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# Smart Housing

Project Report MSIS-2602



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## ❖ BUSINESS DESCRIPTION:

'Alone we can do so little, together we can do so much'. Common-interest communities are becoming a popular way of living. Such communities need the help of the members to get involved and ultimately take responsibility of their neighborhood. For smooth functioning of such Homeowner's communities we propose a web-based full featured Homeowners Neighborhood management application – Smart Housing. Our application provides a comprehensive platform for the committee members to have a well-governed committee, means of effective communication, transparent accounting and professional management of community association.

## ❖ BUSINESS NEED:

Management of Home Ownership group depends on some aspects such as helping with finances, understanding the laws, and day-to-day functions of the Association the Home ownership community board just doesn't have time to do. For this reason the management board experiences a need to hire some Management Company. Smart Housing eliminates the need for such companies to be hired.

Smart Housing has been designed to automate the management process of Home-owners communities. 'To err is human', thus performing the tasks manually is the matter of concern for the efficient management.

## ❖ BUSINESS VALUE:

### ▪ **User friendly portal:**

This information system provides the residents a user-friendly UI to get complete information about the facilities provided, layout of the houses, working of the community. This also helps the administrator/Board members analyses the record of the registered/interested customers and provide them with the promotional information.

### ▪ **Digital Transformation:**

This information system transforms the way the customers are engaged. This system makes 24/7 information available to the user on any device and thus focuses on customer satisfaction and productivity.

### ▪ **Elimination of extra investment:**

Elimination of need to hire management companies for the management of community. This helps reduce the investment in resources. With each home sale, there are expenditures related to lawn care, home re-modelling, new furniture, moving, and an inducement to build new homes. Keeping these expenses under control.

### ▪ **Determination of standard prices:**

Software helps you understand the true value of your assets.

This 360 view helps you to streamline compliance and stay focused on the future, like property improvements.

You can design surveys, input data in bulk and capture information on the move.

And with the right data on repairs and maintenance always available, you can maximize value and deliver better homes.

### ▪ **Document solutions that deliver better services at lower costs:**

This system helps transform the work culture by cutting out paper processes and making storing, finding and using information easier.

Helps gain more time, peace of mind and confidence in its leadership

## ❖ SYSTEM DESCRIPTION:

### 1. Registration:

Community owners/residents want to create their profiles in the system.

The profiles are of two types User profile and Board member.

Access and rights for both the profiles are defined and have access to defined set of views.

User's personal information and role is recorded in the system as the user registers himself with the system.

### 2. The laws and annual disclosures:

Board member has access to the list of registered users who have not signed the legal agreement with all the rules and regulations.

They send reminders to the users who have not signed the document.

Users are notified of the reminder.

User have access to download the rules and regulations document and sign it.

### 3. Facilities:

- Providing Medical Help:

The user is asked to enter the type of medical help required.

Retrieved data according to the query and is given to the user.

Board members have access to modify the list available with the system.

- Car Pooling :

User posts the information for the ride under car pooling section.

Information includes: Drop location, Pick up location, date, time, fare etc.

Other user who checks this post accepts the ride and shares his contact details.

User who posted is notified to confirm the ride.

Once he confirms the ride contact details of the other user can be viewed by the user.

Also a confirmation notification is sent to the user who accepts.

- Baby sitting:

User posts the information for the baby sitting under baby sitting section.

Information includes: Age of kids, Number of kids, date, time, block number, address, wages etc.

Other user who checks this post accepts the offer and shares his contact details.

User who posted is notified to confirm the booking.

Once he confirms the booking contact details of the other user can be viewed by the user.

Also a confirmation notification is sent to the user who accepts.

### 4. Events:

Board member have rights to post the community level events.

Event description, Time, Venue etc. details are posted.

Board members have access to modify the event details.

If the required volunteer button is clicked User who wants to register for the event can see two buttons 1. Registration 2. Volunteer.

The registration count and the volunteer count can be seen by the board member.

On registration user is sent a notification of confirmed registration.

Board members also have access to call a meeting of the volunteers.

Notification of the meeting is sent to the users volunteering.

##### **5. Notice board and complaint box:**

Notices related to small scale events ,resources, facilities, amenities are put by the board member as well as the user.

Complaints related to the following are also put by the users:

1. Event Invites and constraints.
2. Logging complaints for the chaotic atmosphere and the damages to be repaired.

If the issue is found valid a ticket is raised for that issue and is tracked till it is resolved.

Board members have access to the ticket and have the rights to change the status of the ticket once resolved.

The User provided with service is then asked for the feedback.

Feedback is very important for improving the service provided.

##### **6. Maintenance:**

Maintenance of attractive curb appeal-Exterior and Seasonal Maintenance-General interior repairs is included in this process.

Expenses incurred in this are recorded with the system and are included in the bill generation.

##### **7. Recording expenses:**

Board members have rights to record the expenses incurred in the repairs and other maintenance processes.

Other expenses like:

- Administrative expenses
- Bank interests, taxation
- Excess expenses over income
- Track Dues
- Reserve Funds

Are also included in the expenses recorded by the board members.

A notification regarding the financial statement update is sent to the users.

Also a bill is generated by the Board member and is sent to the member specified or all the users.

## ❖ BUSINESS REQUIREMENTS:

### ***Functional Requirement***

#### **Registration and Login:**

##### **Process Oriented:**

- System should ask the user to enter the username and password according to the requirement.
- System should ask the user the type of profile to be created.
- System should ask the user to enter all the mandatory fields and validate details.
- System should create a profile for the successfully registered user and define access according to the type of profile.

##### **Information Oriented:**

- System should keep a record of all the entered information for future reference.
- Username and password should be assigned to the user for future access to the site.
- Type of profile should also be recorded in the system.

#### **The laws and annual disclosures:**

##### **Process Oriented:**

- System should make the user familiar with the List of Rules and regulations to be followed by each age group and must ask the individual to sign the agreement.
- Board member should have access to the list of users to sign the agreement and should send a reminder.
- System should provide the user who requested for Specialized help regarding legal matters and security breach.

##### **Information Oriented:**

- System must keep record of the users who signed the document.
- System should keep record of the users who asked for help and were provided with help.

#### **Facilities:**

##### **Process Oriented:**

- User should be able to put a request for the medical help required specifying the cause of need.
- System should be able to retrieve the appropriate medical help for the requests filtering all its results from the records available.
- User should be able to post the proposal for car sharing and other users should be able to view the post and respond accordingly.
- User should be able to post the request for baby sitting and other users should be able to view the post and respond accordingly.

##### **Information Oriented:**

- User provided with help and the help provided should be recorded in the system  
System records the information regarding the help provided for baby sitting and also the user's information who needs help.

#### **Events:**

##### **Process Oriented:**

- Admin should be able to post the events held on community level.
- System should notify the customers regarding Events and constraints.

##### **Information Oriented:**

- System should record the information for the posted event.
- System records Users registered for a particular event.

### **Notice board and complaint box:**

#### **Process Oriented:**

- System should allow the users to Log complaints for the chaotic atmosphere and the damages to be repaired.
- System should Track the actions taken/to be taken on the registered complaints.
- System should ask for the Timely feedback for the services provided and the issues resolved from the users to improve the performance and management.

#### **Information Oriented:**

- System records complaints against the house numbers and tracks them for resolution.
- System records the feedback from the user and makes it available to the user.

### **Expense tracker and bill generator:**

#### **Process Oriented:**

- System should calculate the monthly community maintenance costs, repairs cost, Salaries of the resources and other
- System should be fed with the details regarding the Bank interests, taxation for the land and the housing.
- Data should be recorded against each house.
- System should calculate the total expenses and the income value for the total losses or revenue.
- System should notify the users with the due payments and mark it in the system as pending.

#### **Information Oriented:**

- House numbers with all its corresponding costs should be recorded in the system.
- System should record the total monthly losses and revenue.

### ***Nonfunctional:***

#### **Operational:**

- System should be able to work on any Web Browser.
- System should be able to integrate with the existing manual management process

#### **Performance:**

- The system should be available for use from 8 A.M to 10P.M per day in the respective time-zones worldwide, 365 days per year.
- The system should support approximately 1000 members simultaneously (community capacity being 150 with at least 3 members in each house).
- The system updates the account details with investments and their invoices every 15 days.

#### **Security:**

- Only the registered users have access to the documents and the information about the community.
- No guest login available.
- Only the Chairperson and the Board members have access to legal documentation and monetary affairs.
- Invoices, due amount and other penalties should be available only for the respective user and the board member.

**Cultural and Political:**

- Legal documents abiding the policies and rules of the association should be signed by the registered users.
- Strict actions to be taken against the residents or system users for their objectionable behavior.
- Specialized help regarding legal matters and security breach to be provided to all the community members without any biases.

## ❖ USE CASES:

UC001											
<b>Use Case Name:</b> Profile Creation and registration <b>ID:</b> UC001 <b>Priority:</b> High											
<b>Brief Description:</b> The members of home ownership group create an account with their personal information and identity proofs and select the community from the list they want to be a part of.											
<b>Actor:</b> Community/Board member <b>Trigger:</b> User needs to register as a member to access the amenities or facilities of the home owner community. <b>Type</b> <input checked="" type="checkbox"/> External <input type="checkbox"/> Temporal											
<b>Preconditions:</b> Members of the community and the board members want to create their accounts and validate their access											
<b>Normal Course</b> User clicks on register button. System asks the user type of registration (Community member/board member). User enters type as Community member. System asks the user to select the community for which the registration is to be done User is given a choice of Username and password according to the defined set of rules. System asks the user for the personal details like name, surname, address, Identity proof, community he wants to register for etc. Profile is created for the user. User is notified that the user request for registration will be approved shortly.	<b>Information for Steps</b> Registration form  Type of registration User type- Community member  Username, Password  Personal details  User information Approval message										
<b>Alternative Course(s):</b> <b>1.1</b> (At step 3 Normal Flow) User enters type as Board member. User is given a choice of Username and password according to the defined set of rules. System asks the user for the personal details like name, surname, address, Identity proof, community he wants to register for etc. Profile is created for the user. User is notified that their authorized access as a board member will be approved shortly. <b>1.2</b> User is already registered with the system and wants to login. User clicks on Admin login/Userlogin Access to some views depending to the type of login defined.	User type-Board member Username, Password  Personal details  User information Approval message  Registered user Login type Access validation										
<b>Post conditions:</b> Profile for the user has been Created and access according to the user type validated.											
<b>Exceptions:</b> E1: User wants to Register as a guest											
<b>Summary:</b> <table border="1"> <thead> <tr> <th>Inputs</th> <th>Source</th> <th>Outputs</th> <th>Destination</th> </tr> </thead> <tbody> <tr> <td>Registration form Type of registration User type-Community member User type-Board member Personal details Username, Password User information Approval message Registered user  Login type Access validation</td> <td>System System New community member New Board member  User User System System User System</td> <td>Registration Form Types of registration provided User type  User details  Security details Approval message User is already registered User clicks on the type of user he is accessing Validation of the system's access user and the admin</td> <td>User User System  System  System User System System User/System</td> </tr> </tbody> </table>				Inputs	Source	Outputs	Destination	Registration form Type of registration User type-Community member User type-Board member Personal details Username, Password User information Approval message Registered user  Login type Access validation	System System New community member New Board member  User User System System User System	Registration Form Types of registration provided User type  User details  Security details Approval message User is already registered User clicks on the type of user he is accessing Validation of the system's access user and the admin	User User System  System  System User System System User/System
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## UC002

<b>Use Case Name:</b> Community Laws and annual disclosure	<b>ID:</b> UC002	<b>Priority:</b> High		
<b>Brief Description:</b> Users are made familiar with the rules and regulations and are asked to sign an agreement to abide by the rules.				
<b>Actor:</b> Community member/Board member				
<b>Trigger:</b> Management needs to make sure if the community members abide by the rules and regulations of the society or not.				
<b>Type</b> <input checked="" type="checkbox"/> External <input type="checkbox"/> Temporal				
<b>Preconditions:</b> User is already registered with the system as admin/Community member.				
<b>Normal Course</b>  User logs in to the system Navigates to the Community laws view The legal agreement document is available to view and Download System asks the user to sign the document User sign the document System is updated with the information of the users who have signed the document.	<b>Information for Steps</b>  Username, Password  Legal agreement User input-request User input Status of user input			
<b>Alternate Course</b>  User does not sign the agreement Name of the user who did not sign the document is added to the list of users who are to be reminded for signing the document. Admin/Board member have access to view the list of Users who did not sign. Admin can select the users from the list to whom reminder needs to be sent Admin clicks on Send reminder Reminder is sent to the user (Follow steps from 5 Normal flow)	 User input User details, List of users  List of users  Reminder  Admin input Notification			
<b>Post conditions:</b> User signs the agreement document for community.				
<b>Exceptions:</b> None				
<b>Summary:</b>				
Inputs	Source	Outputs	Destination	
Username, Password	User	User logs in with the username and password	System	
Legal agreement	System	Legal agreement with the rules and regulations is provided to the user	User-Community member	
User input-request	System	User is asked to sign the document	System	
User input	User-Community member	User signs the document	System	
Status of user input	System	User either signed the document or did not sign-Status is recorded in the system	System	
User input User details, List of users	User System	User did not sign the document User who did not sign the document--details are recorded	System System	
List of users	System	List of users who did not sign is available to the admin	User-Admin	
Reminder	System	System asks for the user input for reminder to be sent or not.	User	
Admin input Notification	User-Admin System	Admin clicks on send reminder Sends a notification for the reminder	System User-Community member	

## UC003.A

<b>Use Case Name:</b> Providing user with the Medical facilities	<b>ID:</b> UC003.A	<b>Priority:</b> High																				
<b>Brief Description:</b> The community members are provided medical help. The members need to put a request for the help required and the system retrieves data as required and provides help.																						
<b>Actor:</b> User																						
<b>Trigger:</b> Provision of help for the members in the society.																						
Type <input checked="" type="checkbox"/> External <input type="checkbox"/> Temporal																						
<b>Preconditions:</b> User who needs help is already registered and is the member of the society.																						
<b>Normal Course A:</b> User logs in with authorized username password. User Navigates to the facilities tab. User Navigates to the Medical help tab. User Puts the type of medical help needed. System queries the request put and finds the appropriate results from the pool. System retrieves the result for the user.		<b>Information for Steps</b> Username , Password  Type of medical help System Query  Doctor's name, hospital, distance from community																				
<b>Alternate Course 1.1:</b> User logs in admin. User navigates to the Facilities tab User navigates to the medical facilities tab. User has rights to modify the list of doctors in the system. User-admin modifies the list. The list is modified and the system is updated with the records.		Username, Password  Rights/Access List-Modification Records																				
<b>Post conditions:</b> Users requesting for medical help are provided the help required Doctors List is updated by the admin.																						
<b>Exceptions:</b> None																						
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Doctor's name, hospital, distance from community	System	Data is retrieved from the pool	User																			

## UC003.B

<b>Use Case Name:</b> Providing user with the Car pooling facilities	<b>ID:</b> UC003.B	<b>Priority:</b> High																												
<b>Brief Description:</b> The community members are provided car pooling facilities. The members need to put a request for the help required and the system retrieves data as required and provides help.																														
<b>Actor:</b> Community member																														
<b>Trigger:</b> Provision of help for the members in the society.																														
Type <input checked="" type="checkbox"/> External <input type="checkbox"/> Temporal																														
<b>Preconditions:</b> User who needs help is already registered and is the member of the society.																														
<b>Normal Course B:</b> User logs in with authorized username password. User Navigates to the facilities tab and selects Car pooling Under Car pooling section User who wants to put a proposal for car sharing puts the number of seats available, fare, destination, Pickup point. Other user accepts the proposal by clicking on accept and enters his contact details. The user who posted the availability is notified for approval. The user confirms and can view the other users contact details. The other user is notified of the booking confirmation.		Username ,Password  Number of seats available , Fare, route, destination, pickup point,Time  Response, Responding-user's details  Notification Response, Responding-User's details Notification																												
<b>Post conditions:</b> Users requesting for help related to car sharing are provided the help required.																														
<b>Exceptions:</b> None																														
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## UC003.C

<b>Use Case Name:</b> Providing user with the Baby sitting facilities	<b>ID:</b> UC003.C	<b>Priority:</b> High																				
<b>Brief Description:</b> The community members are provided Baby sitting facilities. The members need to put a request for the help required and the system retrieves data as required and provides help.																						
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<b>Trigger:</b> Provision of help for the members in the society.																						
Type <input checked="" type="checkbox"/> External <input type="checkbox"/> Temporal																						
<b>Preconditions:</b> User who needs help is already registered and is the member of the society.																						
<b>Normal Course C:</b> User logs in with authorized username password. User Navigates to the facilities tab. User then navigates to the Baby sitting section. User who needs help for baby sitting puts a request with number of hours , age of the kids,number of kids, with their addresses, wages etc Other user who can provide help accepts the job by responding on the post and by sharing their contact details. The user who posted the availability is notified for approval. The user confirms and can view the other users contact details. The other user is notified of the booking confirmation.																						
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Inputs	Source	Outputs	Destination																			
Username, Password	User	Validation of the username and password entered by the community member	System																			
Number of hours , age of kids, address, and wages. Response, Responding-user's details	User-Requesting  User-Responding	The details are available for the other users  User accepts the proposal by clicking on accept and by entering his contact details as the system asks for	User  System																			
Notification	System	The user who posted the request is notified for approval.	User																			
Response, Responding-User's details Notification	User-Proposing  System	Viewing other users details and approving  Other user is notified of the successful booking	User/System  User																			

