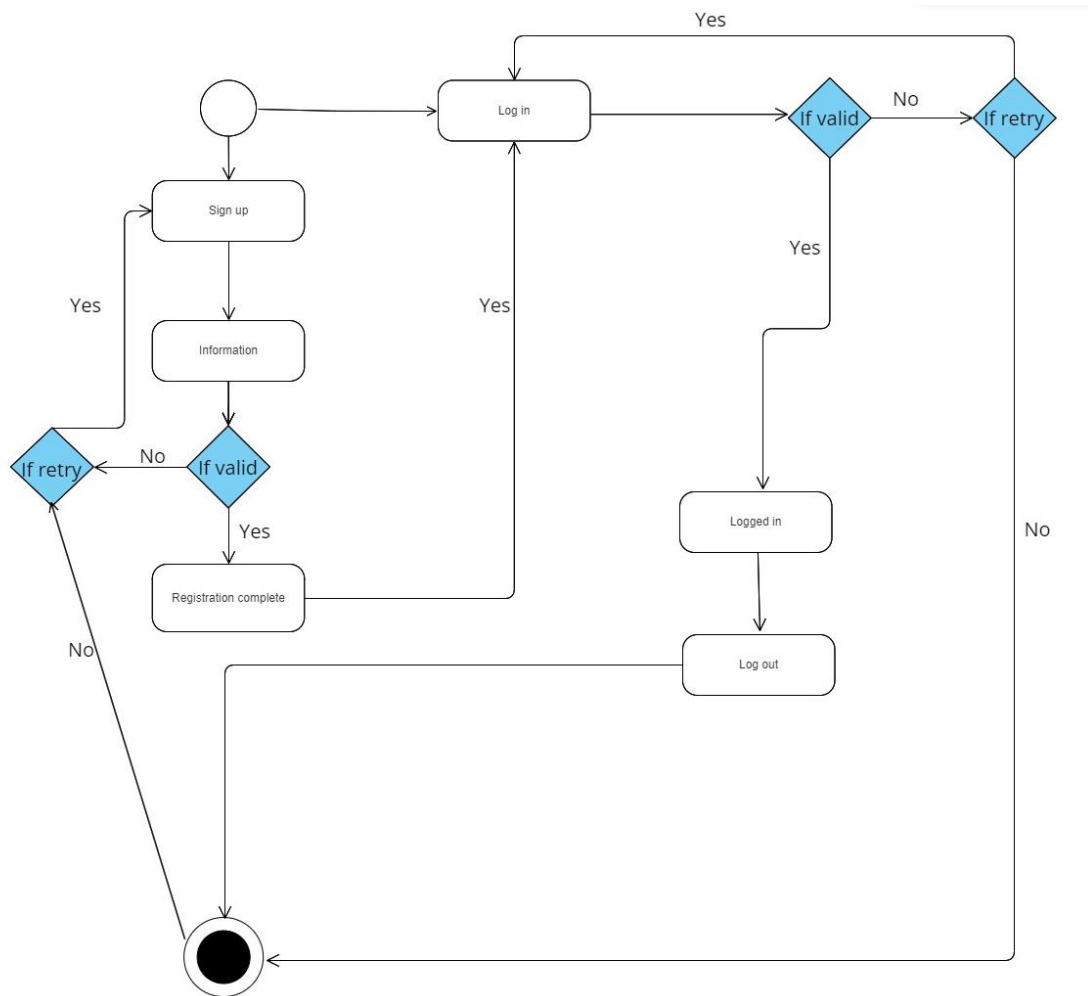
*Figure: Level 1*

## Authentication [Level 2.1]



*Figure: Level 2.1*

## Activity Diagram Level 2.1





