

Civic Sense	Version 1.0
Software Requirement Specification	Date:14-02-2012
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CIVIC SENSE –

An Active City Administration Project

Software Requirement Specification

Version <1.0>

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REVISION HISTORY

Date	Version	Description	Author
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1. Introduction

1.1 Document Purpose:

The Purpose of this document is to describe the software requirements of the web based automation of an active city administration project-[Civic Sense](#).

1.2 Scope:

The active city administration initiative – Civic Sense, is a web application which aims to create an environment wherein the citizens can voice their complaints, provide suggestions on various issues to the local Municipal Office. This process makes the Municipal system transparent and flexible and eliminates the barrier of distance and time for the citizens.

1.3 Definitions, Acronyms and Abbreviations

- **HTML** (Hyper Text Markup Language): HTML stands for Hypertext Markup Language, which is the predominant markup language for the creation of web pages. HTML is the basic building-blocks for World Wide Web. A markup language is a set of markup tags, and HTML uses markup tags to describe the web pages.
- **UML** (Unified Modeling Language): UML is a Standardized modeling language used in Object Oriented Application Design. It includes a set of visual notations to create visual models. The representations provided in this software requirement specification is created using UML.
- **JSP** (Java Server Pages): Java Server Pages (JSP) is a server side scripting language based on Java technology that helps software developers to serve dynamically generated web pages based on HTML, XML, or other document types.
- **J2EE** (Java 2 Enterprise Edition): Java EE is a widely used platform for server programming in the Java programming language. The Java platform (Enterprise Edition) differs from the Java Standard Edition Platform (Java SE) in that it adds libraries which provide functionality to deploy fault-tolerant, distributed, multi-tier Java software, based largely on modular components running on an application server.
- **WASCE** (Web Sphere Application Server Community Edition): It uses Tomcat for servlet container and Axis 2 for web services. Other difference from Apache Geronimo is that WASCE comes with DB2 and Informix database drivers, better XML parser libraries (XML4J and XLXP) and contains the latest patches from unreleased upstream versions. Over 30 WASCE developers are committers in the Apache Geronimo project.

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- **DB2 (IBM Database 2):** The IBM DB2 Express-C Edition is a hybrid XML and relational model database server designed and developed by IBM to meet needs of small and medium businesses. It primarily runs on UNIX (namely AIX), Linux, IBM i (formerly OS/400), z/OS and also on Windows based servers. DB2 also powers the different IBM Info Sphere Warehouse editions. Alongside DB2 is another RDBMS.
- **HTTP:** The Hypertext Transfer Protocol is a networking protocol for distributed, collaborative, hypermedia information systems. HTTP is the foundation of data communication for the World Wide Web.
- **XML:** Extensible Markup Language (XML) is a set of rules for encoding documents in machine-readable form. It is defined in the XML 1.0 Specification produced by the W3C, and several other related specifications, all gratis open standards.
- **Eclipse:** Eclipse is an Integrated Development Environment for creating extensible frameworks, tools and runtimes for building, deploying and managing software across the lifecycle.
- **e-Forms:** e-Forms automates forms-based business processes to help improve efficiency, customer service and time to value.
- **Ajax (Asynchronous Java Script and XML):** It is a group of interrelated web development methods used on the client-side to create interactive web applications. With Ajax, web applications can retrieve data from the server asynchronously in the background without interfering with the display and behavior of the existing page. Data is usually retrieved using the XMLHttpRequest object. Despite the name, the use of XML is not needed, and the requests need not be asynchronous.
- **Web 2.0:** The term Web 2.0 is associated with web applications that facilitate interactive systems, interoperability, usercentered design, and developing the World Wide Web. A Web 2.0 site allows users to interact and collaborate with each other in a social media dialogue as consumers of user-generated content in a virtual community, in contrast to websites where users (prosumers) are limited to the active viewing of content that they created and controlled. Examples of Web 2.0 include social networking sites, blogs, wikis, video sharing sites, hosted services, web applications, mashups and folksonomies.