## UC004

<b>Use Case Name:</b> Community level events	<b>ID:</b> UC004	<b>Priority:</b> High		
<b>Brief Description:</b> Admin posts the events held on community level. Details of the events are specified by the admin. Community member has access to the events for registration and volunteering.				
<b>Actor:</b> Board member				
<b>Trigger:</b> User needs to register as a member to access the amenities or facilities of the home owner community.				
<b>Type</b> <input checked="" type="checkbox"/> External <input type="checkbox"/> Temporal				
<b>Preconditions:</b> The Board members have planned some events to be conducted on community level and wants to post the events.				
<b>Normal Course:</b> Board member logs in with their authorized Username and password. Navigates to the Events tab. User posts the event with their specification. As soon as the event is posted User can see the event in the List of events section. Each event posted is associated with Delete event button, Registration button, Volunteer button and a count of registration. Admin clicks on the event and event is associated with Call a meeting of volunteers button.  Once the limit of registration is reached and the event is completed the board member have access to delete the event.	<b>Information for Steps</b> Username, Password Navigation-Events tab Events list, Date, Time, venue List of events  Event specification  Volunteer count and information, Registration count. Life of event			
<b>Alternative Course(s):</b> Community member wants to login as a user to check the list of events. Logs in to the system with authorized username and password. Navigates to the events tab. The access for the community member is restricted only to the list of events section and is denied access to the POST events section. The list of events is associated with the volunteer Yes or NO buttons Register Yes or No buttons. User clicks on volunteer button and waits for the Board member to call a meeting of volunteers The user clicks on register button and gets a notification of the successful registration. Record for registration and volunteering updated in the system. (Follow step 4 Normal Flow)	Username, Password Navigation-Events tab List of events, Access -List of events section User input  Confirmation  Notification  Record			
<b>Post conditions:</b> The events list for the week has been created under events tab. Community members has access to the list of events for registration.				
<b>Exceptions:</b> E1: Registration limit has reached and the user is notified of failure in registration.				
<b>Summary:</b>				
Inputs	Source	Outputs	Destination	
Username, Password	Board member	Validation of the username and password entered	System	
Navigation-Events tab Events list, Date, Time, venue List of events	User User System	User navigates to the Events tab Posts the details with the specification of the events List of events created by the user and also available to the user for review	User System User	
Event specification Volunteer count and information, Registration count	System	The user has access to the details of the events and also the counts and deletion action.	User	
Life of event	Board member	Board member has access to decide the life of events. He has access to delete the event created.	System	
Username, Password	Community member	Validation of the username and password entered	System	
Navigation-Events tab	User	User navigates to the Events tab	User	

List of events, Access -List of events section User input	System User	List of events is available to the user Registers or does not register for the event, Volunteers or does not volunteer for the event System updated with the details and count of registered and volunteering users Successful registration	User System
Confirmation	System		User
Notification	System		User
Record	System	Record for updated list of registrations and number of volunteers is updated in the system	System

## UC005

<b>Use Case Name:</b> Notice board	<b>ID:</b> UC005	<b>Priority:</b> High																												
<b>Brief Description:</b> A notice board is a platform for all the community members to post events and also the notices regarding the availability of resources.																														
<b>Actor:</b> Board member/Community member																														
<b>Trigger:</b> Community system needs notice board for posting small scale events and notices																														
<b>Type</b> <input checked="" type="checkbox"/> External <input type="checkbox"/> Temporal																														
<b>Preconditions:</b> Board members and the users have authorized access to the system.																														
<b>Normal Course:</b> Board member/Community members logs in with their authorized Username and password. User Navigates to the Notice board tab User can post/Check the list of events as well as the notices posted on the notice board. User can check the details of the events by clicking on the particular event. Every user has privilege to customize their own notice board by refining and deleting few entries. This Customized view is only available to the particular user.		<b>Information for Steps</b> Username,Password  Navigation-Notice board tab List of events/Notices  Details of event-Date, Time, Type of notice User Input  View																												
<b>Post conditions:</b> Access for posting as well as checking the notice board content is satisfied.																														
<b>Summary:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 2px;">Inputs</th> <th style="text-align: left; padding: 2px;">Source</th> <th style="text-align: left; padding: 2px;">Outputs</th> <th style="text-align: left; padding: 2px;">Destination</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">Username,Password</td> <td style="padding: 2px;">Board member/Community member</td> <td style="padding: 2px;">Validation of the username and password entered</td> <td style="padding: 2px;">System</td> </tr> <tr> <td style="padding: 2px;">Navigation-Notice board tab</td> <td style="padding: 2px;">User</td> <td style="padding: 2px;">User navigates to the Notice board tab</td> <td style="padding: 2px;">User</td> </tr> <tr> <td style="padding: 2px;">List of events/Notices</td> <td style="padding: 2px;">User</td> <td style="padding: 2px;">The list of events/notices entered by the user is available to the user</td> <td style="padding: 2px;">User</td> </tr> <tr> <td style="padding: 2px;">Details of event-Date, Time, Type of notice</td> <td style="padding: 2px;">User</td> <td style="padding: 2px;">Specifications of the events/notices available to the user</td> <td style="padding: 2px;">User</td> </tr> <tr> <td style="padding: 2px;">User Input</td> <td style="padding: 2px;">User</td> <td style="padding: 2px;">Customize view available</td> <td style="padding: 2px;">System</td> </tr> <tr> <td style="padding: 2px;">View</td> <td style="padding: 2px;">System</td> <td style="padding: 2px;">View specific to the user who customized</td> <td style="padding: 2px;">User</td> </tr> </tbody> </table>			Inputs	Source	Outputs	Destination	Username,Password	Board member/Community member	Validation of the username and password entered	System	Navigation-Notice board tab	User	User navigates to the Notice board tab	User	List of events/Notices	User	The list of events/notices entered by the user is available to the user	User	Details of event-Date, Time, Type of notice	User	Specifications of the events/notices available to the user	User	User Input	User	Customize view available	System	View	System	View specific to the user who customized	User
Inputs	Source	Outputs	Destination																											
Username,Password	Board member/Community member	Validation of the username and password entered	System																											
Navigation-Notice board tab	User	User navigates to the Notice board tab	User																											
List of events/Notices	User	The list of events/notices entered by the user is available to the user	User																											
Details of event-Date, Time, Type of notice	User	Specifications of the events/notices available to the user	User																											
User Input	User	Customize view available	System																											
View	System	View specific to the user who customized	User																											

## UC006

<b>Use Case Name:</b> Complaint Box	<b>ID:</b> UC006	<b>Priority:</b> High																																																				
<b>Brief Description:</b> Community system a complaint box for posting the complaints as well as tracking the complaints till they get resolved. There is also a section of feedback available for the improved management.																																																						
<b>Actor:</b> Board member/Community member																																																						
<b>Trigger:</b> Community system needs a complaint box for posting complaints and decisions.																																																						
<b>Type</b> <input checked="" type="checkbox"/> External <input type="checkbox"/> Temporal																																																						
<b>Preconditions:</b> Board members and the users have authorized access to the system.																																																						
<b>Normal Course:</b> Board member/Community members logs in with their authorized Username and password. User Navigates to the Complaint box tab. User selects the field from complaint about Eg: regarding Chaotic atmosphere or any particular issue they are facing. If found valid a ticket is created and is tracked for the status of the issue. The user is also asked for feedback regarding the service provided. The user puts a feedback on the issue posted.		<b>Information for Steps</b> Username,Password  Navigation-Complaint box List of events/Notices, Type of notice Ticket details  Feedback request Feedback from user																																																				
<b>Alternative Course(s):</b> 1.1(Branching from step 1) Board member logs in with their authorized Username and password. Board member has access to the issues the community members post. Board member is privileged to filter the type of complaint in the list. Board member has access to the feedback provided by the complaint loggers. Board member also has rights to change the status of the complaint as Taken care of ,service provided etc.		Username password List of issues  Privileges Feedback provided  Status of complaint																																																				
<b>Post conditions:</b> Community members can successfully log complaints and the board members take care of the solutions to these issues.																																																						
<b>Exceptions:</b> None																																																						
<b>Summary:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; padding: 2px;">Inputs</th> <th style="text-align: center; padding: 2px;">Source</th> <th style="text-align: center; padding: 2px;">Outputs</th> <th style="text-align: center; padding: 2px;">Destination</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">Username, Password</td> <td style="padding: 2px;">Board/Community member</td> <td style="padding: 2px;">Validation of the username and password entered</td> <td style="padding: 2px;">System</td> </tr> <tr> <td style="padding: 2px;">Navigation-Complaint Box</td> <td style="padding: 2px;">User</td> <td style="padding: 2px;">User navigates to the Complaint box tab</td> <td style="padding: 2px;">User</td> </tr> <tr> <td style="padding: 2px;">List of events/Notices</td> <td style="padding: 2px;">System</td> <td style="padding: 2px;">User has access to the list of events</td> <td style="padding: 2px;">User</td> </tr> <tr> <td style="padding: 2px;">Details of event-Date, Time, Type of notice</td> <td style="padding: 2px;">User</td> <td style="padding: 2px;">User puts and other users have access to the details of the events.</td> <td style="padding: 2px;">User</td> </tr> <tr> <td style="padding: 2px;">Ticket details</td> <td style="padding: 2px;">System</td> <td style="padding: 2px;">System updates the ticket details with its status</td> <td style="padding: 2px;">System</td> </tr> <tr> <td style="padding: 2px;">Feedback request</td> <td style="padding: 2px;">System</td> <td style="padding: 2px;">User is asked for the feedback about the service</td> <td style="padding: 2px;">User</td> </tr> <tr> <td style="padding: 2px;">Feedback from user</td> <td style="padding: 2px;">User</td> <td style="padding: 2px;">User inputs the feedback</td> <td style="padding: 2px;">System</td> </tr> <tr> <td style="padding: 2px;">Username password</td> <td style="padding: 2px;">User-Board member</td> <td style="padding: 2px;">Validation of the username and password entered</td> <td style="padding: 2px;">System</td> </tr> <tr> <td style="padding: 2px;">List of issues</td> <td style="padding: 2px;">System</td> <td style="padding: 2px;">List of issues to view for the Board members</td> <td style="padding: 2px;">User</td> </tr> <tr> <td style="padding: 2px;">Privileges</td> <td style="padding: 2px;">System</td> <td style="padding: 2px;">List of privileges for the board members to view and modify</td> <td style="padding: 2px;">System</td> </tr> <tr> <td style="padding: 2px;">Feedback provided</td> <td style="padding: 2px;">User</td> <td style="padding: 2px;">User provides the feedback</td> <td style="padding: 2px;">System</td> </tr> <tr> <td style="padding: 2px;">Status of complaint</td> <td style="padding: 2px;">System</td> <td style="padding: 2px;">Status of complaints can be seen by the board members</td> <td style="padding: 2px;">User</td> </tr> </tbody> </table>			Inputs	Source	Outputs	Destination	Username, Password	Board/Community member	Validation of the username and password entered	System	Navigation-Complaint Box	User	User navigates to the Complaint box tab	User	List of events/Notices	System	User has access to the list of events	User	Details of event-Date, Time, Type of notice	User	User puts and other users have access to the details of the events.	User	Ticket details	System	System updates the ticket details with its status	System	Feedback request	System	User is asked for the feedback about the service	User	Feedback from user	User	User inputs the feedback	System	Username password	User-Board member	Validation of the username and password entered	System	List of issues	System	List of issues to view for the Board members	User	Privileges	System	List of privileges for the board members to view and modify	System	Feedback provided	User	User provides the feedback	System	Status of complaint	System	Status of complaints can be seen by the board members	User
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Feedback provided	User	User provides the feedback	System																																																			
Status of complaint	System	Status of complaints can be seen by the board members	User																																																			

## UC007.A

<b>Use Case Name:</b> Expense record	<b>ID:</b> UC007.A	<b>Priority:</b> High																												
<b>Brief Description:</b> The board member can record the expense for the common or particular expense here .The expense can be addressing all or to a particular user. The records are updated after this.																														
<b>Actor:</b> Board member/community member																														
<b>Trigger:</b>																														
Type <input checked="" type="checkbox"/> External <input type="checkbox"/> Temporal																														
<b>Preconditions:</b> Board member has access to this tab and knows the expenses to be recorded.																														
<b>Normal Course A:</b> People authorized for checking interior paints, plumbing, electricity, etc in the apartments submit data to the board members. Some assigned people check the exteriors of apartments according to the standard defined and submit the report of conditions to the board member Board members login to their account and access the Income/Expense tracker tab. Board members can record an expense to the system with purpose of the expense and the total amount. The financial statement of the community gets updated in the system. Board member has the access to view and download the final financial statement. All the community users are notified about the updated financial statement.		<b>Information for Steps</b> Username Password and data about interior paints, plumbing etc  Checks for the exteriors of apartments  Username, Password, Income/Expense tracker tab. Purpose and amount of the expense  Financial expense details to update in the database Financial statement  Notification message for the users																												
<b>Post conditions:</b> The expenses are recorded successfully and the financial statement is updated accordingly.																														
<b>Exceptions:</b> None																														
<b>Summary:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 2px;">Inputs</th> <th style="text-align: left; padding: 2px;">Source</th> <th style="text-align: left; padding: 2px;">Outputs</th> <th style="text-align: left; padding: 2px;">Destination</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">Condition of interior paint, Plumbing, electrical points, etc</td> <td style="padding: 2px;">Assigned person for the job</td> <td style="padding: 2px;">Condition of interior paint, Plumbing, electrical points, etc</td> <td style="padding: 2px;">Board member</td> </tr> <tr> <td style="padding: 2px;">Condition of exteriors of the apartments</td> <td style="padding: 2px;">Assigned person for the job</td> <td style="padding: 2px;">Condition of exteriors of the apartments</td> <td style="padding: 2px;">Board member</td> </tr> <tr> <td style="padding: 2px;">Income/Expense tracker tab</td> <td style="padding: 2px;">System</td> <td style="padding: 2px;">Income/Expense tracker tab</td> <td style="padding: 2px;">Board member</td> </tr> <tr> <td style="padding: 2px;">Purpose and amount of the expenses</td> <td style="padding: 2px;">Board member</td> <td style="padding: 2px;">Details of expenses like purpose and amount</td> <td style="padding: 2px;">System</td> </tr> <tr> <td style="padding: 2px;">Financial statement of the community.</td> <td style="padding: 2px;">System</td> <td style="padding: 2px;">Generated financial statement</td> <td style="padding: 2px;">Board member</td> </tr> <tr> <td style="padding: 2px;">Notification message for the updated financial statement</td> <td style="padding: 2px;">System</td> <td style="padding: 2px;">Notification of the updated financial statement</td> <td style="padding: 2px;">Members of the community</td> </tr> </tbody> </table>			Inputs	Source	Outputs	Destination	Condition of interior paint, Plumbing, electrical points, etc	Assigned person for the job	Condition of interior paint, Plumbing, electrical points, etc	Board member	Condition of exteriors of the apartments	Assigned person for the job	Condition of exteriors of the apartments	Board member	Income/Expense tracker tab	System	Income/Expense tracker tab	Board member	Purpose and amount of the expenses	Board member	Details of expenses like purpose and amount	System	Financial statement of the community.	System	Generated financial statement	Board member	Notification message for the updated financial statement	System	Notification of the updated financial statement	Members of the community
Inputs	Source	Outputs	Destination																											
Condition of interior paint, Plumbing, electrical points, etc	Assigned person for the job	Condition of interior paint, Plumbing, electrical points, etc	Board member																											
Condition of exteriors of the apartments	Assigned person for the job	Condition of exteriors of the apartments	Board member																											
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Purpose and amount of the expenses	Board member	Details of expenses like purpose and amount	System																											
Financial statement of the community.	System	Generated financial statement	Board member																											
Notification message for the updated financial statement	System	Notification of the updated financial statement	Members of the community																											

## UC007.B

<b>Use Case Name:</b> Bill Generation	<b>ID:</b> UC007.B	<b>Priority:</b> High																								
<b>Brief Description:</b> Generation of bill by the board member depending on the incurred expenses related to all the investments and the extra maintenance or repair charges required.																										
<b>Actor:</b> Community/Board member																										
<b>Trigger:</b> Calculating Expenses and bill generation																										
Type <input checked="" type="checkbox"/> External <input type="checkbox"/> Temporal																										
<b>Preconditions:</b> Maintenance activities have been recorded and board member has access to this view on the home page.																										
<b>Normal Course:</b>  Board members login to their account and access the Income/Expense tracker tab. Board members click on the generate bill button. The board member selects the bill generation option for 'all the members'. The final bill gets generated by the system for all the users of the community. Users are notified about the generated bill and they are provided with the payment option. User makes the payment by clicking on the 'make payment' button.		<b>Information for Steps</b>  Username, Password and income/expense tracker tab Button for generating the bill Option for 'all the members'  Final bill  Notification message for the members  Payment option																								
<b>Alternative course :</b>  (At step 2 Normal Flow) Board members click on the generate bill button. The board member selects bill generation option for 'a particular member'. Board member enters the apartment number of the member and other bill details and clicks on submit. The final bill gets generated by the system for a particular member. User is notified about the generated bill and he is provided with the payment option. User makes the payment by clicking on the 'make payment' button.		 Button for generation of the bill Option for 'a particular member'  Apartment number of the member  Final bill Notification message for the members  Payment option																								
<b>Post conditions:</b> Bill generated by the system is sent to all the users or the user specified.																										
<b>Exceptions:</b> None																										
<b>Summary:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 2px;">Inputs</th> <th style="text-align: left; padding: 2px;">Source</th> <th style="text-align: left; padding: 2px;">Outputs</th> <th style="text-align: left; padding: 2px;">Destination</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">Login details like Username and password</td> <td style="padding: 2px;">Board member</td> <td style="padding: 2px;">Login details like Username and password</td> <td style="padding: 2px;">System</td> </tr> <tr> <td style="padding: 2px;">Button for generating the bill</td> <td style="padding: 2px;">System</td> <td style="padding: 2px;">'Generate bill' button</td> <td style="padding: 2px;">Board member</td> </tr> <tr> <td style="padding: 2px;">Final bill</td> <td style="padding: 2px;">System</td> <td style="padding: 2px;">Calculated bill</td> <td style="padding: 2px;">Board member and Community members</td> </tr> <tr> <td style="padding: 2px;">Notification message</td> <td style="padding: 2px;">System</td> <td style="padding: 2px;">Notification message for the bill</td> <td style="padding: 2px;">Community member</td> </tr> <tr> <td style="padding: 2px;">Payment option</td> <td style="padding: 2px;">Members of the community</td> <td style="padding: 2px;">Payment of the bill</td> <td style="padding: 2px;">User.</td> </tr> </tbody> </table>			Inputs	Source	Outputs	Destination	Login details like Username and password	Board member	Login details like Username and password	System	Button for generating the bill	System	'Generate bill' button	Board member	Final bill	System	Calculated bill	Board member and Community members	Notification message	System	Notification message for the bill	Community member	Payment option	Members of the community	Payment of the bill	User.
Inputs	Source	Outputs	Destination																							
Login details like Username and password	Board member	Login details like Username and password	System																							
Button for generating the bill	System	'Generate bill' button	Board member																							
Final bill	System	Calculated bill	Board member and Community members																							
Notification message	System	Notification message for the bill	Community member																							
Payment option	Members of the community	Payment of the bill	User.																							