## Advertisement [Level 2.2]

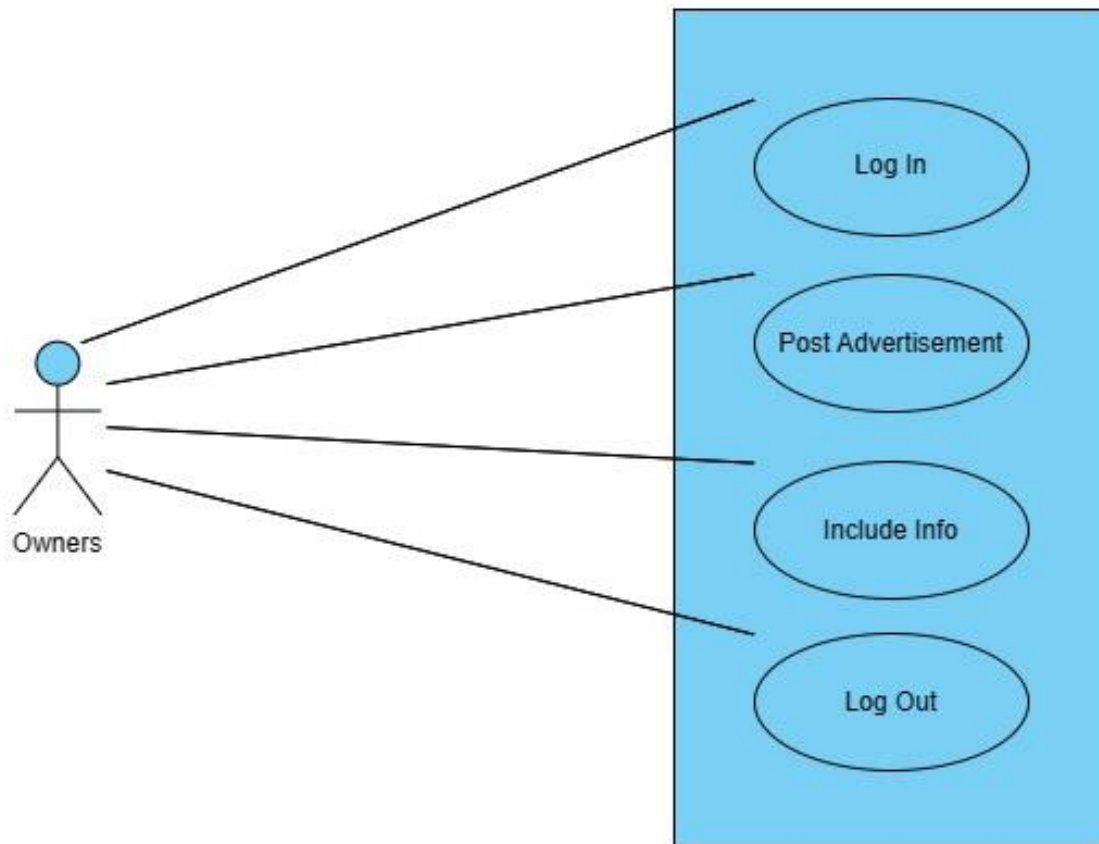
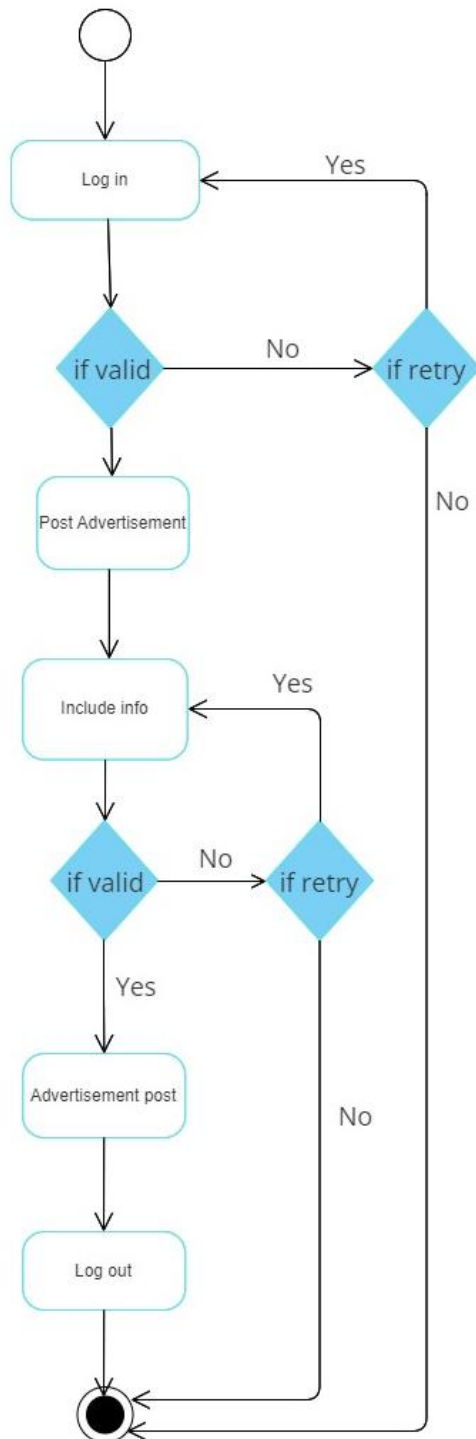
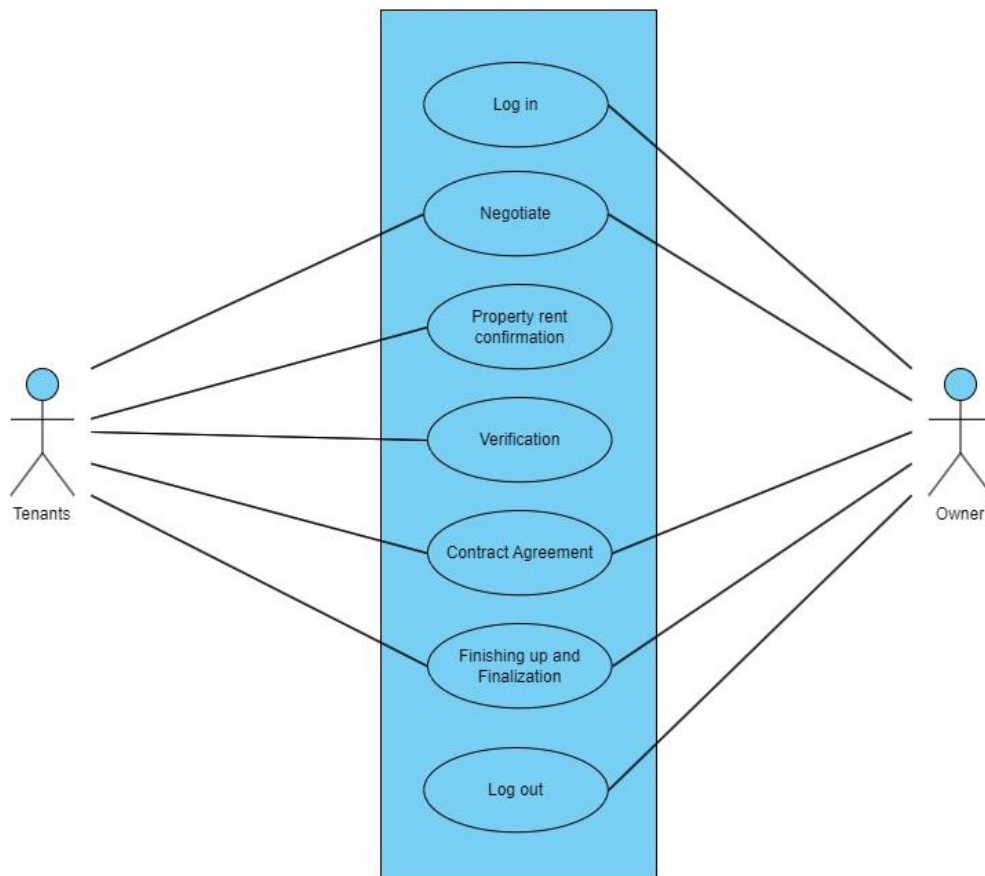


