MIU AIRBNB

Use Case Specification: Login

Version 1.1

Purushottam Prajapati
Sourav Babu Shrestha
Saroj K Dev
Heritier Sonde

Contents

1. Tenant Login

1.1. Brief Description

The login activity of tenants in the MIU AirBnB system.

1.2. Actors

- Tenant
- User Account Database

Preconditions

- The tenant is registered in MIU AirBnB system.

1.3. Flow of Events

1.3.1. Basic Flow

User Action	System Response
Tenant performs an action that requires login.	The system displays a login window, requesting the tenant's email and password.
Tenant enters their email and password.	The system searches for the email and password in the user accounts database. When found, the tenant's information is loaded into memory, and the system records the successful login. The login window disappears, and the tenant is directed to their dashboard.

1.3.2. Exceptional Flow

1.3.2.1. Tenant Email not found or incorrect password

User Action	System Response
Tenant performs an action that requires login.	The system displays a login window, requesting the tenant's email and password.
Tenant enters their email and password.	The system is either unable to find the tenant's email or the provided password does not match the one on record. The system displays a dialog with the message "Unable to login. Either email or password is incorrect." The dialog box provides an Ok button.
The tenant clicks Ok.	The login window remains visible, allowing the tenant to re-enter their email and password.

1.4. Post-Conditions

None. State of the system remains unchanged by the use case.

1.5. Business Rules

Only registered tenants can log in to the MIU AirBnB system.

1.6. Nonfunctional Requirements

- The login process should be secure and protect user data.
- The login response time should be fast to ensure a smooth user experience.

1.7. Sample Screen

1.8. Project Repository

- https://github.com/puruprajapati/swe_CS425DE

2. Landlord Login

2.1. Brief Description

The login activity of tenants in the MIU AirBnB system.

2.2. Actors

- Landlord
- Landlord Account Database

Preconditions

- The landlord is registered in MIU AirBnB system.

2.3. Flow of Events

2.3.1. Basic Flow

User Action	System Response
Landlord performs an action that requires login.	The system displays a login window, requesting the landlord's email and password.
Landlord enters their email and password.	The system searches for the email and password in the user accounts database. When found, the landlord's information is loaded into memory, and the system records the successful login. The login window disappears, and the landlord is directed to their dashboard.

2.3.2. Exceptional Flow

2.3.2.1. Tenant Email not found or incorrect password

User Action	System Response
Landlord performs an action that requires login.	The system displays a login window, requesting the landlord's email and password.
Landlord enters their email and password.	The system is either unable to find the landlord's email or the provided password does not match the one on record. The system displays a dialog with the message "Unable to login. Either email or password is incorrect." The dialog box provides an Ok button.
The landlord clicks Ok.	The login window remains visible, allowing the landlord to re-enter their email and password.

2.4. Post-Conditions

None. State of the system remains unchanged by the use case.

2.5. Business Rules

Only registered landlords can log in to the MIU AirBnB system.

2.6. Nonfunctional Requirements

- The login process should be secure and protect landlord data.
- The login response time should be fast to ensure a smooth user experience.

2.7. Sample Screen

2.8. Project Repository

- https://github.com/puruprajapati/swe_CS425DE

3. Admin Login

3.1. Brief Description

The login activity of tenants in the MIU AirBnB system.

3.2. Actors

- Admin
- Admin Account Database

Preconditions

- The admin is registered in MIU AirBnB system.

3.3. Flow of Events

3.3.1. Basic Flow

User Action	System Response
Admin performs an action that requires login.	The system displays a login window, requesting the admin's email and password.
Admin enters their email and password.	The system searches for the email and password in the user accounts database. When found, the admin's information is loaded into memory, and the system records the successful login. The login window disappears, and the admin is directed to their dashboard.

3.3.2. Exceptional Flow

3.3.2.1. Tenant Email not found or incorrect password

User Action	System Response
Admin performs an action that requires login.	The system displays a login window, requesting the admin's email and password.
Admin enters their email and password.	The system is either unable to find the admin's email or the provided password does not match the one on record. The system displays a dialog with the message "Unable to login. Either email or password is incorrect." The dialog box provides an Ok button.
The admin clicks Ok.	The login window remains visible, allowing the admin to re-enter their email and password.

3.4. Post-Conditions

None. State of the system remains unchanged by the use case.

3.5. Business Rules

Only registered admin can log in to the MIU AirBnB system.

3.6. Nonfunctional Requirements

- The login process should be secure and protect landlord data.
- The login response time should be fast to ensure a smooth user experience.

3.7. Sample Screen

3.8. Project Repository

- https://github.com/puruprajapati/swe_CS425DE

Contents

1. Admin Actions

1.1. Brief Description

The admin can manage both tenants and landlords in the MIU AirBnB system.