## UC008

<b>Use Case Name:</b> Maintenance	<b>ID:</b> UC008	<b>Priority:</b> High																								
<b>Brief Description:</b> System checks for the current condition of the interior and exterior according to the standard defined and calculate the maintenance cost to be paid by the users of the community.																										
<b>Actor:</b> Community/Board member																										
<b>Trigger:</b>																										
Type <input type="checkbox"/> External <input checked="" type="checkbox"/> Temporal																										
<b>Preconditions:</b> Board member is already registered user and has access to the maintenance records																										
<b>Normal Course A:</b> People authorized for checking interior paints, plumbing, electricity, etc in the apartments feed data to the System. From the database, system checks whether interior paint, plumbing, electrical points, etc are marked done or not for a particular house. Some assigned community members check the exteriors of apartments according to the standard defined and store the conditions in the database after certain time intervals. System then checks and marks if the Exteriors of each house maintained according to the standards defined or not. From the database, system checks the maintenance of lawns, pools, play area, club house etc. System calculates the maintenance cost incurred in various amenities provided in the community.		<b>Information for Steps</b>																								
		Authorized people																								
		Data about interior paints, plumbing etc																								
		Exterior inspection																								
		Defined standards to compare																								
		Condition for amenities																								
		Maintenance cost for amenities																								
<b>Post conditions:</b> Records and the expenses incurred due to these have been recorded .																										
<b>Exceptions:</b> None																										
<b>Summary:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; padding: 2px;">Inputs</th> <th style="text-align: center; padding: 2px;">Source</th> <th style="text-align: center; padding: 2px;">Outputs</th> <th style="text-align: center; padding: 2px;">Destination</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">Condition of interior paint, Plumbing, electrical points, etc</td> <td style="padding: 2px;">Assigned person for the job</td> <td style="padding: 2px;">Condition of interior paint, Plumbing, electrical points, etc</td> <td style="padding: 2px;">System</td> </tr> <tr> <td style="padding: 2px;">Exterior inspection</td> <td style="padding: 2px;">Assigned person for the job</td> <td style="padding: 2px;">Condition of exteriors of the apartments</td> <td style="padding: 2px;">System</td> </tr> <tr> <td style="padding: 2px;">Defined standards for interiors and exteriors</td> <td style="padding: 2px;">Board members</td> <td style="padding: 2px;">Defined standards for interiors and exteriors</td> <td style="padding: 2px;">System</td> </tr> <tr> <td style="padding: 2px;">Condition of amenities like lawns, swimming pool, play area, etc</td> <td style="padding: 2px;">Assigned person for the job</td> <td style="padding: 2px;">Condition of amenities like lawns, swimming pool, play area, etc</td> <td style="padding: 2px;">System</td> </tr> <tr> <td style="padding: 2px;">Maintenance cost for amenities</td> <td style="padding: 2px;">Board members</td> <td style="padding: 2px;">Maintenance cost for amenities</td> <td style="padding: 2px;">System</td> </tr> </tbody> </table>			Inputs	Source	Outputs	Destination	Condition of interior paint, Plumbing, electrical points, etc	Assigned person for the job	Condition of interior paint, Plumbing, electrical points, etc	System	Exterior inspection	Assigned person for the job	Condition of exteriors of the apartments	System	Defined standards for interiors and exteriors	Board members	Defined standards for interiors and exteriors	System	Condition of amenities like lawns, swimming pool, play area, etc	Assigned person for the job	Condition of amenities like lawns, swimming pool, play area, etc	System	Maintenance cost for amenities	Board members	Maintenance cost for amenities	System
Inputs	Source	Outputs	Destination																							
Condition of interior paint, Plumbing, electrical points, etc	Assigned person for the job	Condition of interior paint, Plumbing, electrical points, etc	System																							
Exterior inspection	Assigned person for the job	Condition of exteriors of the apartments	System																							
Defined standards for interiors and exteriors	Board members	Defined standards for interiors and exteriors	System																							
Condition of amenities like lawns, swimming pool, play area, etc	Assigned person for the job	Condition of amenities like lawns, swimming pool, play area, etc	System																							
Maintenance cost for amenities	Board members	Maintenance cost for amenities	System																							

## ❖ DATA DICTIONARY:

Registration Form

Attribute name	Data Type	Value
LOCATION	Char	NOT NULL
ZIP_CODE	Varchar	NOT NULL
USER_TYPE	Char	NOT NULL
COMMUNITY_NAME	Varchar	NOT NULL
STATUS	Char	NULL
REGISTRATION_DATE	Date	NULL
FORM_ID	Varchar	NOT NULL

User Information

Attribute name	Data Type	Value
USERNAME	Varchar	NOT NULL
PASSWORD	Varchar	NOT NULL
USER_ID	Varchar	NOT NULL
USER_TYPE	Varchar	NOT NULL
NAME	Char	NOT NULL
SURNAME	Char	NOT NULL
EMAIL_ID	Varchar	NOT NULL
CONTACT_NUMBER	Int	NOT NULL
BLOCK_NO	Varchar	NULL
ADDRESS	Varchar	NOT NULL
PROOF OF ADDRESS	Image	NOT NULL
ID_PROOF	Image	NOT NULL

Agreement and associated users

Attribute name	Data Type	Value
AGREEMENT_DOC	BLOB	NOT NULL
SIGN_STATUS	Varchar	NOT NULL
NAME	Char	NOT NULL
SURNAME	Char	NULL
USER_ID	Varchar	NOT NULL
HOUSE_NO	Varchar	NULL
NOTIFICATION_MSG	Varchar	NOT NULL
USER_INPUT	BLOB	NOT NULL

Doctors Record

Attribute name	Data Type	Value
DOCTOR_TYPE	Char	NOT NULL
DOCTOR_NAME	Char	NOT NULL
ADDRESS	Varchar	NOT NULL

DOC_CONTACT	INT	NOT NULL
SYMPTOMS	Varchar	NULL
OPD_HRS	DateTime	NULL

Car pooling details

Attribute name	Data Type	Value
NO_SEATS	Int	NOT NULL
FARE	Int	NOT NULL
PICKUP_LOC	Varchar	NOT NULL
DROP_LOC	Varchar	NOT NULL
TIME	DateTime	NOT NULL
USER_ID	Varchar	NOT NULL
CONTACT	Int	NOT NULL
NAME	Char	NULL
NOTIFICATION	Varchar	NOT NULL

Baby sitting details

Attribute name	Data Type	Value
NO_KIDS	Int	NOT NULL
AGE_KIDS	Int	NOT NULL
WAGES	Int	NOT NULL
ADDRESS	Varchar	NOT NULL
TIME	DateTime	NOT NULL
USER_ID	Varchar	NOT NULL
CONTACT	Int	NOT NULL
NAME	Char	NULL
NOTIFICATION	Varchar	NOT NULL

Events and registration/volunteers

Attribute name	Data Type	Value
DESCRIPTION	Int	NOT NULL
TIME	Time	NOT NULL
VENUE	Varchar	NOT NULL
DATE	Date	NOT NULL
USER_REGISTERED	Varchar	NOT NULL
USER_VOLUNTEERING	Varchar	NULL
USER_ID	Varchar	NOT NULL
COUNT	Int	NOT NULL
NOTIFICATION	Varchar	NOT NULL

Notices/Complaints

Attribute name	Data Type	Value
NOTICE_DESCRIPTION	Varchar	NOT NULL
COMPLAINT_TYPE	Char	NOT NULL
COMPLAINT_DESCRIPTION	Varchar	NOT NULL
DATE	Date	NOT NULL
TIME	Time	NOT NULL
VENUE	Varchar	NOT NULL
TICKET_ID	Varchar	NOT NULL
TICKET_STATUS	Varchar	NOT NULL

Feedback

Attribute name	Data Type	Value
TICKET_ID	Varchar	NOT NULL
SERVICE PROVIDED	Varchar	NOT NULL
TICKET_STATUS	Varchar	NOT NULL
FEEDBACK	Varchar	NOT NULL

Expense details

Attribute name	Data Type	Value
PURPOSE	Char	NOT NULL
AMOUNT	Int	NOT NULL
USER_ID	Varchar	NOT NULL
SERVICE PROVIDED	Varchar	NOT NULL
DATE	Date	NOT NULL
TIME	Time	NOT NULL
BLOCK_NO	Varchar	NOT NULL
NOTIFICATION	Varchar	NOT NULL

Bills and financial statements

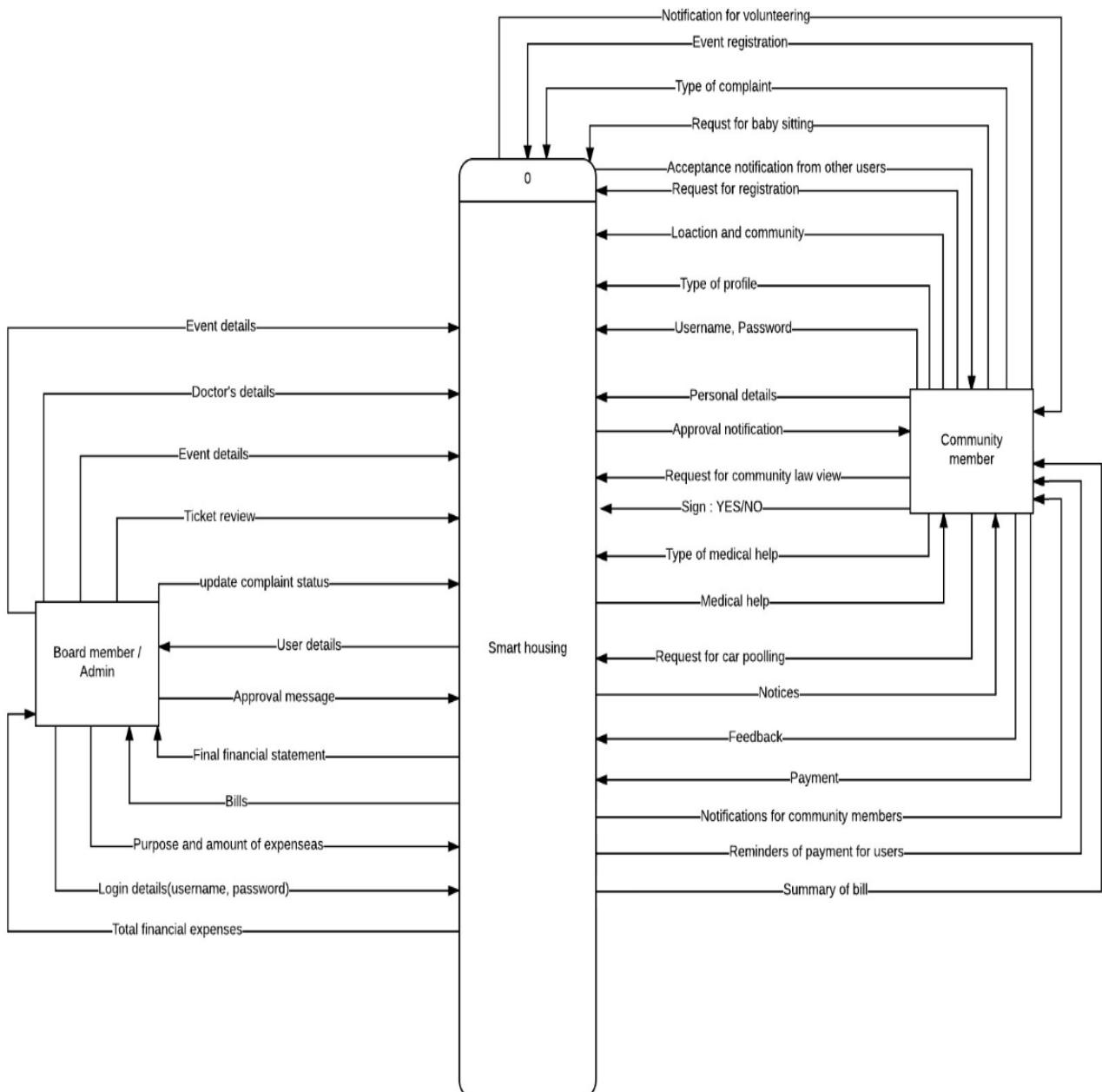
Attribute name	Data Type	Value
INVOICE	BLOB	NOT NULL
AMOUNT	Int	NOT NULL
PURPOSE	Varchar	NOT NULL
USER_ID	Varchar	NOT NULL
DATE	Date	NOT NULL
TIME	Time	NOT NULL
BLOCK_NO	Varchar	NOT NULL
STATEMENT	BLOB	NOT NULL
NOTIFICATION	Varchar	NOT NULL

Access/rights

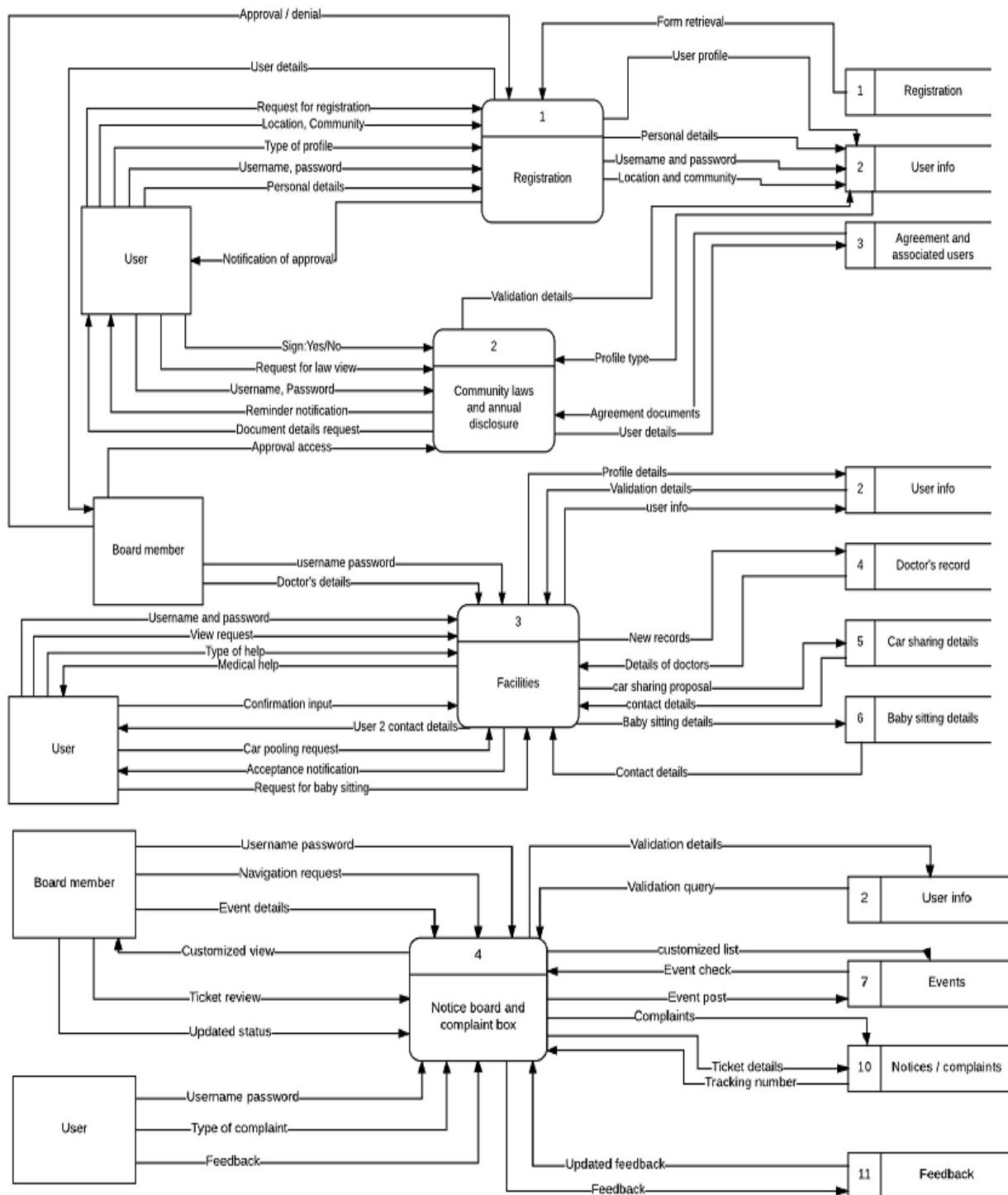
Attribute name	Data Type	Value
VIEWS	Varchar	NOT NULL
USER_TYPE	Char	NOT NULL
USER_ID	Varchar	NOT NULL
DEFINED_RIGHTS	Varchar	NOT NULL
DEFINED_ACCESS	Varchar	NOT NULL