Figure: Level 2.2

## Activity Diagram Level 2.2

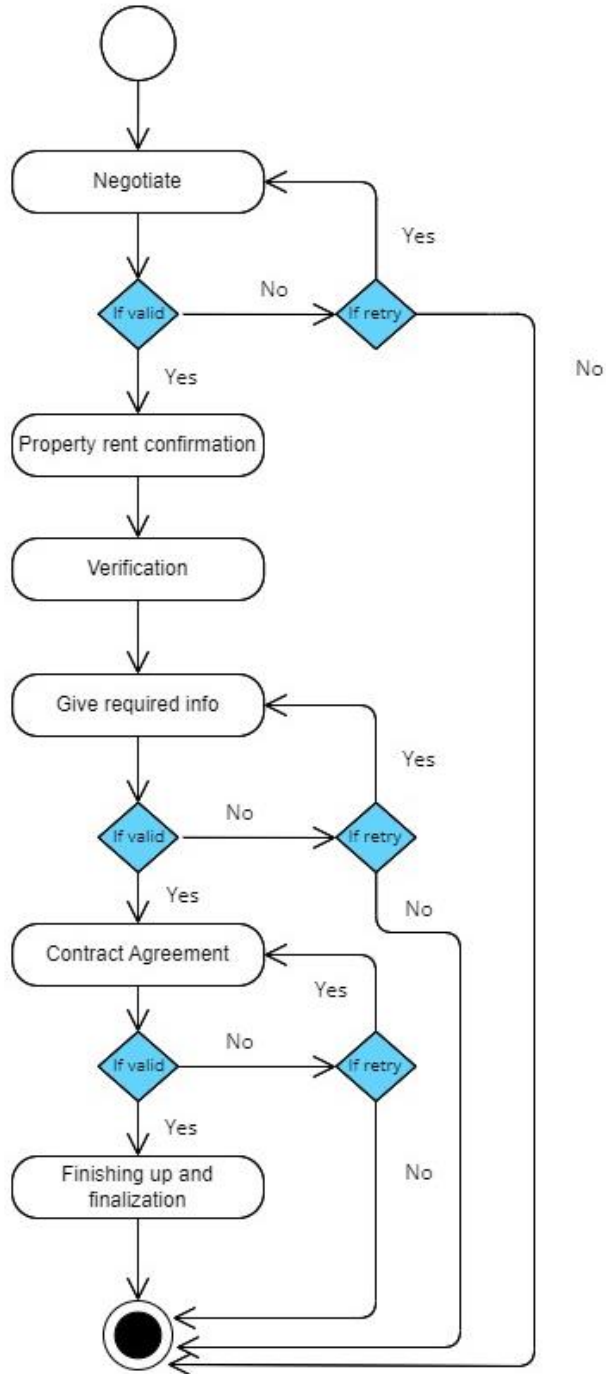


## Property Sell & Bargain [Level 2.3]

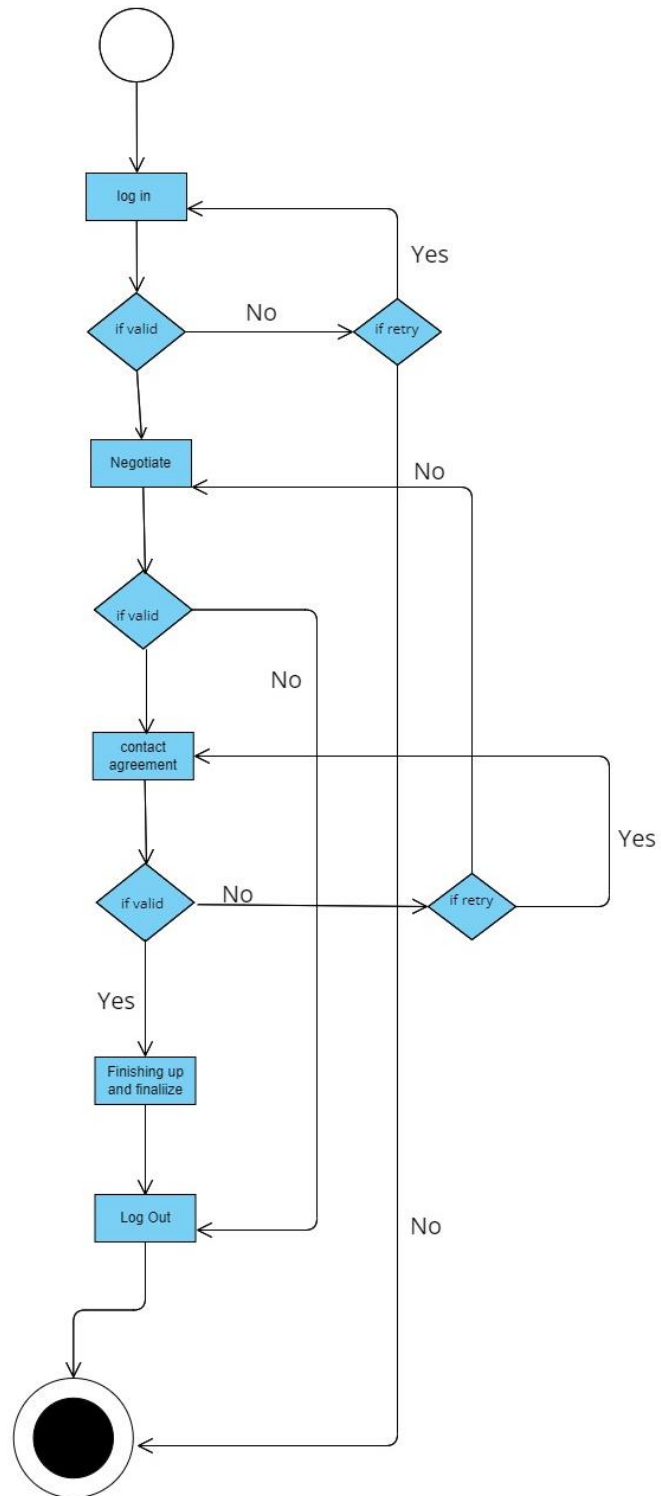


*Figure: Level 2.3*