1.2. Actors

- Admin
- Tenant /Landlord

Preconditions

- The tenant/landlords are not managed along with their priviledges with their respective account in the MIU AirBnB system.

1.3. Flow of Events

1.3.1. Basic Flow

User Action	System Response
Admin tries to activate or deactivate	The system displays the control to activate/deactivate the tenant or landlord along with the reason of action.
Admin enters the remarks and actions.	The system validates the entered information to ensure it meets the required fields criteria (e.g., reason for activation/deactivation). The system activates or deactivates the profile of the selected user. The action form disappears, and the system displays a success message, informing the admin of the action.
Admin tries to reset the password of the users.	The system displays the action form to reset the password and validate the user info (e.g:Email)
Admin validates and resets the password.	The system resets the password and sends notification accordingly to the end user.

1.3.2. Exceptional Flow

1.3.2.1. Invalid or no remarks for activation/deactivation

User Action	System Response

Admin initiates the activation/deactivation process	The system displays a control form to activate/deactivate the tenant or landlord along with the reason of action.
Admin selects the action type without proper remark.	The system detects the field validation and prompts to enter valid remarks.
The admin re-enters the remarks for actioning.	The system validates the updated information and proceeds with the action process.

1.4. Post-Conditions

- The user account is activated or deactivated as per the action performed by admin.
- The user account is disabled.
- The password is reset for the user's account.

1.5. Business Rules

- Admin must provide genuine reason for activation or deactivation of the existing user's account.

1.6. Nonfunctional Requirements

- The action process should be secure and protect user's data.
- The action response time should be fast to ensure a smooth user experience.

1.7. Sample Screen

1.8. Project Repository

https://github.com/puruprajapati/swe_CS425DE

Contents

1. Tenant Registration

1.1. Brief Description

The registration activity for tenants in the MIU AirBnB system.

1.2. Actors

- Tenant
- Tenant Account Database

Preconditions

- The tenant does not have an existing account in the MIU AirBnB system.

1.3. Flow of Events

1.3.1. Basic Flow

User Action	System Response
Tenant initiates the registration process.	The system displays a registration form, requesting the tenant's full name, email, password, gender, role and desired password
Tenant enters their email and password.	The system validates the entered information to ensure it meets the required criteria (e.g. valid email format, strong password). The system creates a new tenant account in the tenant accounts database, including provided information. The registration form disappears, and the system displays a success message, informing the tenant that the registration is complete. The tenant is automatically logged into the system and directed to the tenant dashboard.

1.3.2. Exceptional Flow

1.3.2.1. Invalid email format or weak password

User Action	System Response
Tenant initiates the registration process	The system displays a registration form, requesting the tenant's full name, email, gender, role, desired password.
Tenant enters their full name, an invalid email format or a weak password (e.g. too short, common password)	The system detects the invalid email format or weak password and displays error messages next to the respective fields, guiding the tenant to correct entries.
The tenant re-enters the email and password with valid formats and strength.	The system validates the updated information and proceeds with the registration process.

1.4. Post-Conditions

- A new tenant account is created in the MIU AirBnB system.
- The tenant is automatically logged into the system after successful registration.

1.5. Business Rules

- Each tenant must provide a unique email address for registration.

1.6. Nonfunctional Requirements

- The registration process should be secure and protect tenant data.
- The registration response time should be fast to ensure a smooth user experience.

1.7. Sample Screen

2. Landlord Registration

2.1. Brief Description

The registration activity for tenants in the MIU AirBnB system.

2.2. Actors

- Landlord
- Landlord Account Database

Preconditions

- The tenant does not have an existing account in the MIU AirBnB system.

2.3. Flow of Events

2.3.1. Basic Flow

User Action	System Response
Landlord initiates the registration process.	The system displays a registration form, requesting the landlord's full name, email, password, gender, role and desired password
Landlord enters their email and password.	The system validates the entered information to ensure it meets the required criteria (e.g. valid email format, strong password). The system creates a new landlord account in the landlord accounts database, including provided information. The registration form disappears, and the system displays a success message, informing the landlord that the registration is complete. The landlord is automatically logged into the system and directed to the tenant dashboard.

2.3.2. Exceptional Flow

2.3.2.1. Invalid email format or weak password

User Action	System Response
Landlord initiates the registration process	The system displays a registration form, requesting the landlord's full name, email, gender, role, desired password.
Landlord enters their full name, an invalid email format or a weak password (e.g. too short, common password)	The system detects the invalid email format or weak password and displays error messages next to the respective fields, guiding the tenant to correct entries.
The landlord re-enters the email and password with valid formats and strength.	The system validates the updated information and proceeds with the registration process.

2.4. Post-Conditions

- A new landlord account is created in the MIU AirBnB system.
- The landlord is automatically logged into the system after successful registration.