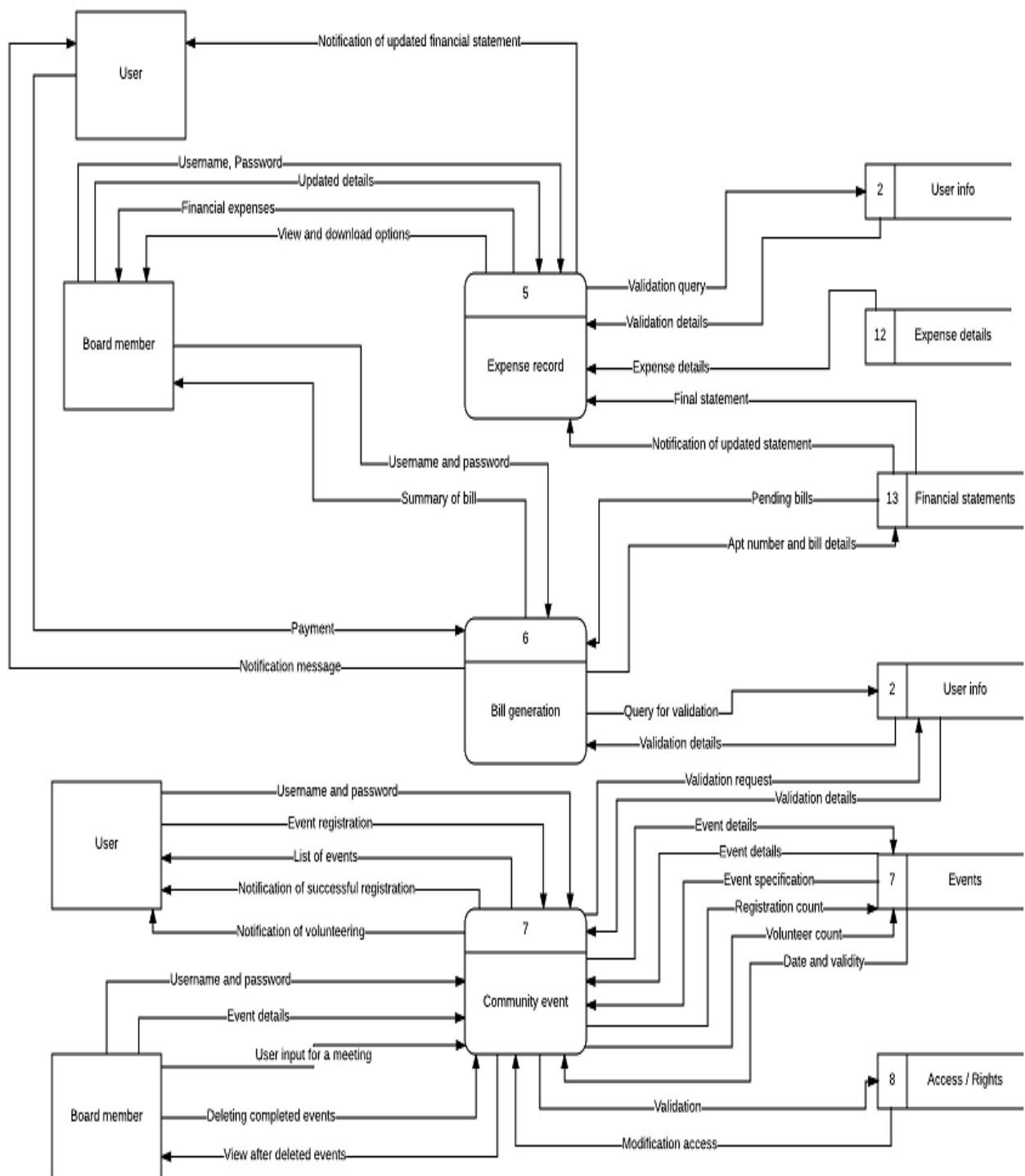
## ❖ Data Flow Diagrams

Context Level Diagram:



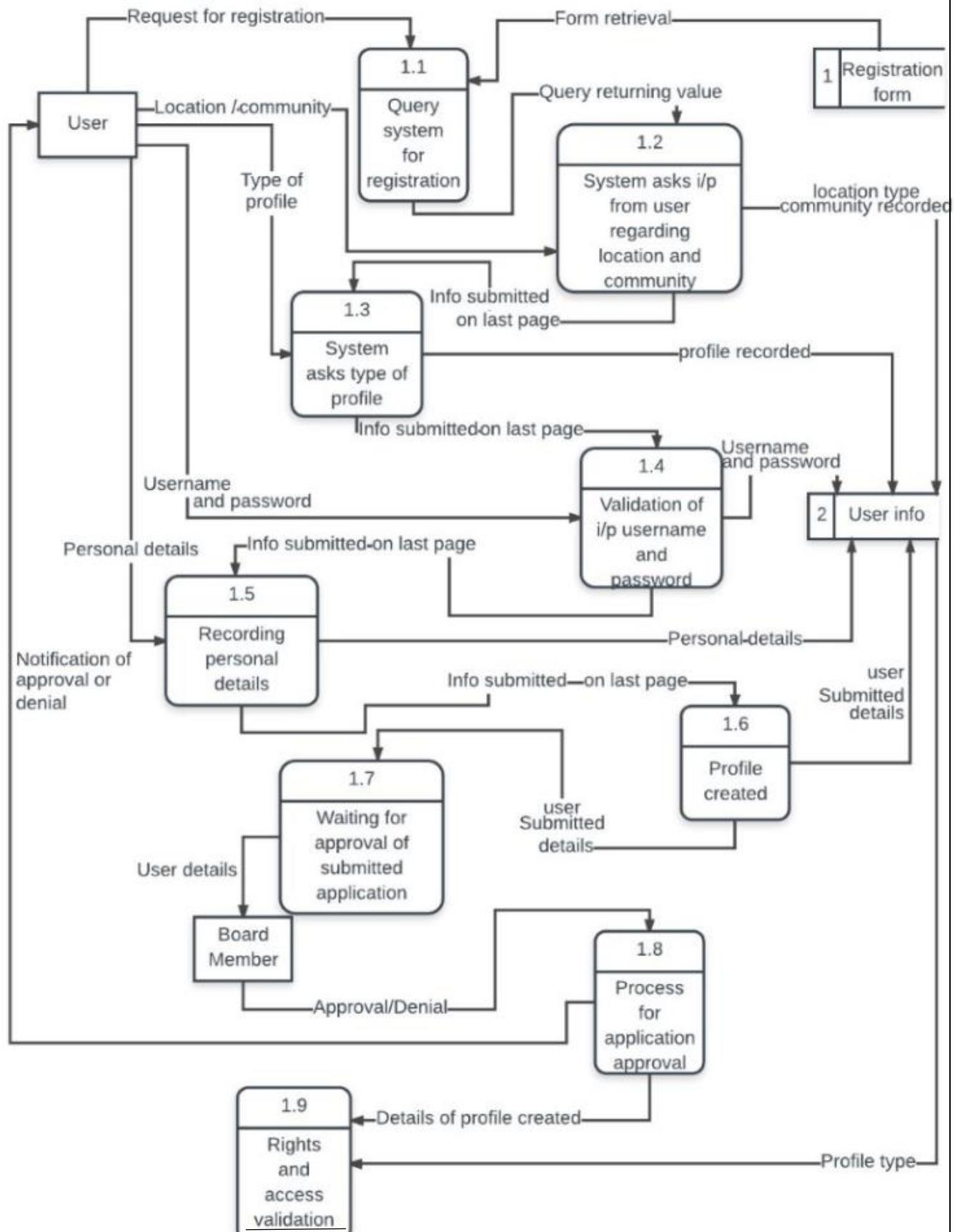
## Level 0 Diagram:



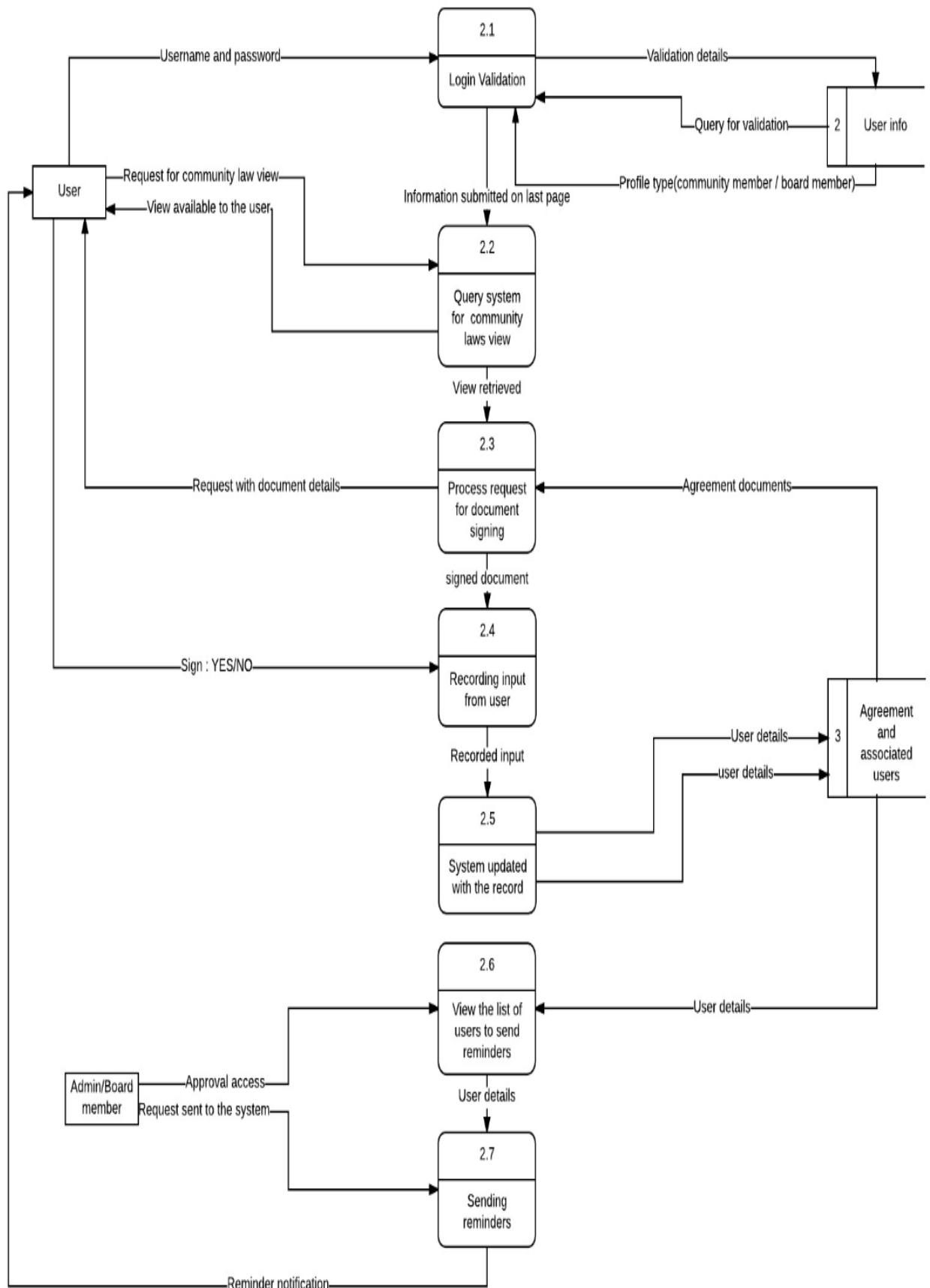


## Level 1 Diagram:

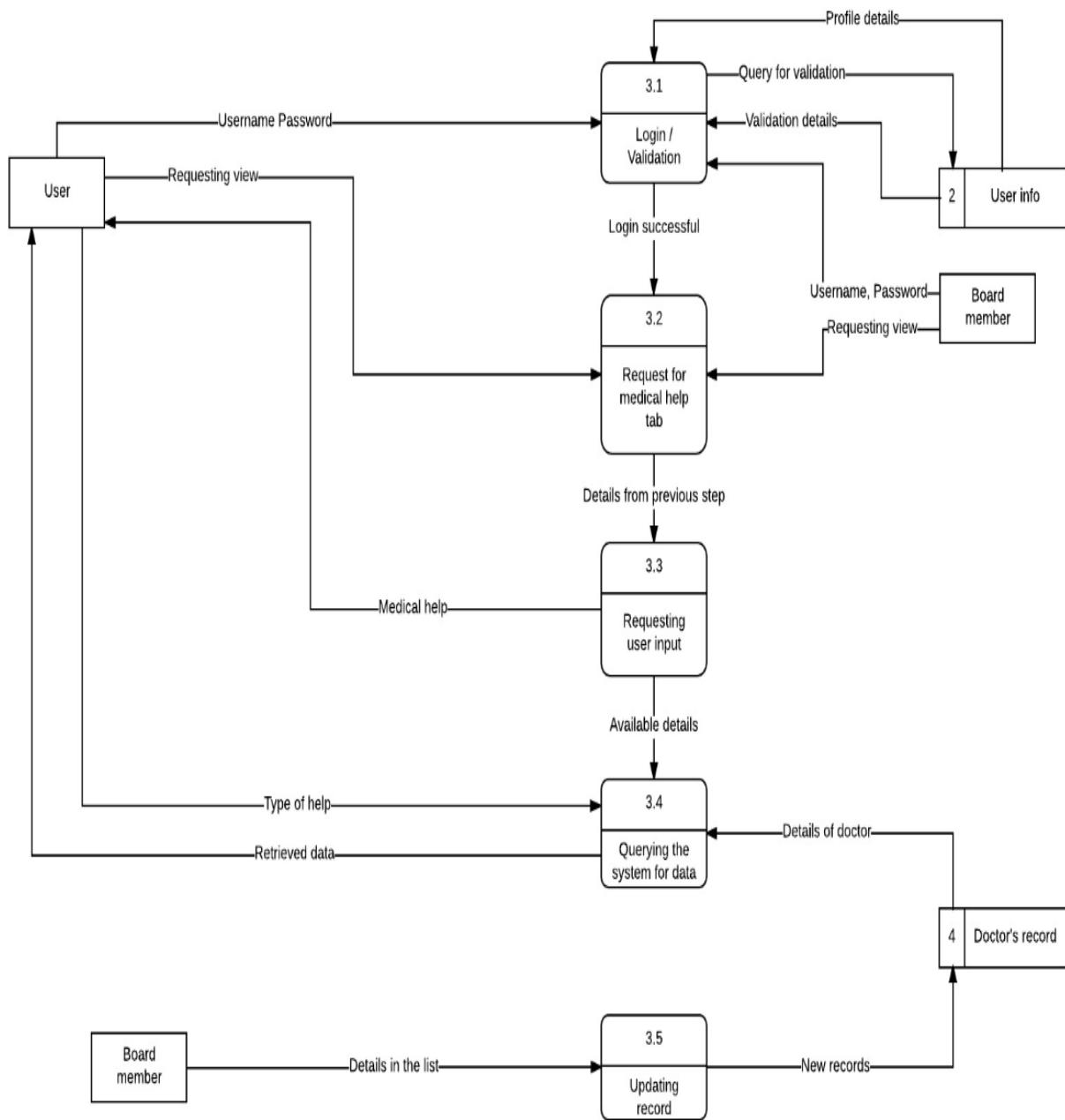
### Registration:



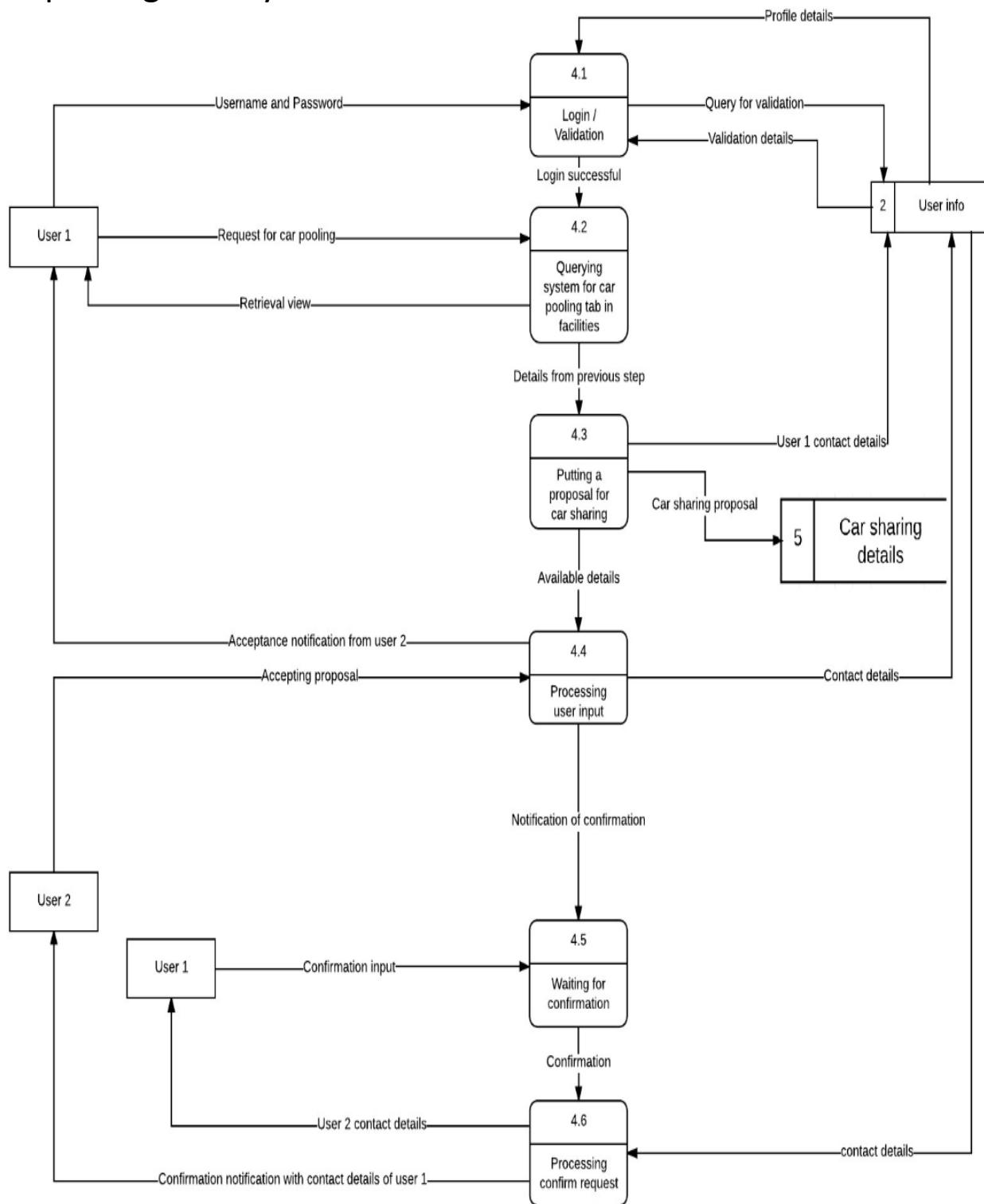
## Community laws and annual Disclosure:



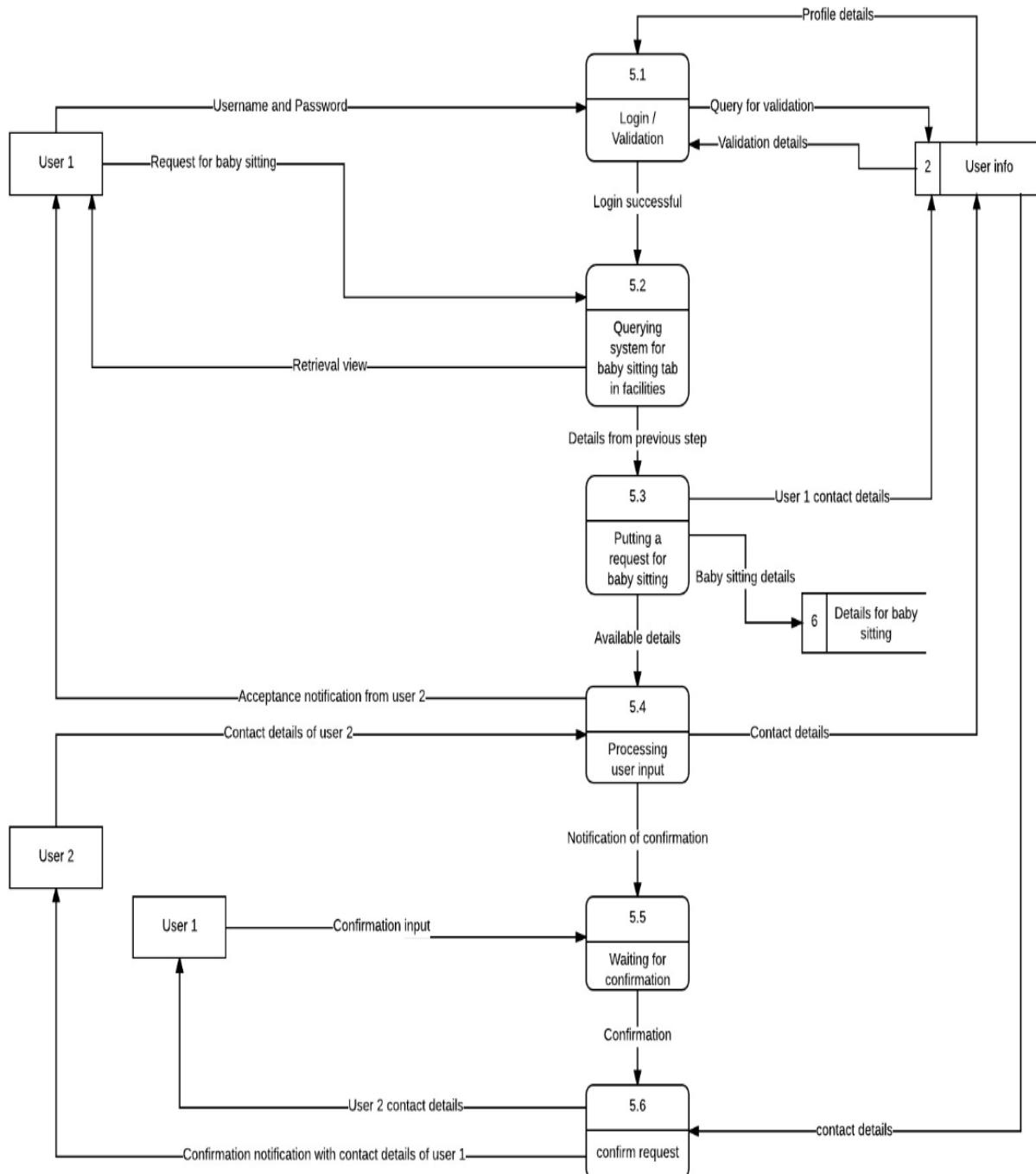
## Medical Facilities:



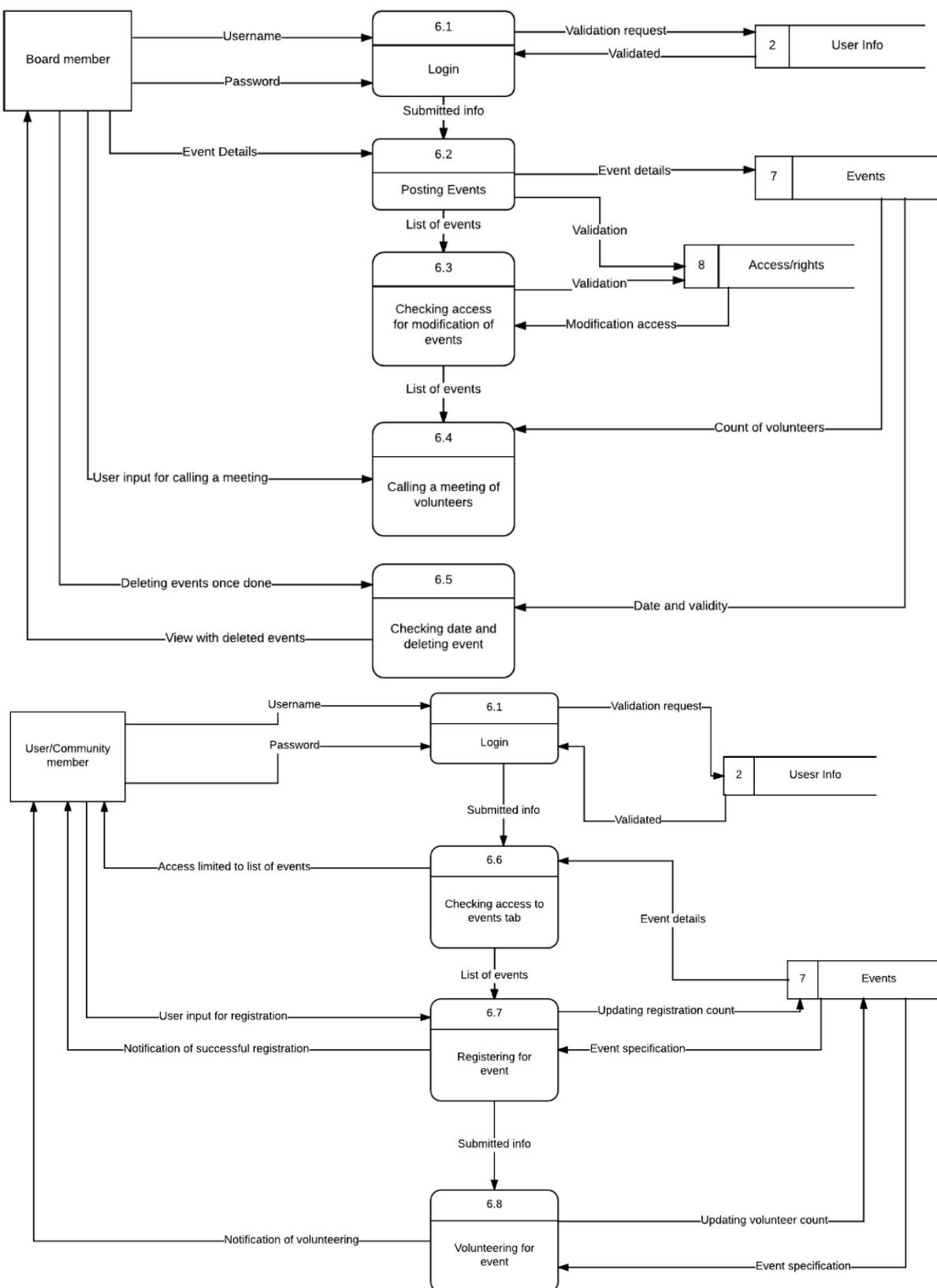
## Car pooling Facility:



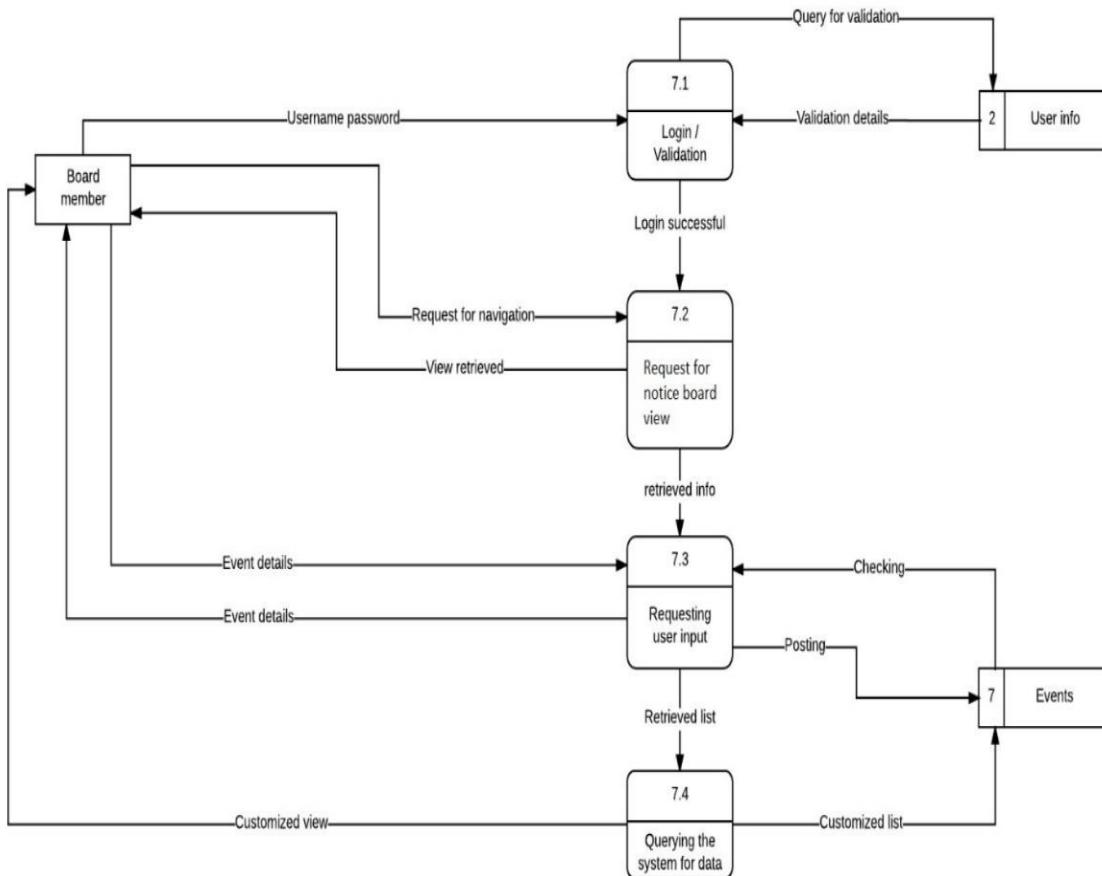
## Baby Sitting Facility:



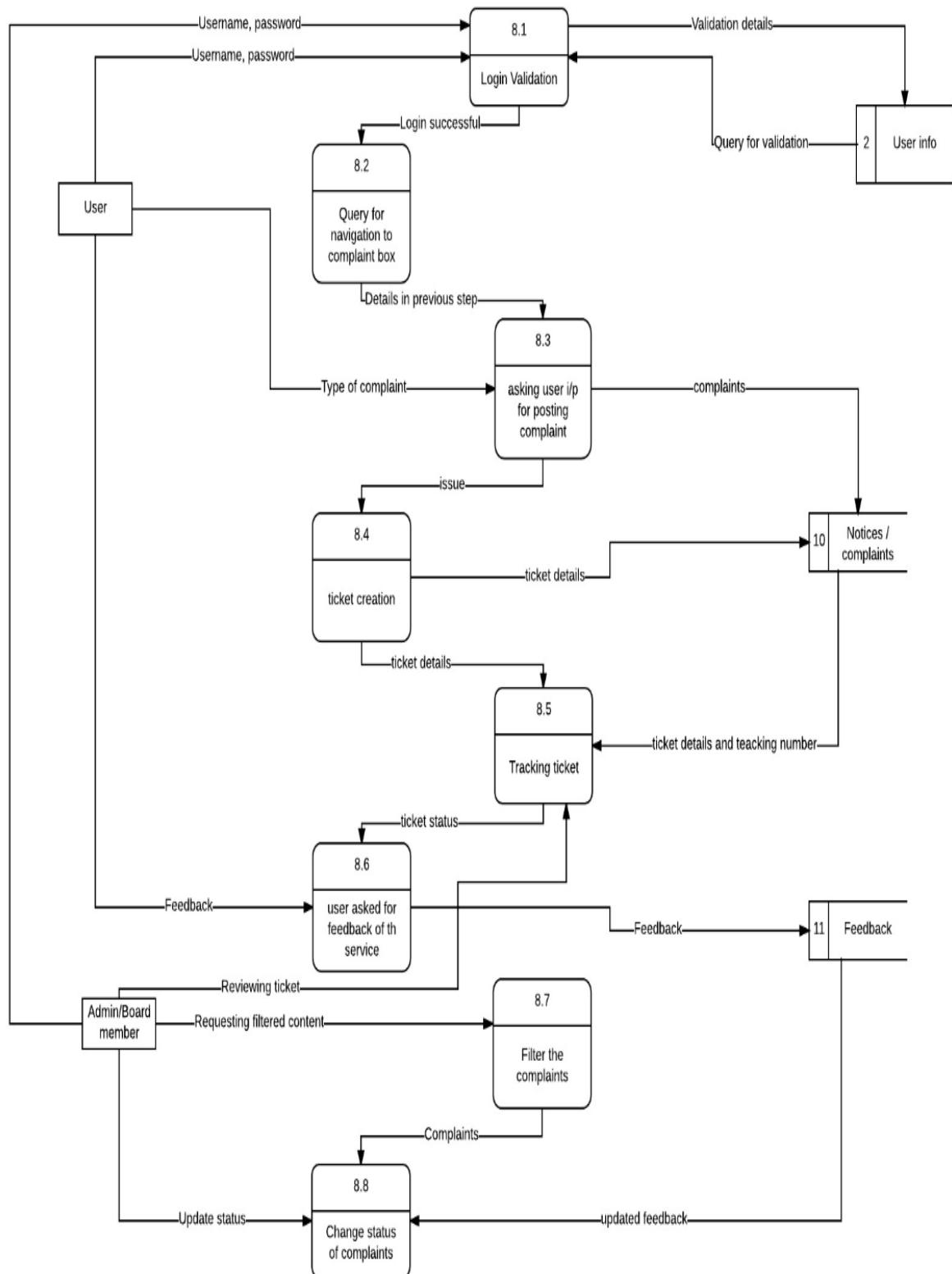
## Events:



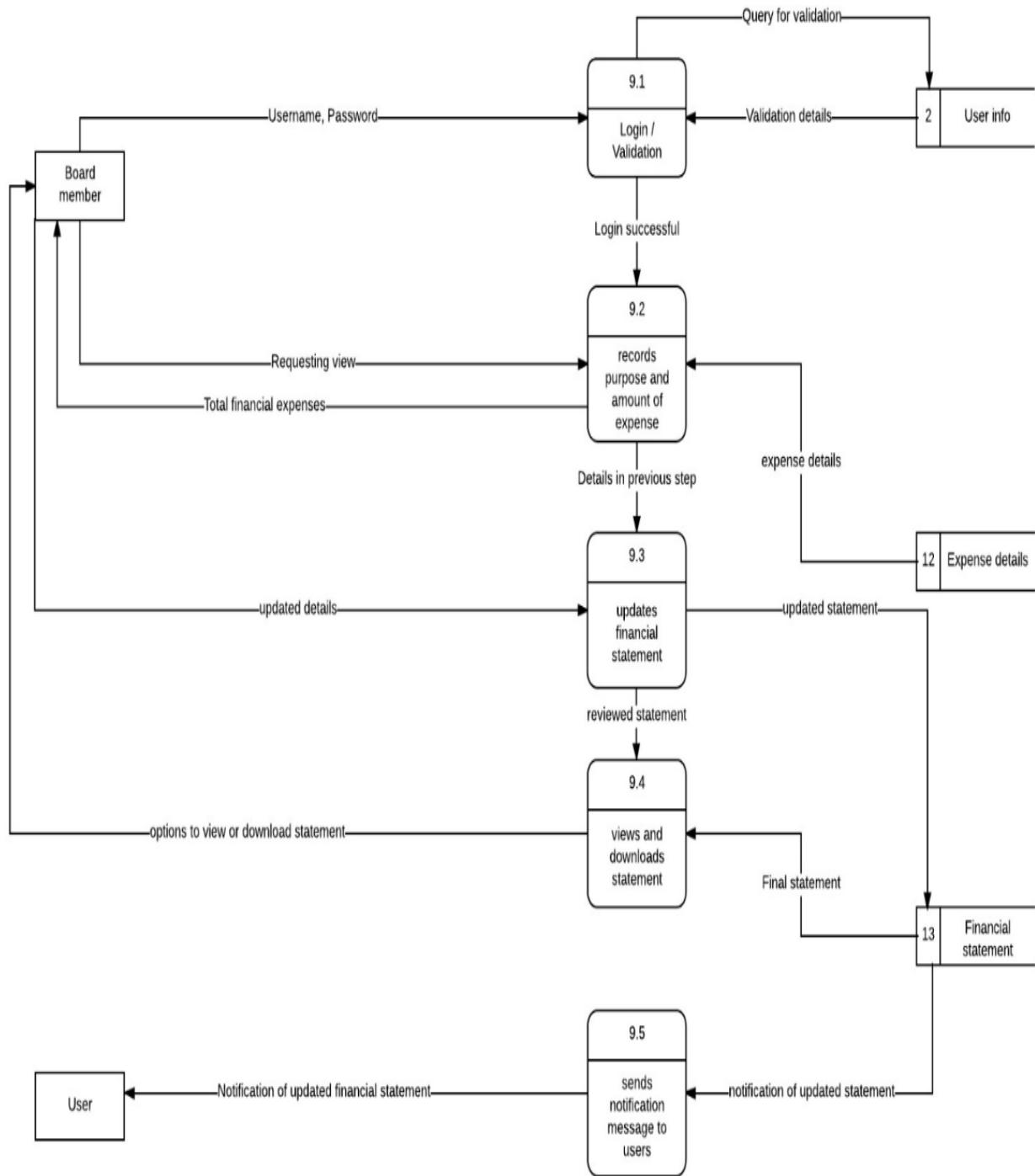
## Notice Board:



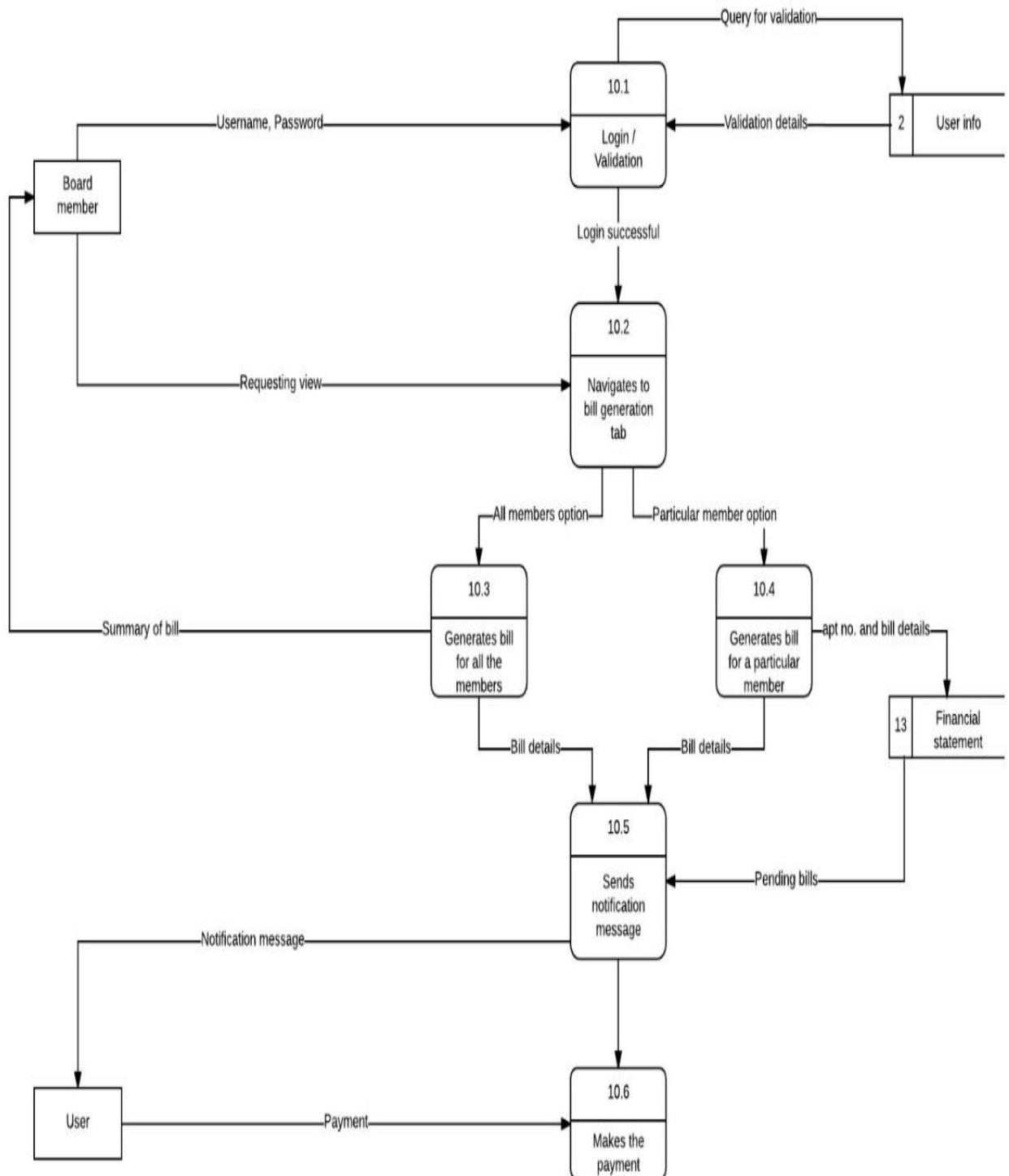
## Complain Box:



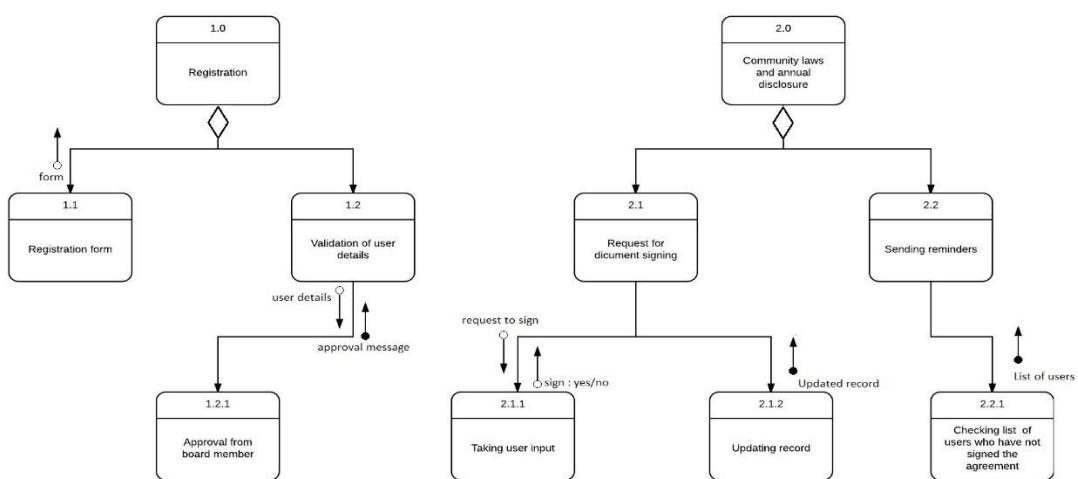
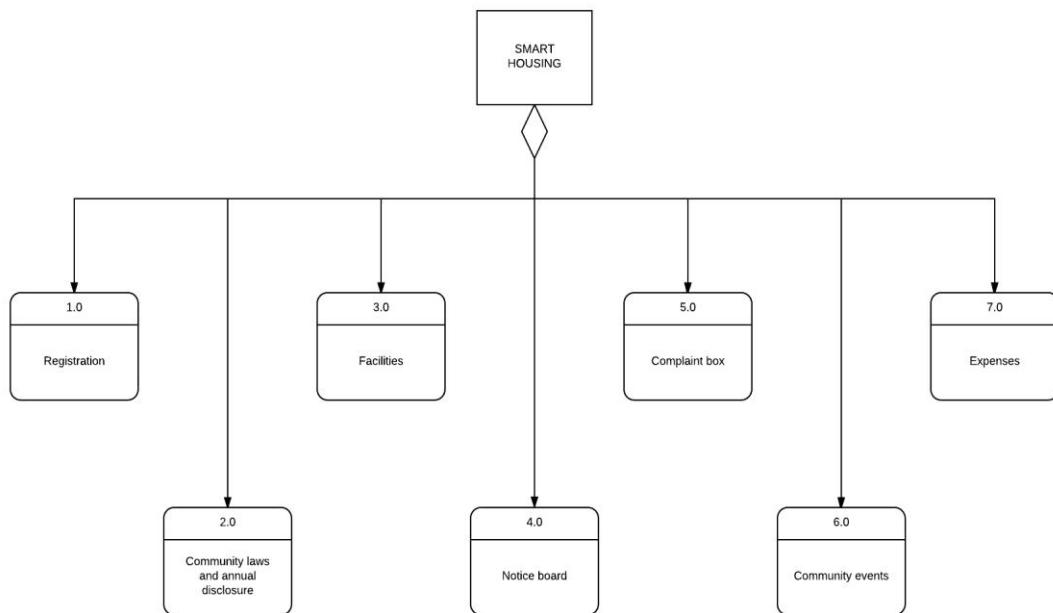
## Record expenses:

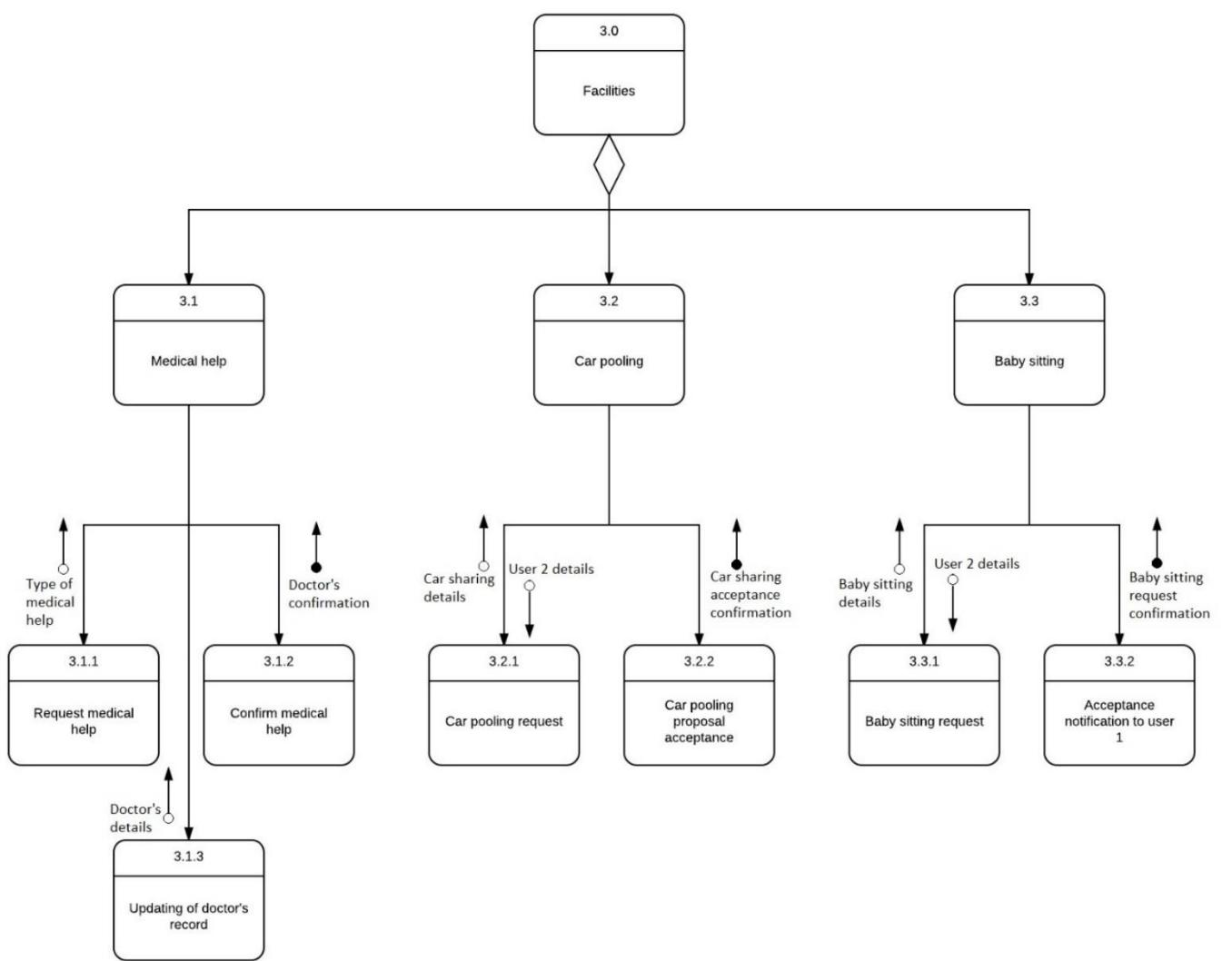


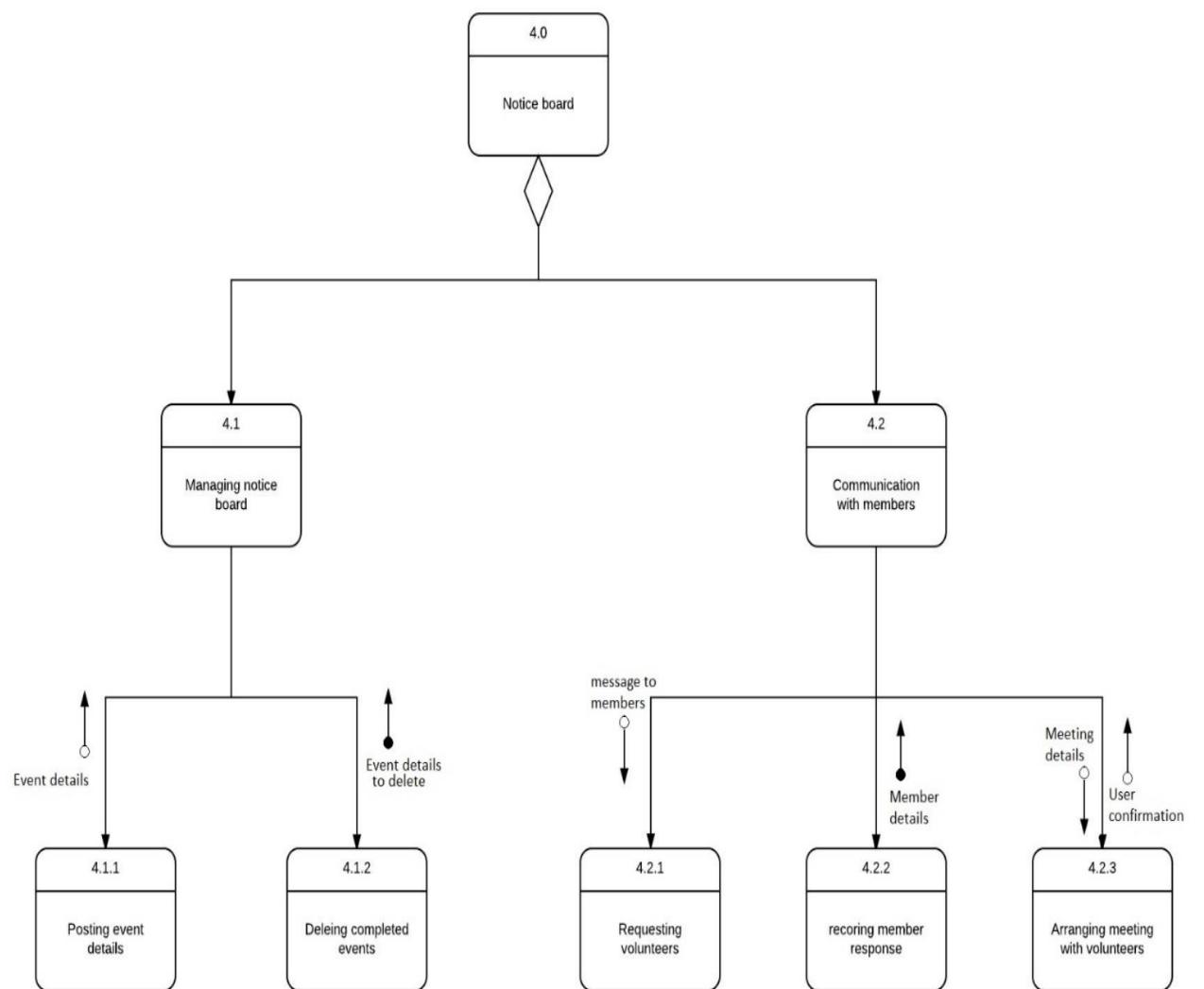
## Bill Generation:

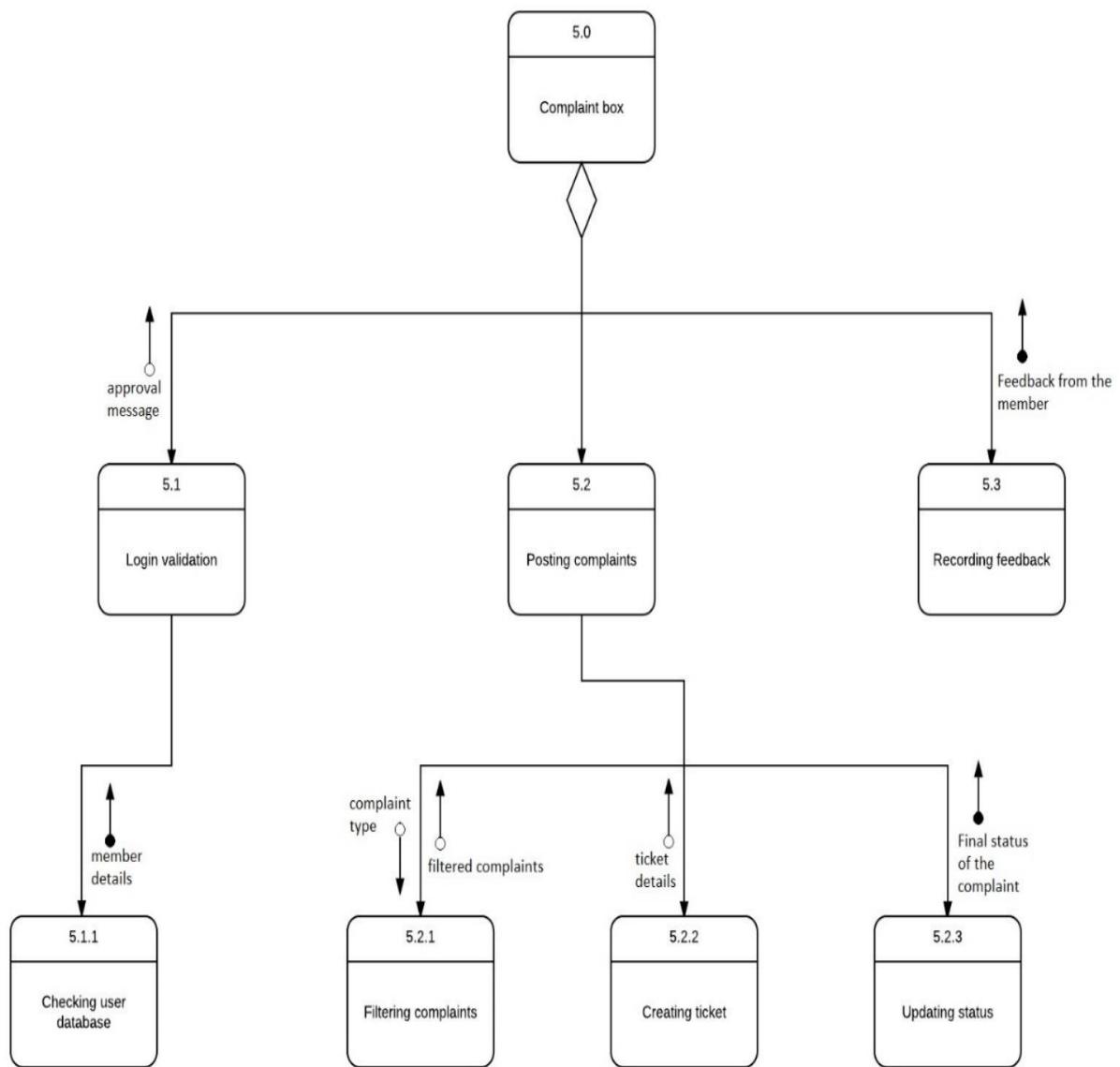


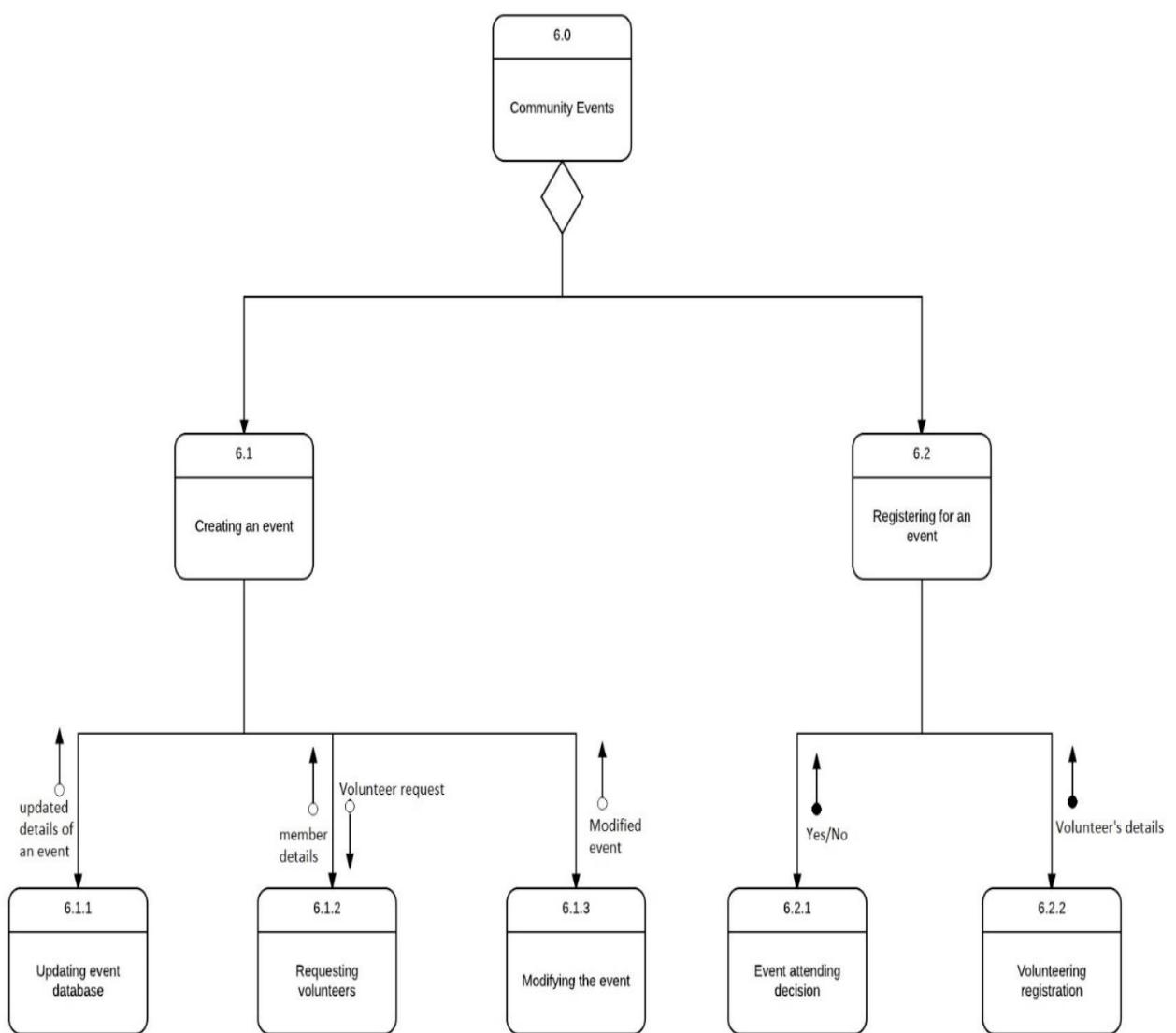
## ❖ Structure Chart:

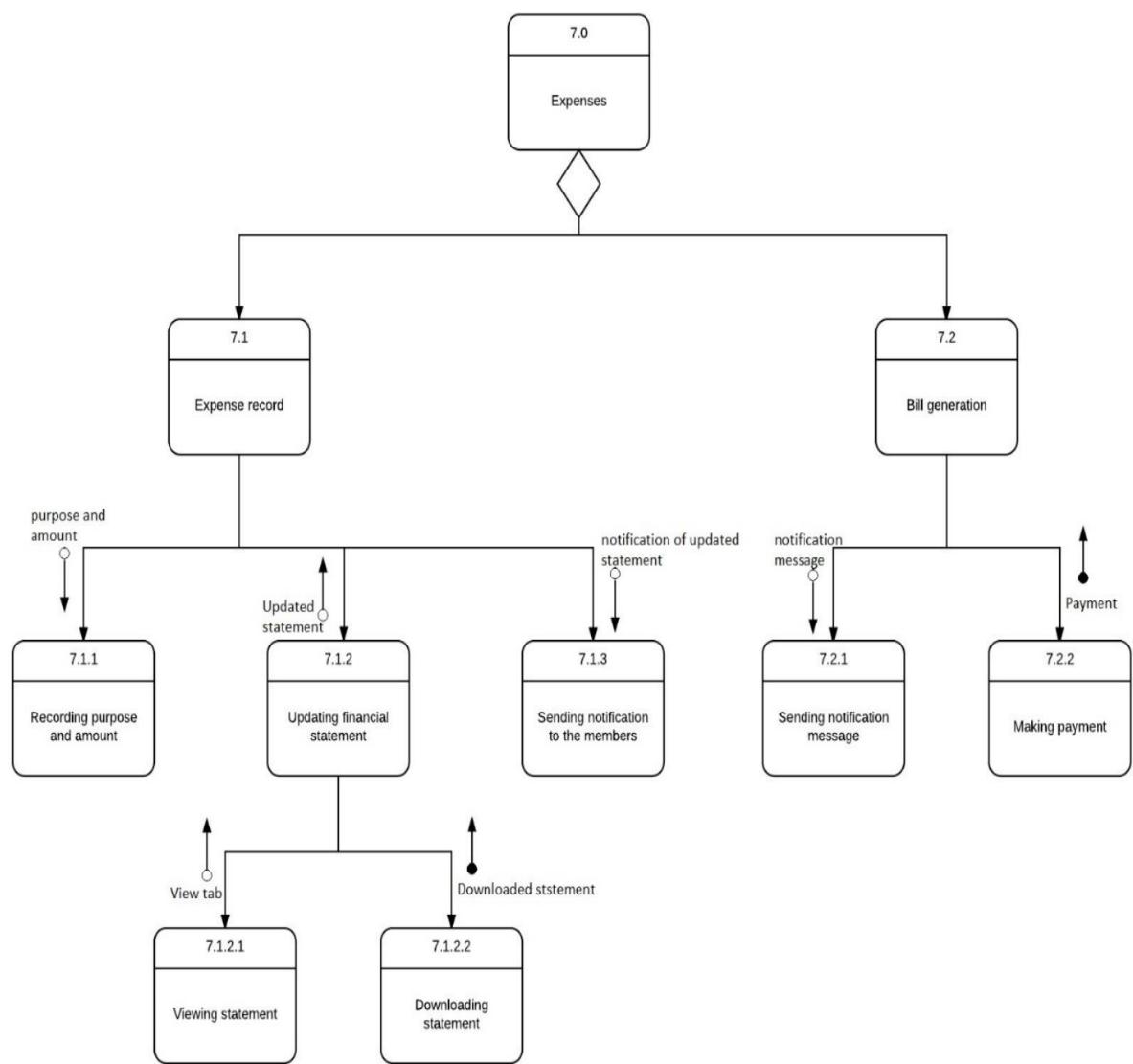




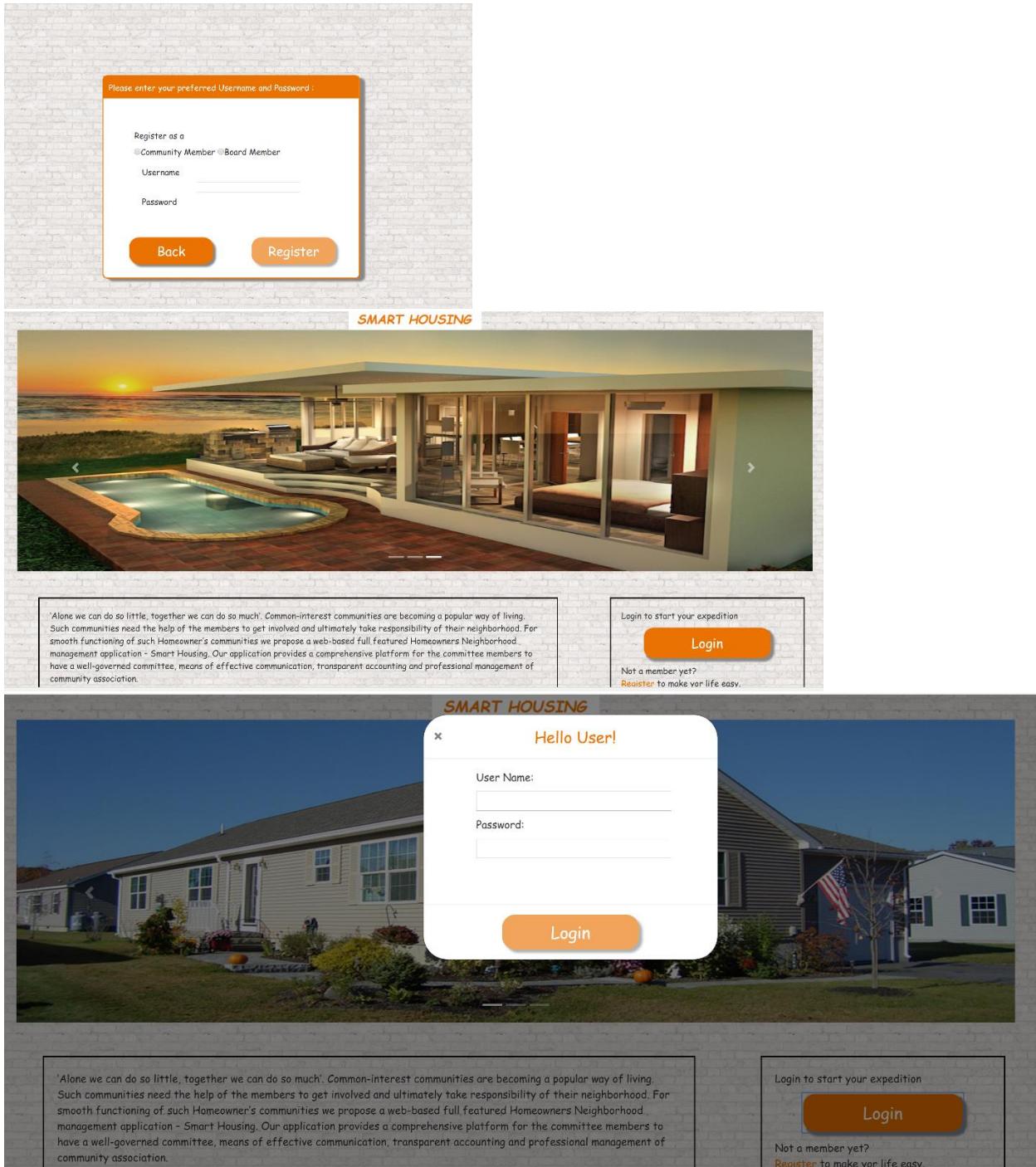








# UI : Registration/Login:



The image displays three versions of a Smart Housing application's registration/login screen, each featuring a different background image.

- Top Version (Brick Wall Background):**
  - A white registration form is centered over the background.
  - Text at the top: "Please enter your preferred Username and Password :".
  - Section: "Register as a" with radio buttons for "Community Member" and "Board Member".
  - Fields: "Username" and "Password".
  - Buttons: "Back" and "Register".
- Middle Version (Swimming Pool and Sunset Background):**
  - A large image of a modern house with a swimming pool and a sunset in the background.
  - The "SMART HOUSING" logo is visible at the top center.
  - A registration form is overlaid on the bottom right.
- Bottom Version (Residential Neighborhood Background):**
  - A photograph of a residential neighborhood with houses and an American flag.
  - The "SMART HOUSING" logo is visible at the top center.
  - A login form is overlaid on the center of the image.

**Registration Form (Top and Middle Versions):**

"'Alone we can do so little, together we can do so much'. Common-interest communities are becoming a popular way of living. Such communities need the help of the members to get involved and ultimately take responsibility of their neighborhood. For smooth functioning of such Homeowner's communities we propose a web-based full featured Homeowners Neighborhood management application - Smart Housing. Our application provides a comprehensive platform for the committee members to have a well-governed committee, means of effective communication, transparent accounting and professional management of community association."

**Login Form (Bottom Version):**

"Login to start your expedition"

"Hello User!"

"User Name:"

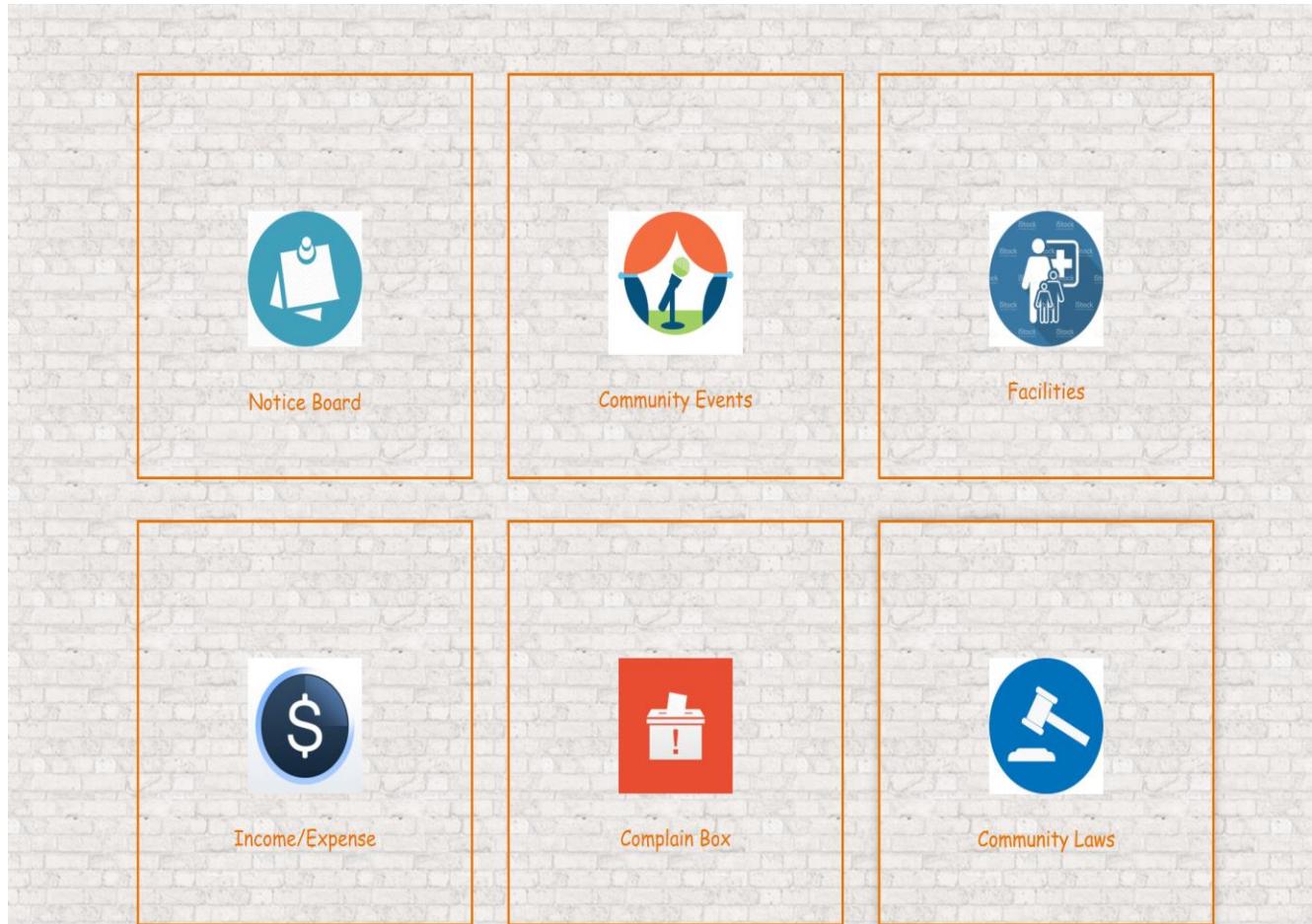
"Password:"

"Login"

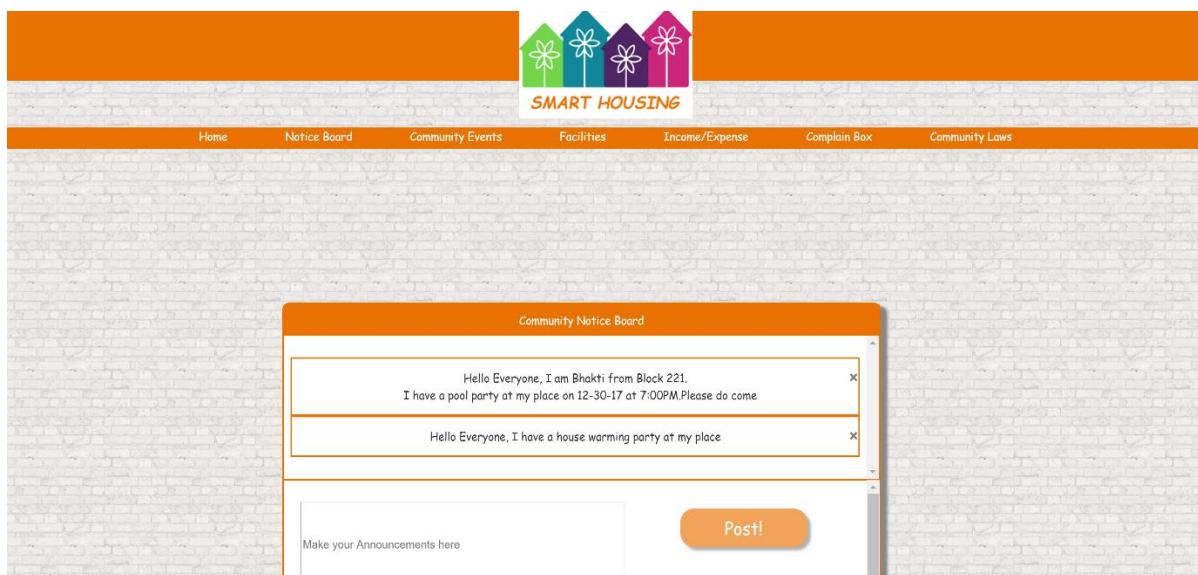
"Not a member yet?"