## Activity Diagram Level 2.3 Tenants



## Activity Diagram Level 2.3 Owner



## Review & Rating [Level 2.4]

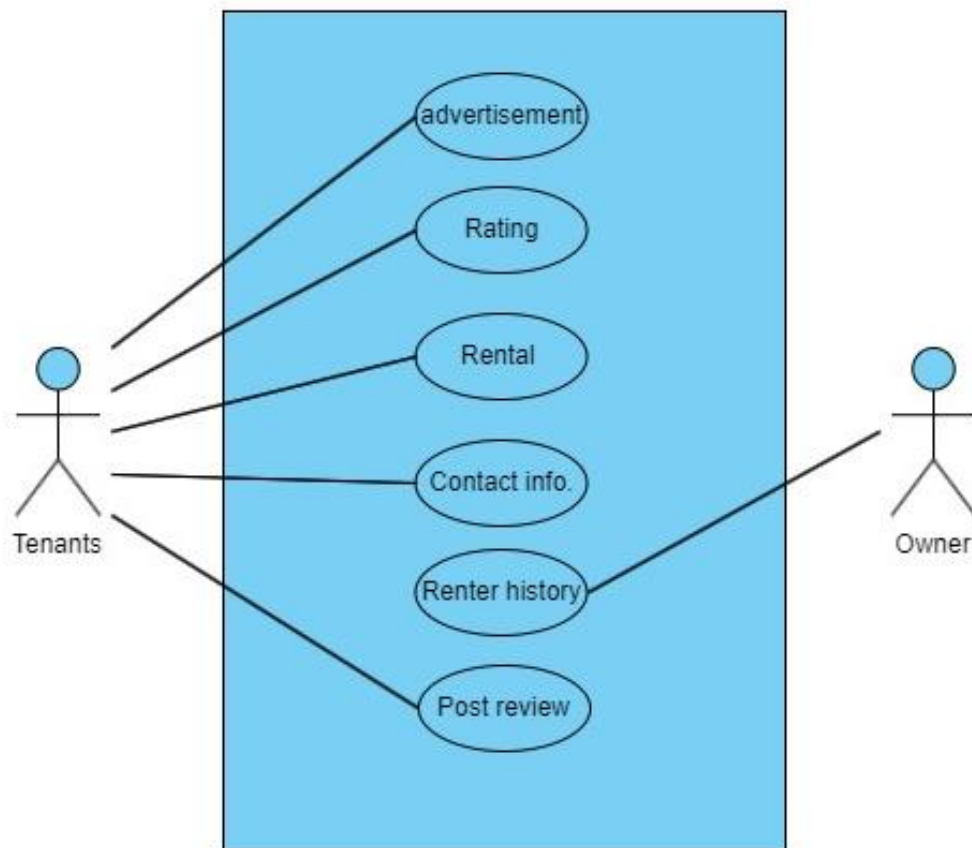
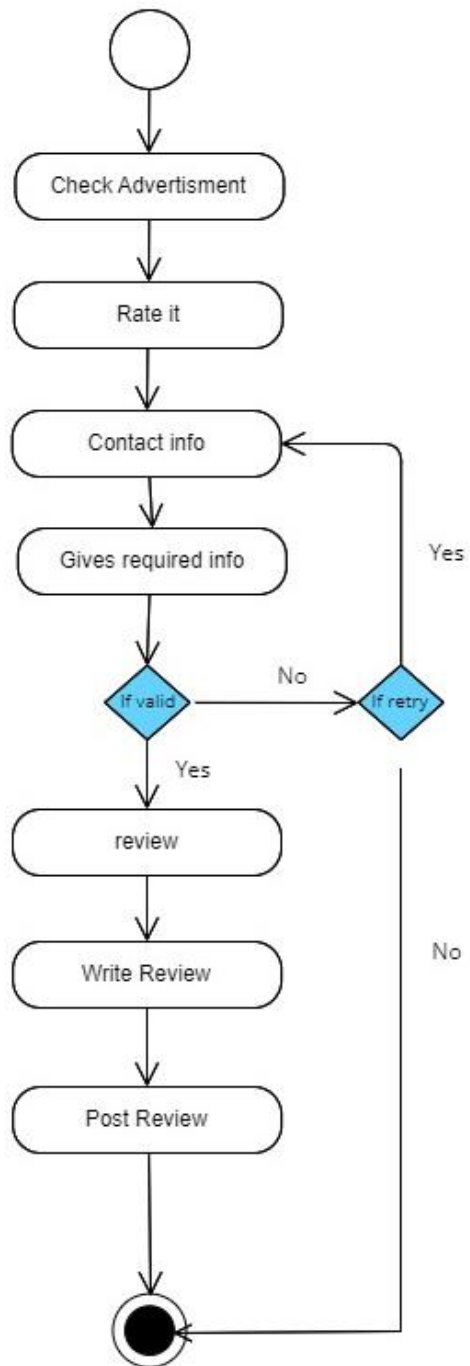
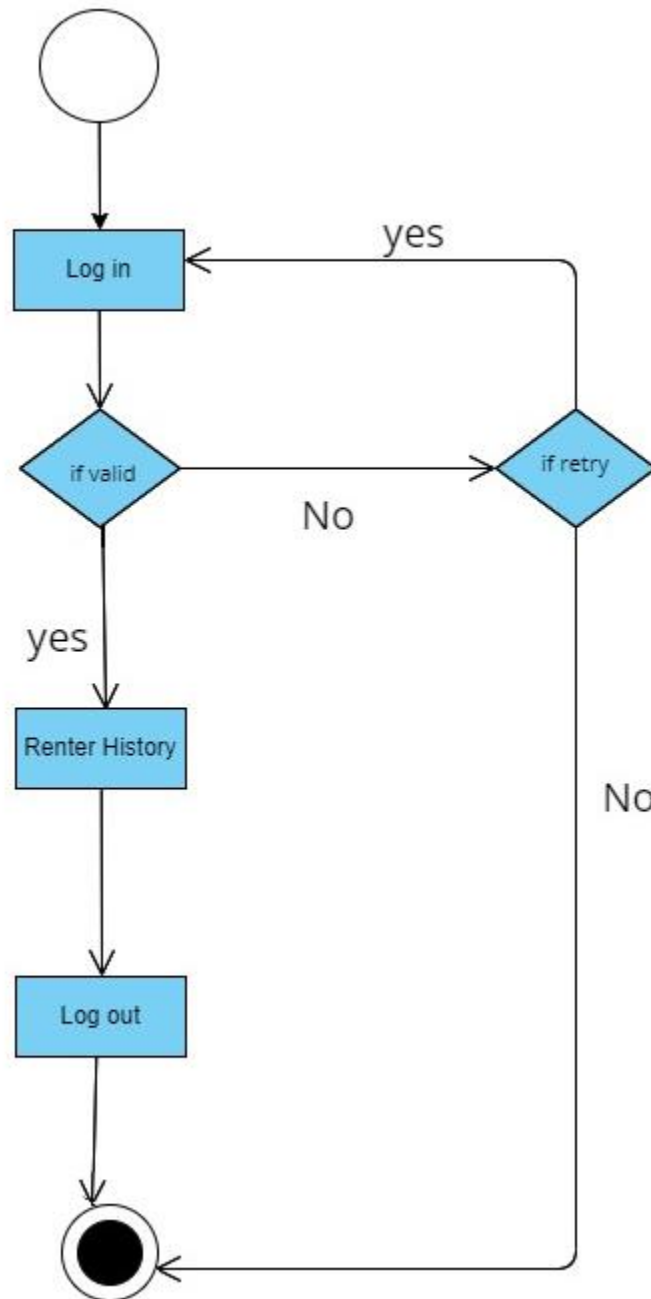