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1.4 References

1. Roger S.pressman, "Software Engineering" - A Practitioner's Approach, McGraw hill International Edition, 6th edition, 2007.
2. Ian Somerville,"Software Engineering", Pearson education Asia, 6th edition, 2000.
3. Abraham Silberschatz, Henry F.Korth, S.Sudharshan, "Database System Concepts", Fifth Edition, Tata McGraw Hill, 2007.
4. Getting started with DB2 Express-C, Third Edition by Raul F.Chong with Ian Hakes and Rav Ahuja.
5. Getting started with WebSphere Application Server, Community Edition by JIan Lin Quan, Dai Xuan, Wang Lei, Juliano Marcos Martins, Chi Run Hua, Xia Ming, Tnag Ying, Raul F.chong
6. Craig Larman,"Applying UML and Patterns: An Introduction to object-oriented Analysis and Design and iterative development", Third Edition, Pearson Education, 2005.
7. <http://java.sun.com/j2ee/1.4/docs/>

1.5 Technologies Used

- HTML – Hyper Text Markup Language
- Java Script – Script Language
- XML – Extensive Markup Language
- JAVA – Application architecture
- J2EE – Application architecture
- EJB – Enterprise Java Beans
- AJAX – Asynchronous Java script And XML
- UML- Unified Modeling Language
- CSS -Cascading Style Sheet
- DOM-Document Object Model

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- Web 2.0- It is commonly associated with web applications which facilitate interactive information sharing, interoperability, user-centered design and collaboration on the World Wide Web.

1.6 Overview

The document is divided into two halves:

Overall description: This section describes the major components of the system, inter connections between them and the role of external interfaces.

Specific requirements: These are the set of requirements which every actor in the system is responsible for with their role in the system and constraints that shape them.

Existing System

- General complaint filing.
- Check complaint status using Complaint ID.

Drawbacks

- No transparency in the system.
- No complaint validation.
- Remote area users are deprived of the service.
- No User Registration.

Proposed System

- Registration for users, Municipal Authorities and the Administrator.
- User can check complaint status

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- Municipal Authority can track the complaint process flow through process automation.
- Administrators can receive feedback from citizens for a better disciplined system.