"Register to make your life easy."

## Home page view:



## Notice Board:

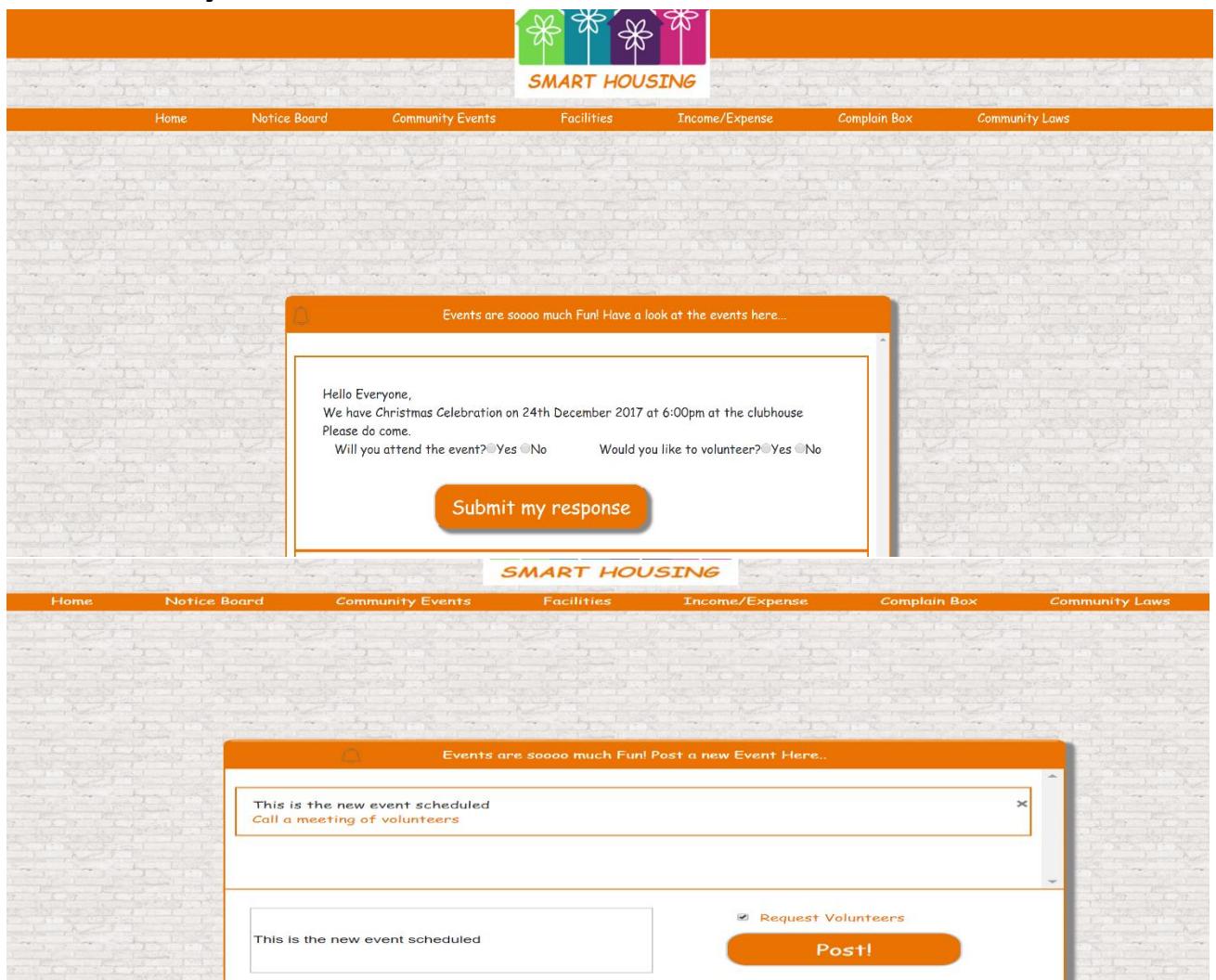


The screenshot shows the 'Community Notice Board' section of the Smart Housing website. At the top, there is a decorative header featuring four stylized houses in green, blue, teal, and purple, each topped with a flower. Below this is a navigation bar with links: Home, Notice Board, Community Events, Facilities, Income/Expense, Complain Box, and Community Laws. The main content area is titled 'Community Notice Board' and contains two posts:

- Hello Everyone, I am Bhakti from Block 221.  
I have a pool party at my place on 12-30-17 at 7:00PM. Please do come
- Hello Everyone, I have a house warming party at my place

At the bottom of this section is a text input field labeled 'Make your Announcements here' and a large orange 'Post!' button.

## Community events:



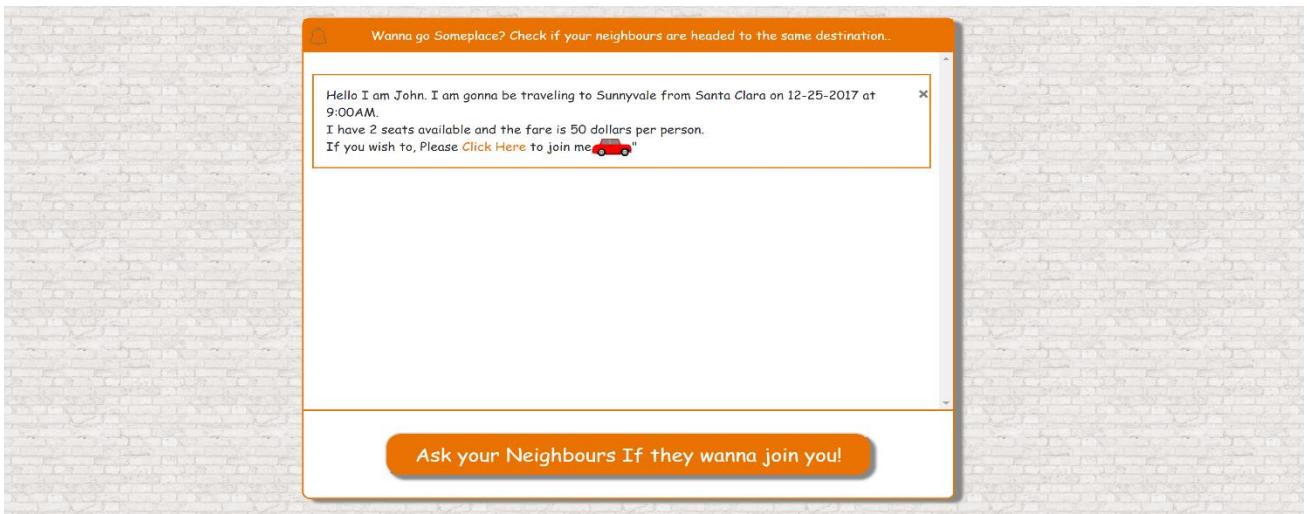
The screenshot shows the 'Community Events' section of the Smart Housing website. At the top, there is a decorative header featuring four stylized houses in green, blue, teal, and purple, each topped with a flower. Below this is a navigation bar with links: Home, Notice Board, Community Events, Facilities, Income/Expense, Complain Box, and Community Laws. The main content area is titled 'Events are soooo much Fun! Have a look at the events here...' and contains a message:

Hello Everyone,  
We have Christmas Celebration on 24th December 2017 at 6:00pm at the clubhouse  
Please do come.  
Will you attend the event?  Yes  No      Would you like to volunteer?  Yes  No

At the bottom of this section is a large orange 'Submit my response' button.

Below this is another section titled 'Events are soooo much Fun Post a new Event Here...' containing a text input field with the placeholder 'This is the new event scheduled Call a meeting of volunteers' and a checkbox labeled 'Request Volunteers'. To the right of the checkbox is a large orange 'Post!' button.

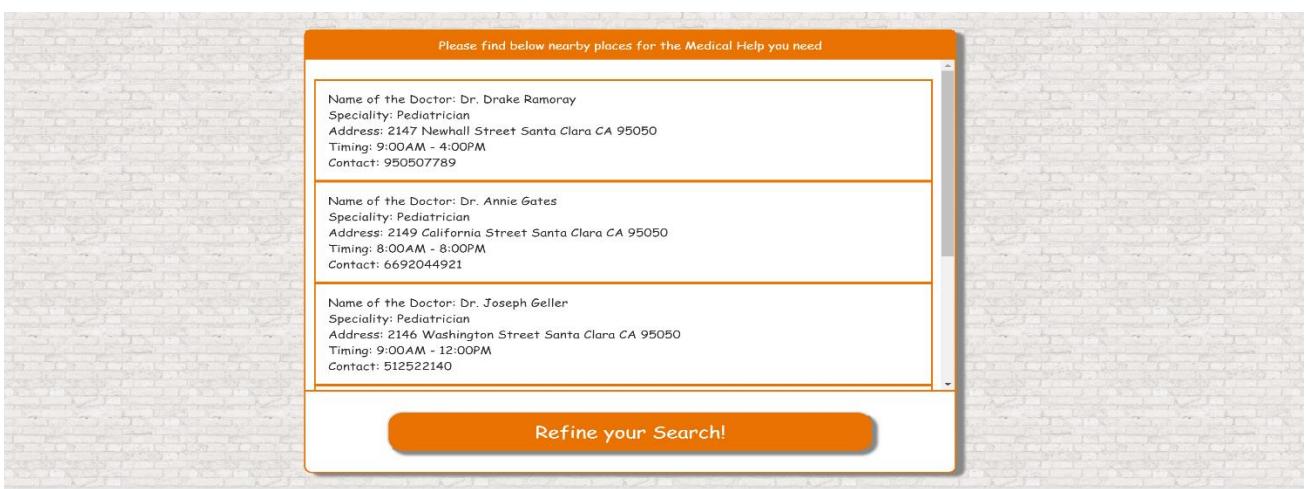
## Car pooling:



## Baby sitting:



## Medical facilities:



## Income Expense Tracker:

The image displays three screenshots of a mobile application titled "Income Expense Tracker".

**Screenshot 1: Main Dashboard**

The dashboard has an orange header bar with the text "Manage the Finances of the community". Below the header are two download options:

- "Download the Financial Statement of the Community" with a download icon.
- "Download the list of members of the Community with payments due" with a download icon.

At the bottom are two large buttons: "Record an Expense" and "Generate Bill".

**Screenshot 2: Record an Expense Form**

A modal window titled "Please Enter the following details!" contains the following fields:

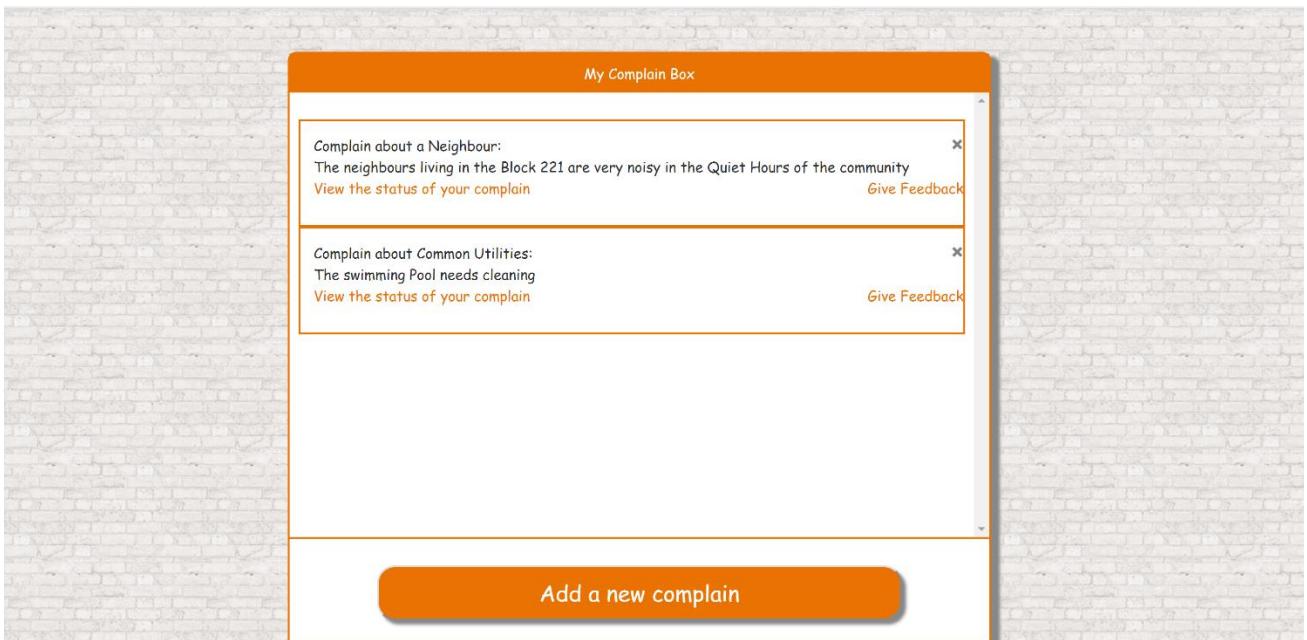
- Two radio buttons: "For all members" and "A particular member".
- An "Amount:" input field.
- A dropdown menu labeled "Please select the type of charges?" with "Registration Fees" selected.
- A text area labeled "Please Describe the charges here".

A large orange "Submit" button is at the bottom right of the form.

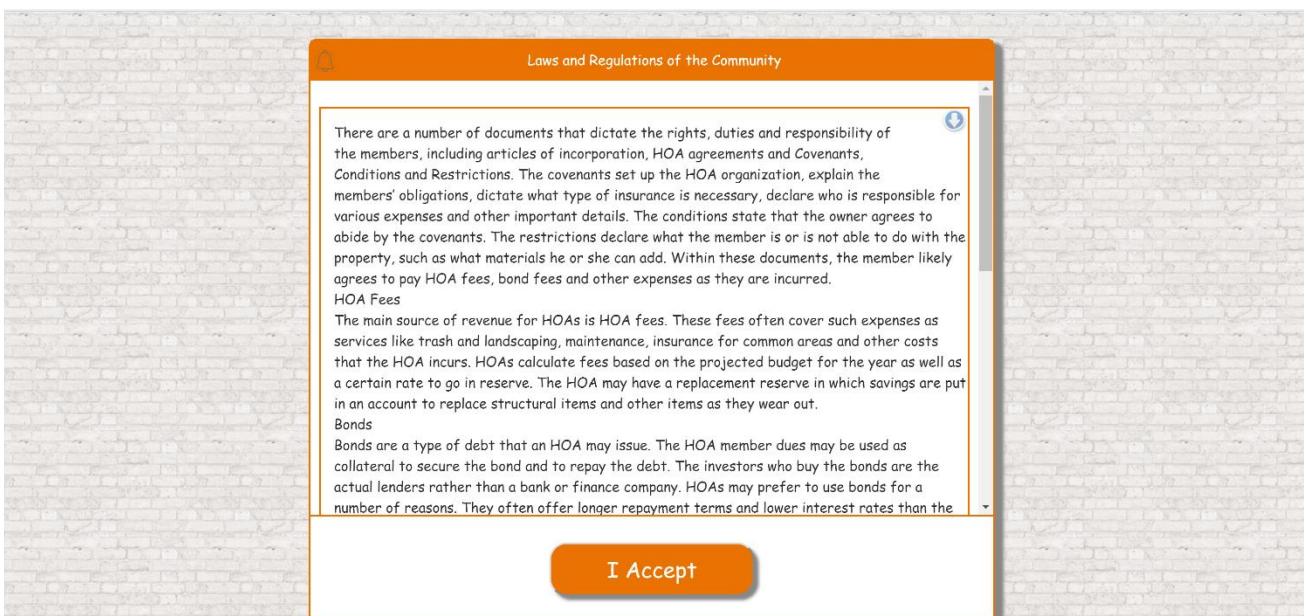
**Screenshot 3: Community Payments and Expenses**

This screen shows a message about a monthly maintenance payment due on 12-01-17, with a "Make Payment" button below it. It also displays a notification: "A Boardmember recorded an expense of 100 Dollars for Gym Equipments." with a close button.

## Complain box:



## Laws and annual disclosure:



## ❖ Future Scope:

In future we plan to implement few more functionalities which will be even more comforting for the residents of home ownership group. We plan to include insurance coverage in the system. System must provide the user with the variety of insurance plans for property as well as personal insurance. System should provide the users the application form for the selected insurance. System should check the status of the insured members and notify them of the premium payments. System should provide the users different payment gateways as modes of payment for the insurance premium. We also plan to increase the involvement of the community members by appointing the board members from within the community.

The complete management should be “Of the People and By the people”.

## ❖ Conclusion:

Smart Housing is the perfect system for home ownership group to manage the large societies efficiently. Reducing man power and eliminating human errors is the ultimate aim of the system. Smart housing makes it possible for the owners in that community to manage all the activities internally. Access and rights provided to the users of the system makes it possible for the user to supervise the working of the system.

User's Discontent is also addressed by the system.

Need for hiring external management company is eliminated.