Figure: Level 2.4

## Activity Diagram Level 2.4 Tenants

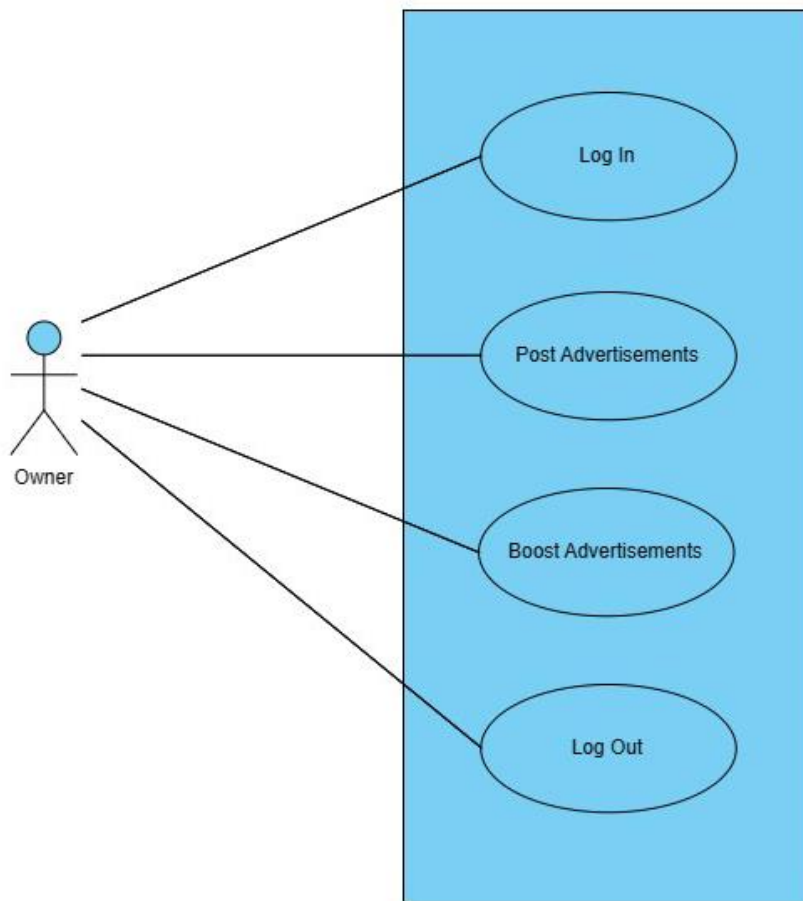


# Activity Diagram Level 2.4 Owner



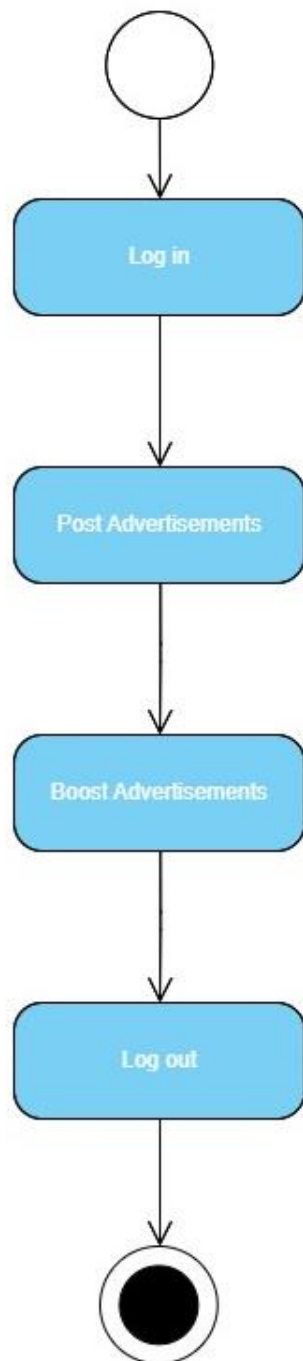