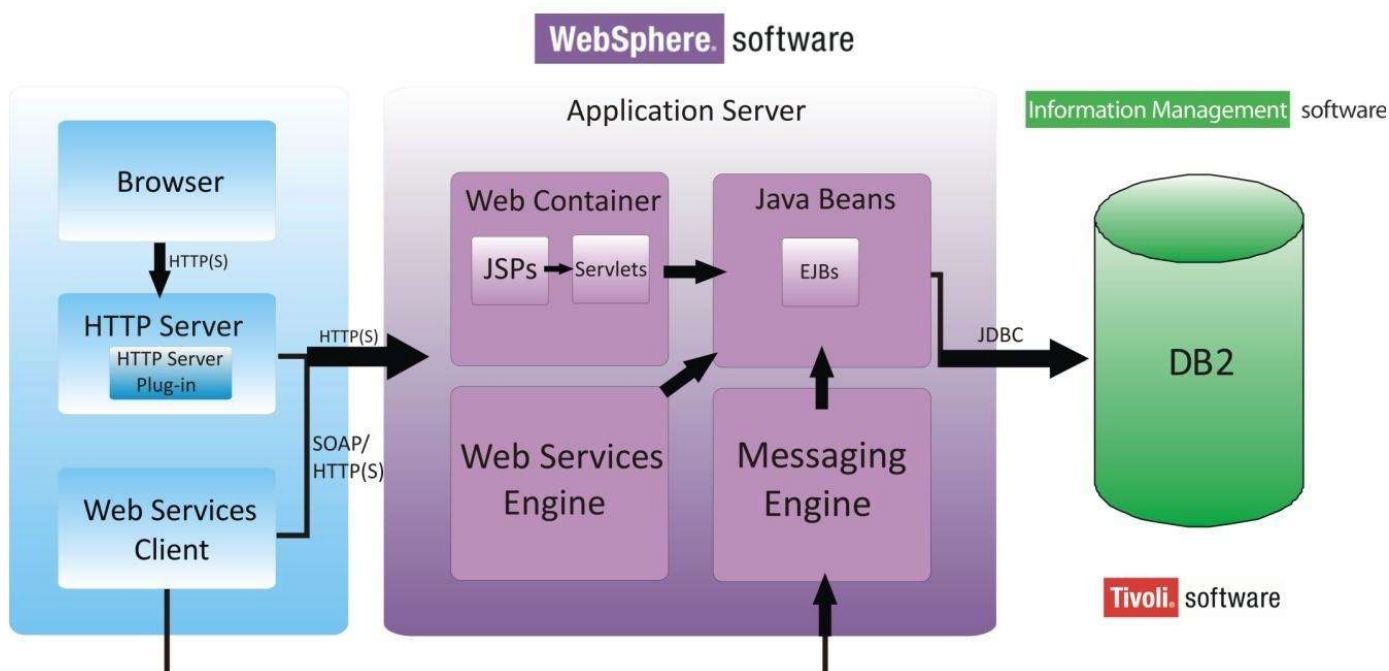
Our Plan

- Registration for Citizens, Municipal Authorities and Administrators.
- Citizen can check the complaint status indicated by 3 process levels.
- Citizen can support complaints of other citizens.
- Citizen can provide feedback about the working of an authority.
- Citizen can provide suggestions for the improvement of the system.
- Citizen can create groups which can be used as discussion forums.
- Municipal authority can track complaint process flow.
- Municipal authority can update complaint status.
- Municipal authority can mark those complaints that are invalid.
- Administrator can filter those complaints marked as invalid by the authority.
- Administrator can issue memos to municipal authorities.
- Administrator is responsible for the creation of authority accounts.
- NGOs can create groups to propagate their motives.
- Users can comment on the status posted by the NGOs.

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2. Overall Description

2.1 Product Perspective



2.2 Software Interface

1. **Front End Client:** J2EE, XML, e-Forms, AJAX, WEB 2.0, Web Services, SOA
2. **Web Server:** WebSphere Application Server CE.
3. **Data Base Server:** DB2 Express-‘C’.
4. **Back End:** Tivoli CDP/TSM/Tivoli Directory Server

2.3 Hardware Interface

Client Side			
	Processor	RAM	Disk Space
Internet Explorer 6.0+, Firefox 2.0+, Opera 9.00+	Pentium II at 500 MHz	64MB	1GB
Server Side			
Web sphere	Pentium III at 1 GHz	512 MB	2GB

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application server V8.0			
DB2 Express-C V9.7	Pentium III at 1 GHZ	512MB	1GB (Excluding data size)

2.4 Product Functions

- **Account creation:** The citizens, municipal authorities and the administrators are allowed to create a user account. This enables them to access to the specific details such as the complaints, suggestions, memos and so on.
- **Registering a complaint:** The citizen is privileged to file complaint regarding a wide array of specific complaint types with the local municipal authority concerned with the type of complaint.
- **View and support complaints:** The citizen provided with a clear view of the complaints pertaining to his area, which enables him/her to view and support any such complaint.
- **Creation of groups:** The citizens as well as the NGOs are allowed to create groups of their choice to either discuss any issue in case of the former and to propagate their motives in case of the latter.
- **Feedback option:** The citizens can provide with positive or negative feedbacks about the complaint redress mechanism.
- **Suggestions/petitions:** There is an option for the citizens to improve the system by providing with opinions about the system by means of petitions or suggestions.
- **Process Complaint:** The authorities can view the complaints that need to be addressed in their ward (populated department wise) and modify the status of the complaint process from a choice of three levels of complaint process model.
- **Validate complaints:** The municipal authorities can mark a complaint to be invalid if the complaint seems improper. This is subsequently filtered by the administrator from the system.
- **View memos and suggestions:** The municipal authority can read through suggestions from the citizens and can view the memos sent to them by the administrators.
- **Create authority authentication:** Administrator has the privilege to create user accounts for the newly appointed municipal authorities.
- **Issue memos:** In case a municipal authority is found to have received more than 4 negative feedbacks in a period of a month, he/she is issued with a

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memo mentioning the reason for the same.

- **Filter complaints:** Administrators have the permission to filter inappropriate complaints marked as invalid.
- **Status update:** NGOs can update their status to invite more viewership for their group and their interests.