2.5. Business Rules

- Each landlord must provide a unique email address for registration.

2.6. Nonfunctional Requirements

- The registration process should be secure and protect landlord data.
- The registration response time should be fast to ensure a smooth user experience.

2.7. Sample Screen

Contents

1. Tenant searches for rental property

1.1. Brief Description

The payment activity for tenants in the MIU AirBnB system using Stripe as the payment gateway.

1.2. Actors

- Tenant
- Stripe payment gateway
- Payment processing module

Preconditions

- The tenant is registered and logged into the MIU AirBnB system.
- The tenant has selected a property to rent and confirmed the rental transaction.

1.3. Flow of Events

1.3.1. Basic Flow

User Action	System Response
Tenant decides to confirm the rental transaction and clicks the “confirm rental” button	The system redirects the tenant to the payment page, displaying the rental details and the total rental amount.
Tenant reviews the payment details and clicks the “Pay Now” button.	The system connects with the Stripe Payment Gateway to initiate the payment process. The Stripe payment gateway displays a secure payment form, requesting the tenant’s credit/debit card information.
Tenant enters their card information and clicks the “submit payment” button.	The Stripe Payment Gateway securely processes the payment transaction. The Payment Processing Module receives the payment confirmation from the Stripe Payment Gateway. The Payment Processing Module receives the payment confirmation from the Stripe Payment Gateway. The Payment Processing Module receives the payment confirmation from the Stripe Payment Gateway. The Payment Processing Module updates the tenant’s account balance and the rental status for the property.

	The system displays a confirmation message to the tenant, indicating successful payment and rental confirmation. The tenant receives an email notification with the rental details and payment receipt.

1.3.2. Exceptional Flow

1.3.2.1. Payment Declined

User Action	System Response
Tenant decides to confirm the rental transaction and clicks the “Confirm Rental” button.	The system redirects the tenant to the payment page, displaying the rental details and the total rental amount.
Tenant reviews the payment details and clicks the “Pay Now” button.	The system connects with the Stripe Payment Gateway to initiate the payment process. The Stripe payment gateway displays a secure payment form, requesting the tenant’s credit/debit card information.
Tenant enters their card information and clicks the “submit payment” button.	The Stripe Payment Gateway processes the payment transaction but receives a declined response from the card issuer. The system displays an error message to the tenant, indicating that the payment was declined. The tenant is prompted to retry the payment or use a different payment method.

1.4. Post-Conditions

- The tenant’s payment for the rental transaction is successfully processed using stripe.
- The property’s rental status is updated to “Paid” in the property listing database.

1.5. Business Rules

- Tenants must provide valid and authorized payment details for a successful transaction.
- Failed payment attempts may require the tenant to try again or use an alternative payment method.

1.6. Nonfunctional Requirements

- The payment process should be secure and comply with Stripe’s security standards.
- The payment response time should be fast to ensure smooth and efficient payment processing.

1.7. Sample Screen

1.8. Project Repository

- https://github.com/puruprajapati/swe_CS425DE

Contents

1. Tenant searches for rental property

1.1. Brief Description

The property search activity for tenants in the MIU AirBnB system.

1.2. Actors

1. Tenant
2. Property listing Database

Preconditions

3. The tenant is registered and logged into the MIU AirBnB system.
4. The system has available property listings.

1.3. Flow of Events

1.3.1. Basic Flow

User Action	System Response
Tenant navigates to property search section in their dashboard.	The system displays the property search page, where the tenant can enter search criteria such as location, number of rooms, rental budgets.
Tenant enters desired search criteria and click the “Search” button.	The system searches the property listing database for properties that match the tenant’s search criteria. The system displays a list of properties that match the search criteria.
Tenant revies the list of properties and selects a property of interest to view it details	The system display the detail page of selected rental property.

1.3.2. Exceptional Flow

1.3.2.1. No matching properties found

User Action	System Response
Tenant navigates to property search section in their dashboard.	The system displays the property search page, where the tenant can enter search criteria such as location, number of rooms, rental budgets.
Tenant enters desired search criteria and click the “Search” button.	The system searches the property listings database but does not find any properties that match the tenant’s search criteria. The system displays a message stating “No matching properties found. Please refine your search criteria.”

1.4. Post-Conditions

None. State of the system remains unchanged by the use case.

1.5. Business Rules

1.6. Nonfunctional Requirements

- The response time should be fast to ensure a smooth user experience.

1.7. Sample Screen

1.8. Project Repository

- https://github.com/puruprajapati/swe_CS425DE

2. Renting a property

2.1. Brief Description

The renting a property activity for tenants in the MIU AirBnB system.