## Boosting [Level 2.5]



*Figure: Level 2.5*

## Activity Diagram Level 2.5



## Lease [Level 2.6]

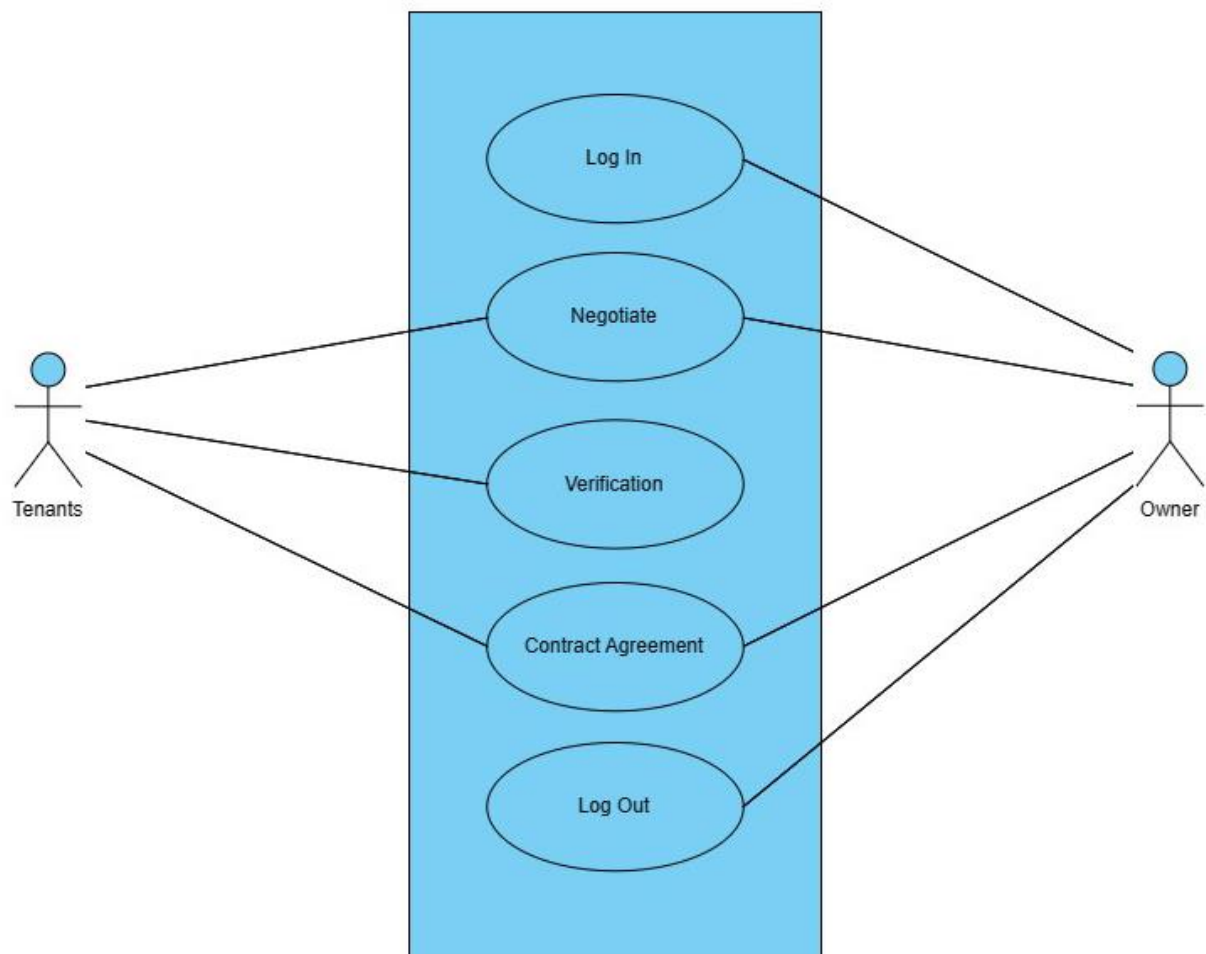
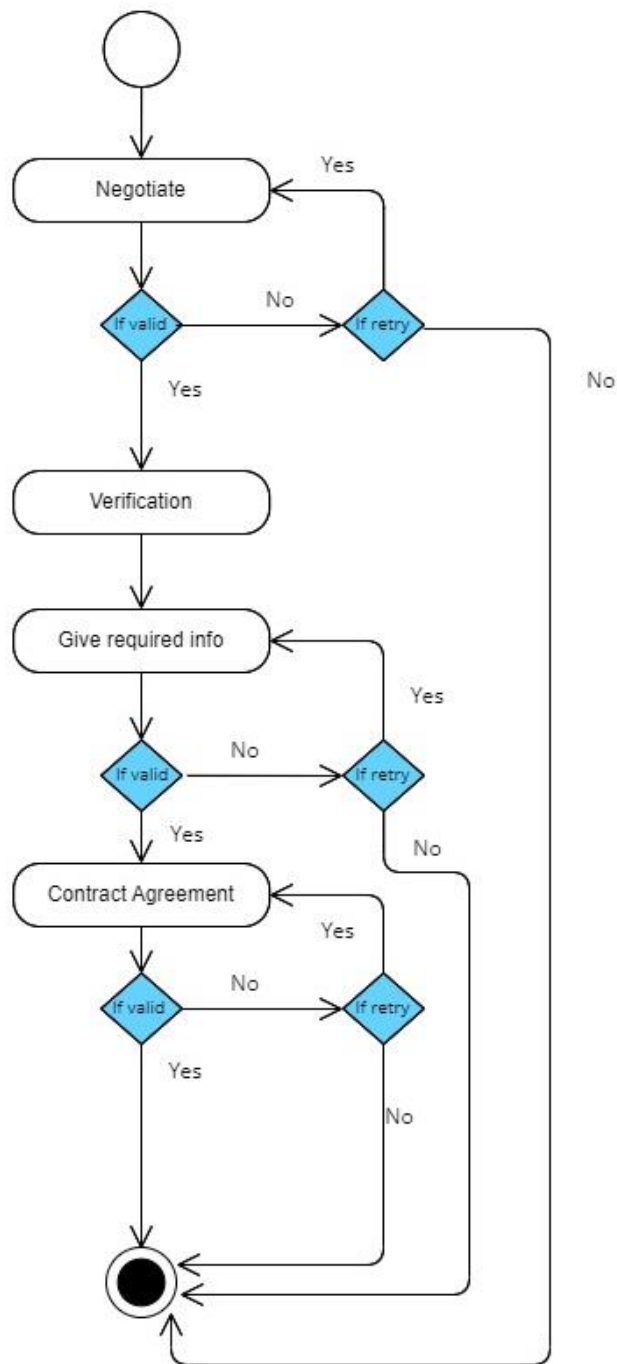
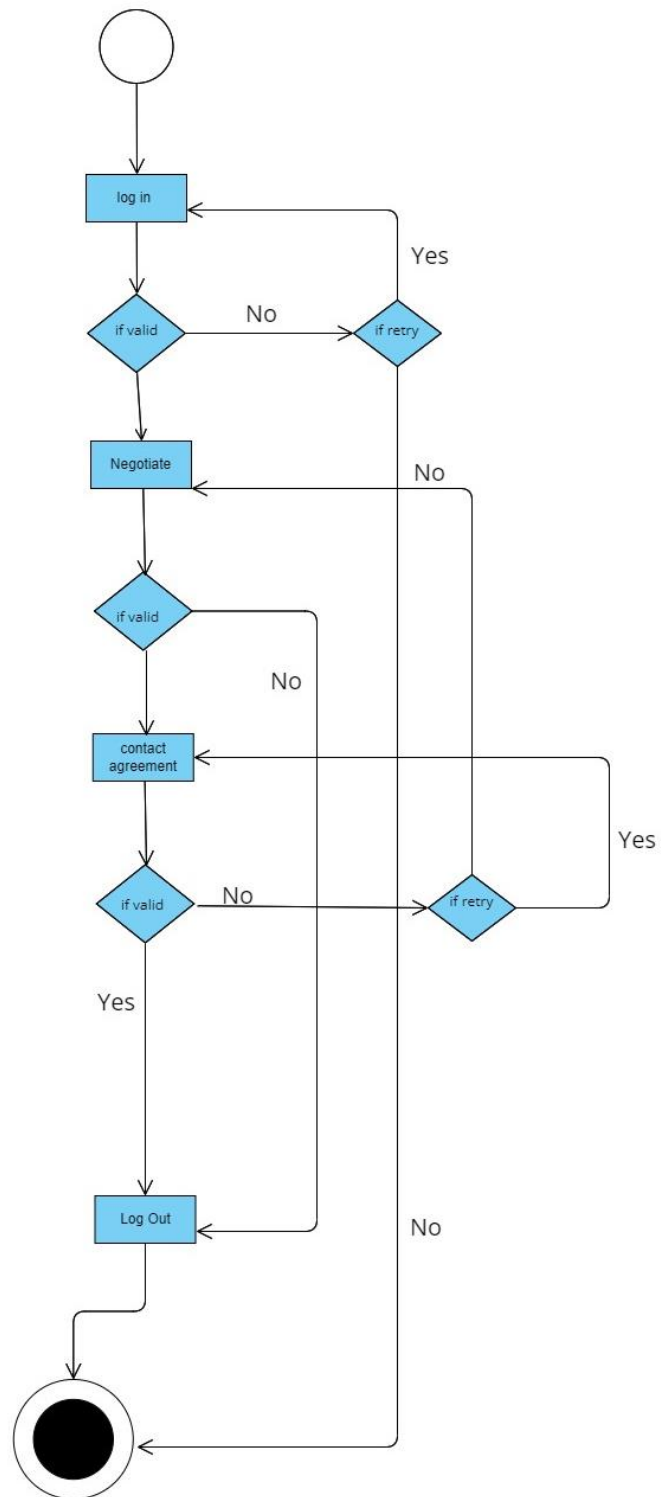