2.5 User Characteristics

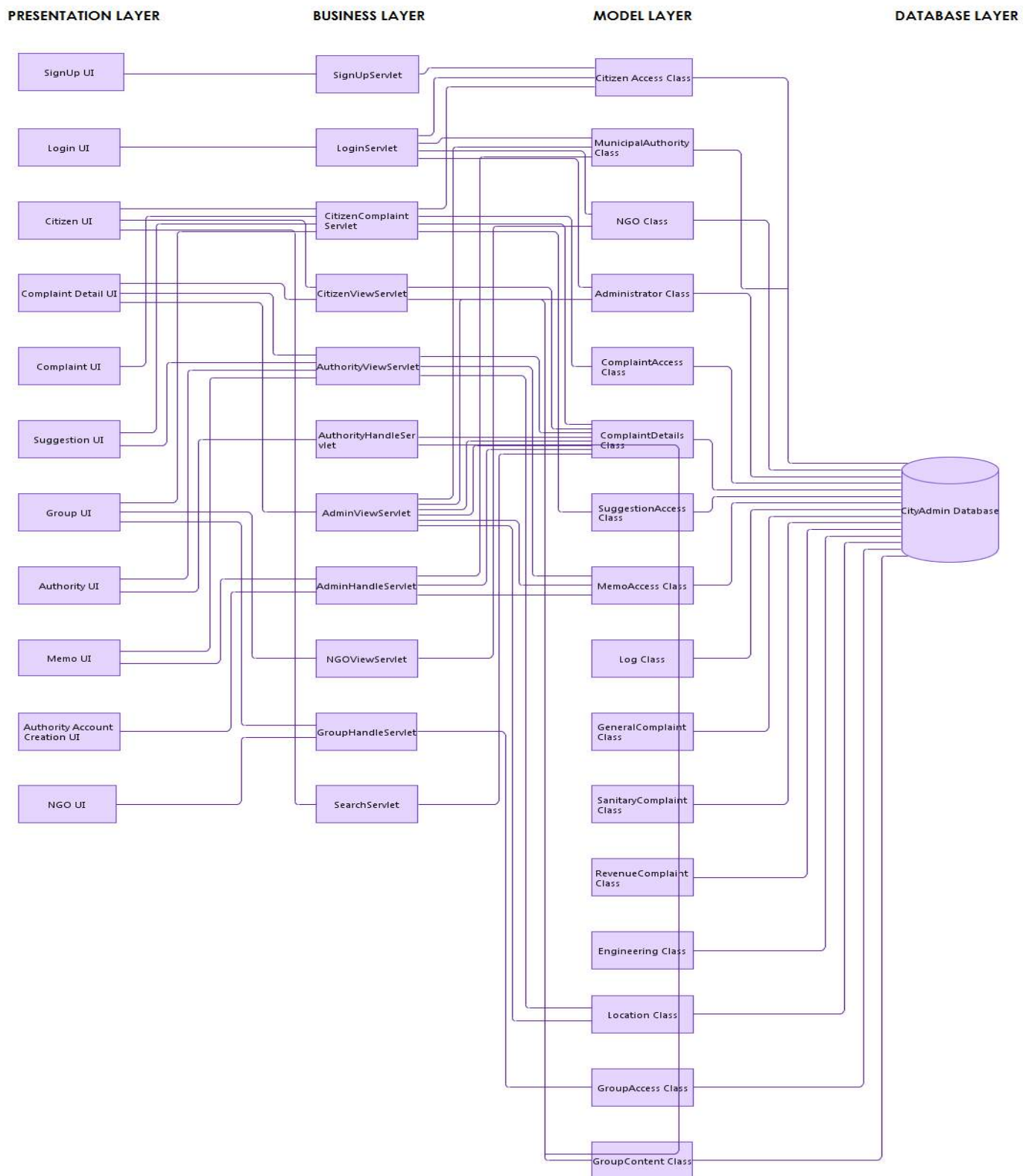
1. **Citizen:** The citizen is the actor for which the system is modelled and the process of complaint is automated. The citizen should therefore be capable of accessing the internet and to understand the simple English with which some specific functions are represented.
2. **Municipal Authority:** The authority is assumed to be a qualified civil servant who is aware of the process model for the complaints he is responsible for. The authority can heed to the suggestions given by the citizens and change course of action.
3. **Administrator:** The administrator is the sole head authority of any zone which consists of several wards and authorities under him/her. The highest of the positions held in the system.
4. **NGO (Non -Governmental Organisations):** The NGOs are organisations who can create an account in the system to post statuses about their individual motives and thus help in the growth of support for the group.

2.6 Constraints

- User authentication is required to access any services provided by the system.
- The system is hosted with a single server.
- Citizens can post complaints related only to their ward of residence.
- Officials will be able to handle complaints pertaining to their department only.
- System is confined only within chennai municipality.
- Administrator can filter inappropriate contents only if the authority notifies the administrator.
- NGO cannot post complaints.
- Authorities cannot change their account passwords.
- Citizens can view only the public groups related to his ward of residence.