2.2. Actors

5. Tenant
6. Property listing Database

Preconditions

7. The tenant is registered and logged into the MIU AirBnB system.
8. The system has available property listings.

2.3. Flow of Events

2.3.1. Basic Flow

User Action	System Response
Tenant selects a property from the list to view its details.	The system displays detailed information about the selected property, including images, location, rent, and amneties.
Tenant reviews the property details and decides to rent the property.	The system provides an option to “Rent Now” or “Contact Landlord” for further inquiries
Tenant clicks the “Rent Now” button.	The system redirects the tenant to a rental confirmation page, displaying the rental details and clicks the “Confirm Rental” button. The system processes the rental transaction, deducting the rental amount the tenant’s account balancing. The system update s the property’s status as “Rented” and sends a confirmation email to the tenant and landlord.

2.4. Post-Conditions

9. The tenant successfully rents the selected property.
10. The property’s status is updated to “Rented” in the property listings database.

2.5. Business Rules

11. Tenants can only rent properties when they have sufficient funds in their account balance.

2.6. Nonfunctional Requirements

12. The property search process should be fast and responsive, providing real-time search results.
13. The rental transaction should be secure and protect tenant and landlord data.

2.7. Sample Screen

2.8. Project Repository

- https://github.com/puruprajapati/swe_CS425DE

Contents

1. Landlord property Registration

1.1. Brief Description

The property registration and listing activity for landlords in the MIU AirBnB system.

1.2. Actors

- Landlord
- Property Listings Database
- Cloud Storage Service

Preconditions

- The landlord is registered and logged into the MIU AirBnB system
- The landlord has not registered the property before.

1.3. Flow of Events

1.3.1. Basic Flow - Property

User Action	System Response
Landlord navigates to the property registration section in their dashboard.	The system displays the property registration form, requesting property details such as property type, address, number of rooms, rent, and property images.
Landlord enters the property details and upload property images to the cloud storage service	The system validates the entered information and confirms the successful image upload. The system creates a new property listing in the property listings database, including the provided property details and the cloud storage links to the property images. The property registration form disappears, and the system displays a success message including the landlord that the property registration is complete. The newly registered property is not listed in landlord's property dashboard.

1.3.2. Exceptional Flow

1.3.2.1. Property already registered

User Action	System Response
Landlord navigates to the property registration section in their dashboard.	The system displays the property registration form, requesting property details such as property type, address, number of rooms, rent, and property images.
Landlord enters the property details and upload property images to the cloud storage service	The system validates the entered information and confirms the successful image upload.

	The system checks the property listing database and finds that the property with same details is already registered by the landlord. The system displays an error message, informing the landlord that the property is already registered. The landlord is prompted to review the existing property listing or make changes to the property details.

1.4. Post-Conditions

- A new property listing is created in the property listing database.
- The property images are securely stored in the cloud storage service.

1.5. Business Rules

- Each property must have unique details to be registered as a new listing.

1.6. Nonfunctional Requirements

- The property registration process should be secure and protect landlord and property data.
- The registration response time should be fast to ensure a smooth user experience.

1.7. Sample Screen

1.8. Project Repository

- https://github.com/puruprajapati/swe_CS425DE

Contents

1. Properties

1.1. Brief Description

Dashboard reporting consists of all data that the landlord would like to have access to. These are maintenance, financial statistics that will aid the landlord to make business decisions on i.e., an integrated business intelligence section.

1.2. Actors

- Landlord

Preconditions

- The login page must exist.
- Database model must exist.
- Landlord property list must exist.

1.3. Flow of Events

1.3.1. Basic Flow

User Action	System Response
User clicks on reporting	The system directs the dashboard page with relevant data should be populated from database. - Interactive graphs detailing revenue per listing. - Most booked listing - Maintenance cost per property
User clicks exports report.	The system can export the reporting data to a CSV or PDF file.
User clicks add metric for tracking.	The system should display a drop-down listing object attributes that the landlord can select to track - Once metric/attribute is selected system prompts for user to input formulae to track the metric/attribute

1.3.2. Exceptional Flow

1.3.2.1. No data inserted in data base yet.

User Action	System Response
User clicks on reporting	The system navigates to reporting dashboard with empty graphs.
User clicks on export report.	An info message dialogue box should pop up to inform the user there's no data to export.

1.4. Post-Conditions

- None the user does not interact/modify system state data only views the data.

1.5. Business Rules

- Landlords can specify which metrics they would like to track on the dashboard, they should also provide formulae that would be used to calculate and track the nonstandard.

1.6. Nonfunctional Requirements

- The exported data should be password protected as they contain sensitive financial and user data.

1.7. Sample Screen

1.7.1. Exceptional Flow

1.7.1.1. Invalid format: Provided formulae cannot operate on select metric

User Action	System Response
User clicks add metric for tracking.	The system should display an error message for an invalid operation on selected metric example if you're want an average of attribute of type string

1.8. Post-Conditions

- None the user does not interact/modify system state data only views the data.