Figure: Level 2.6

## Activity Diagram Level 2.6 Tenants



## Activity Diagram Level 2.6 Owner



## Virtual Reality [Level 2.7]

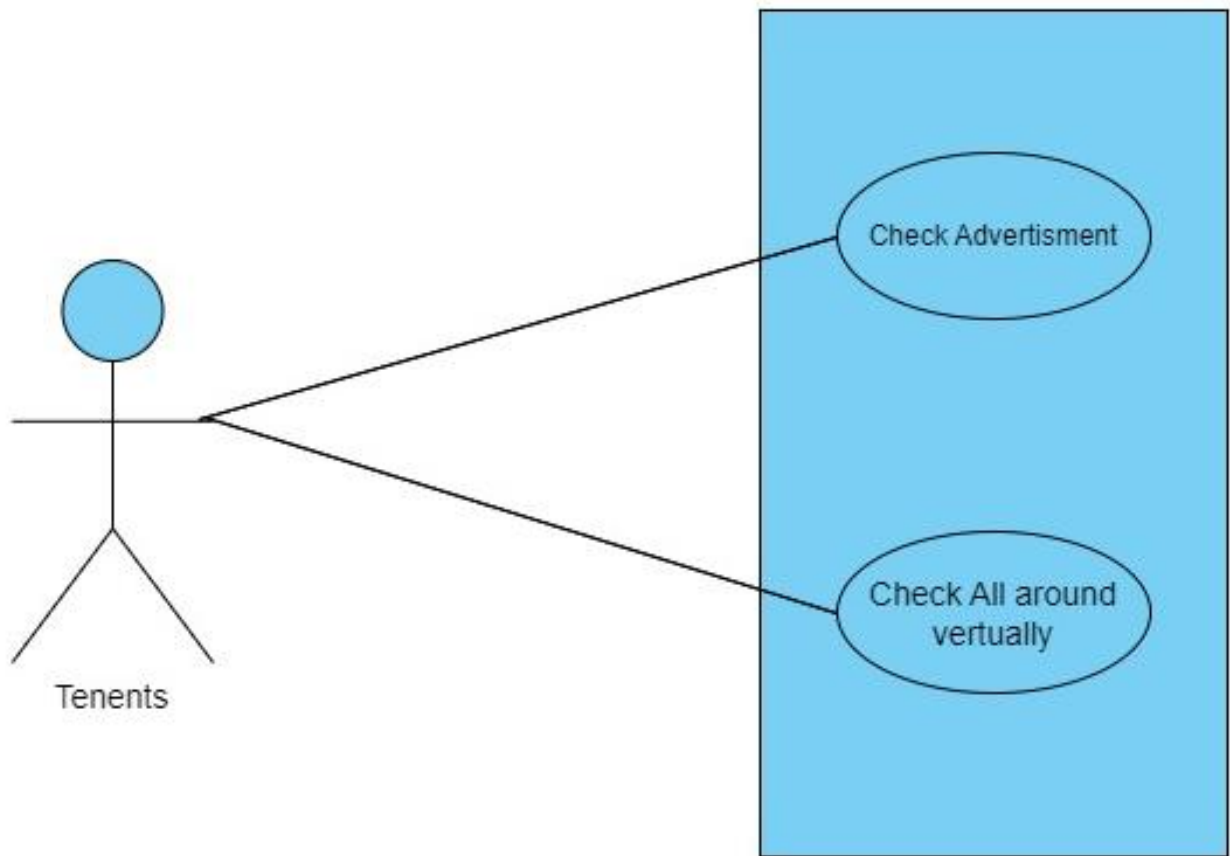
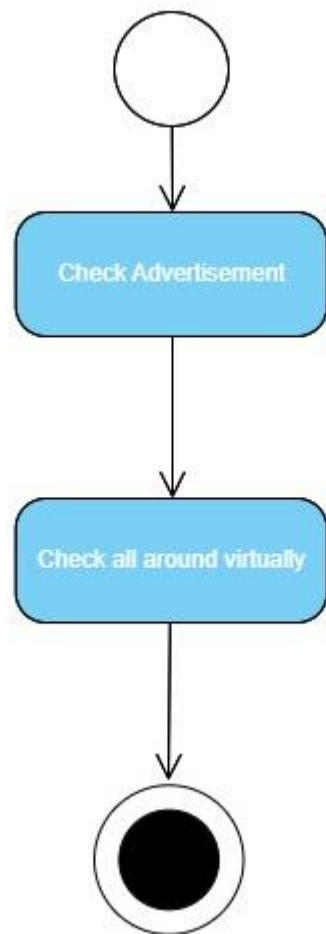


Figure: Level 2.7

## Activity Diagram Level 2.7



## Transportation [Level 2.8]

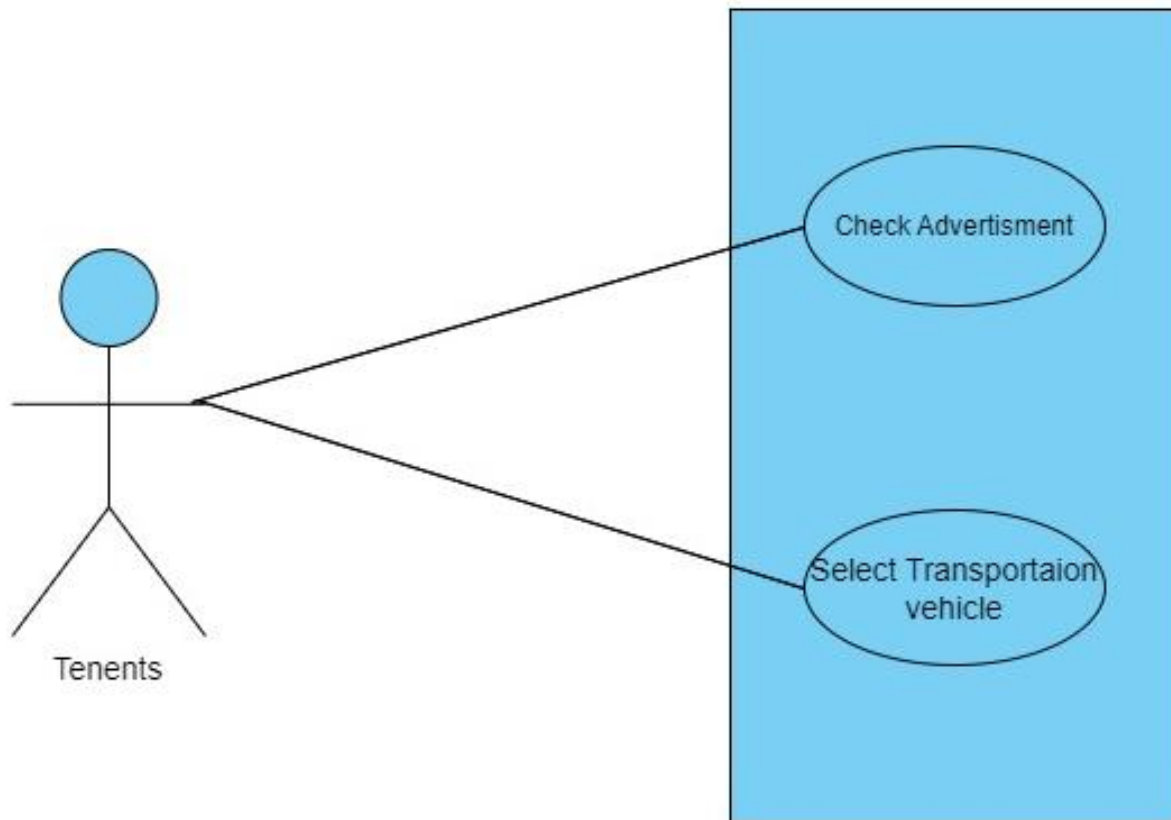
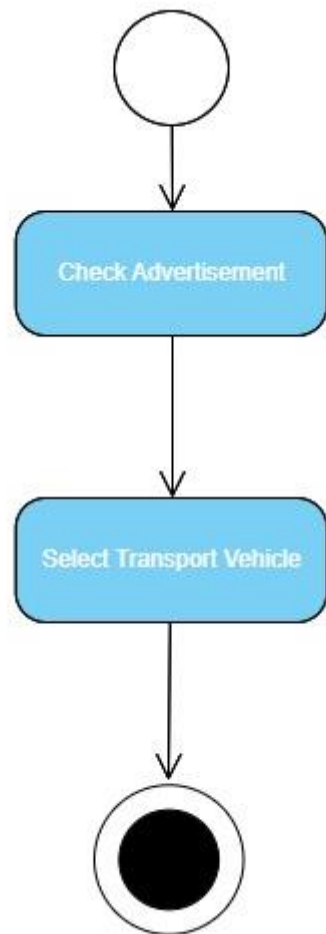


Figure: Level 2.8



## Activity Diagram Level 2.8



## Secured Process of Contract and Delivery [Level 2.9]

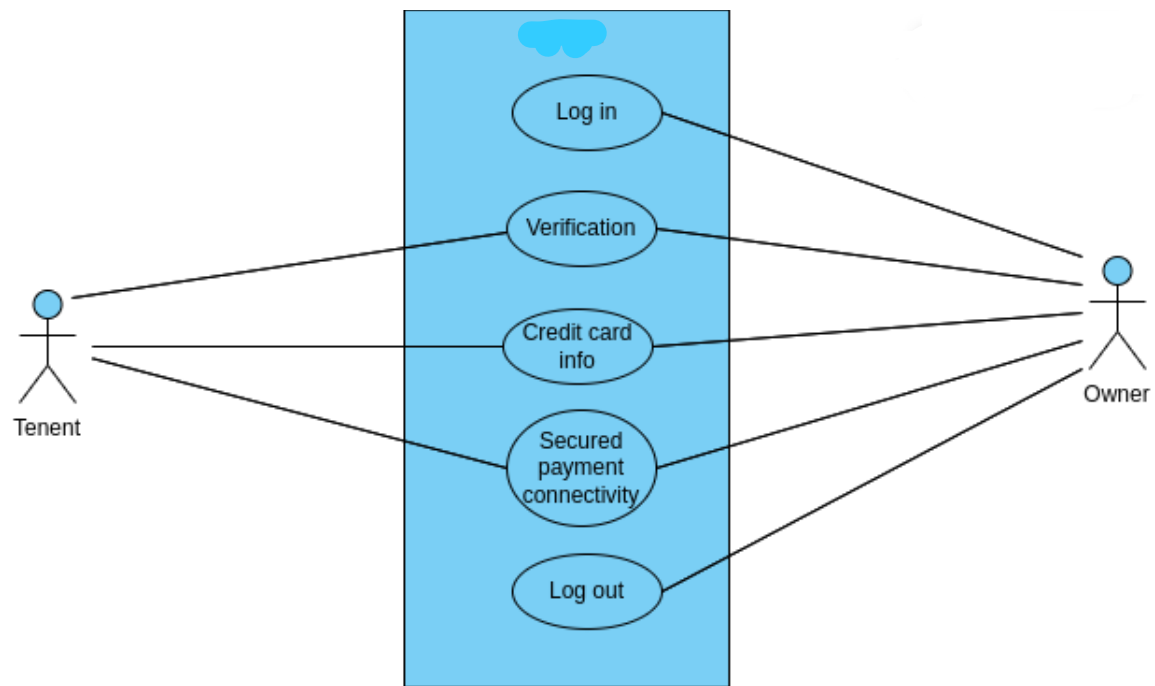
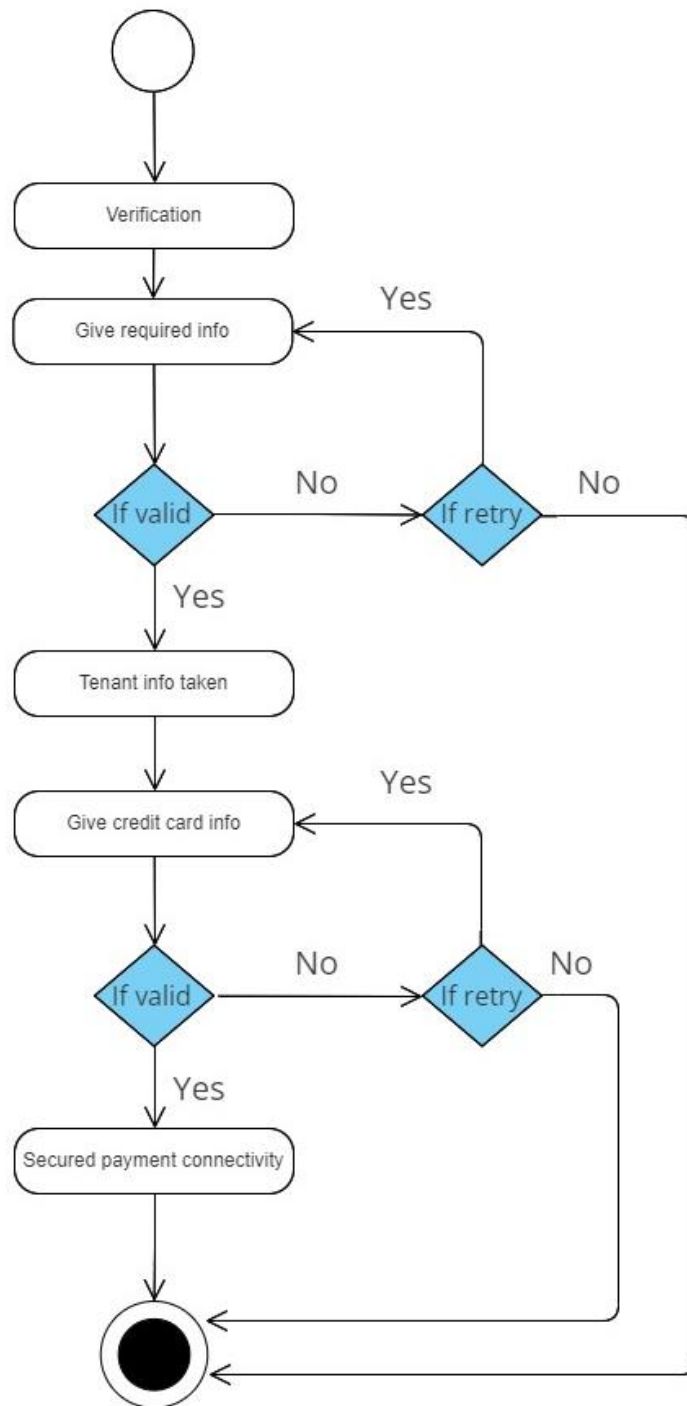


Figure: Level 2.9

## Activity Diagram Level 2.9 Tenants



## Activity Diagram Level 2.9 Owner