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2.7 Architecture

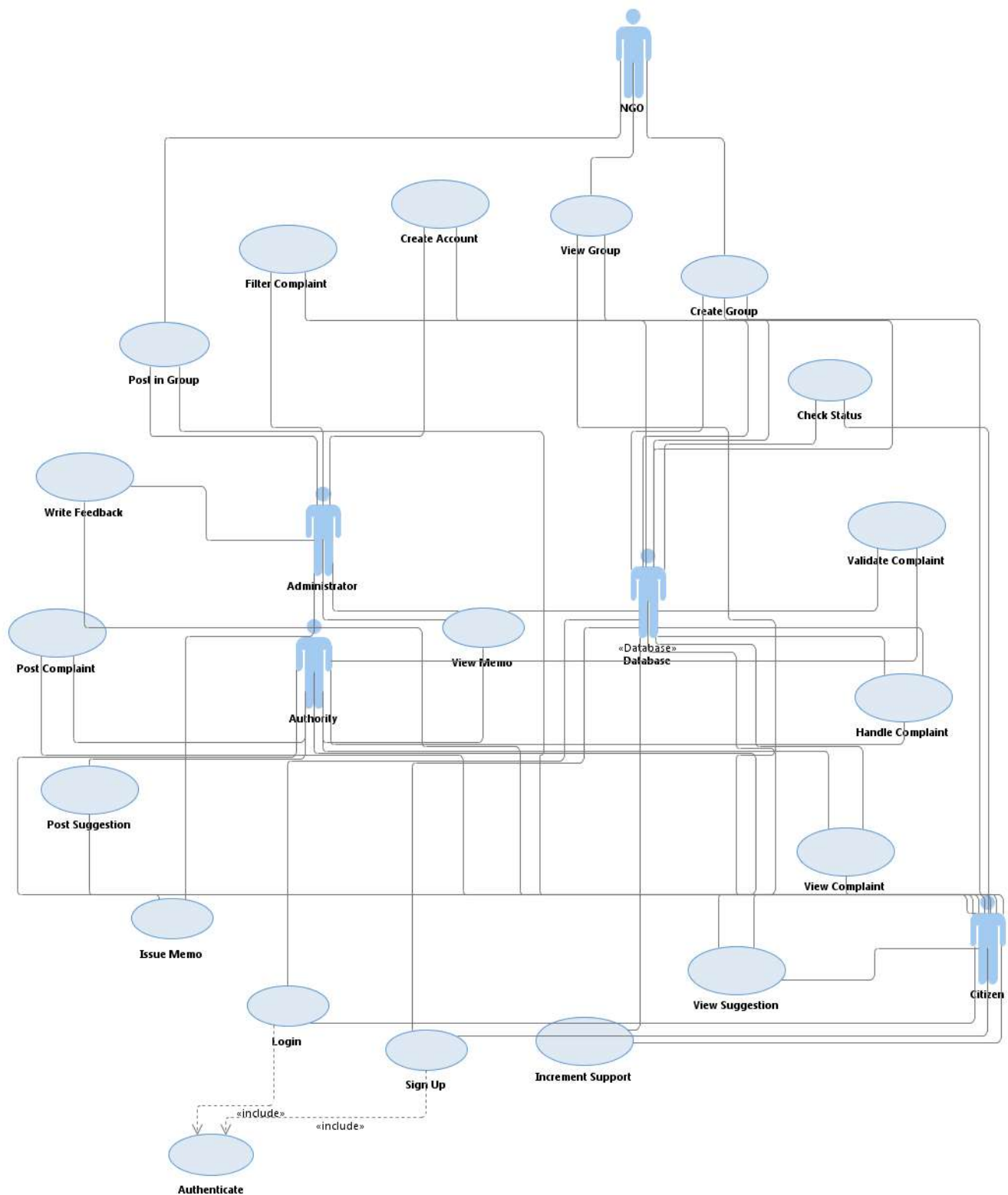


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- The user interface is provided at the presentation layer of the code.
- There are separate user interfaces for both sign in and signup.
- There are separate view components for the characteristic users of the system namely citizen, municipal authority, NGO.
- The complaints are loaded and due to the dynamism with which they are presented to various users of the system, complaint is given a separate UI and the listing of the same is given another UI.
- Groups are created in a UI and the suggestions given in another.
- When the business layer is analysed, there are separate servlets employed to handle citizen complaint and the same is handled by another servlet for the authority.
- Sign in and signup handled by separate servlets and the search is provided by a separate servlet.
- There is a distinction between the servlets that handle the view component of the system from those that interact with the model component of the system.
- The layer of model completely encompasses the totality of the tables that are made use of in the system.
- It is an access layer that bridges the physical gap between the stored data in the database and the business layer which is in need of that data with proper separation of the three tiers ensured.
- Log class, Location class, Verification class, Complaint class are static tables and their attributes are retrieved by the corresponding access classes.

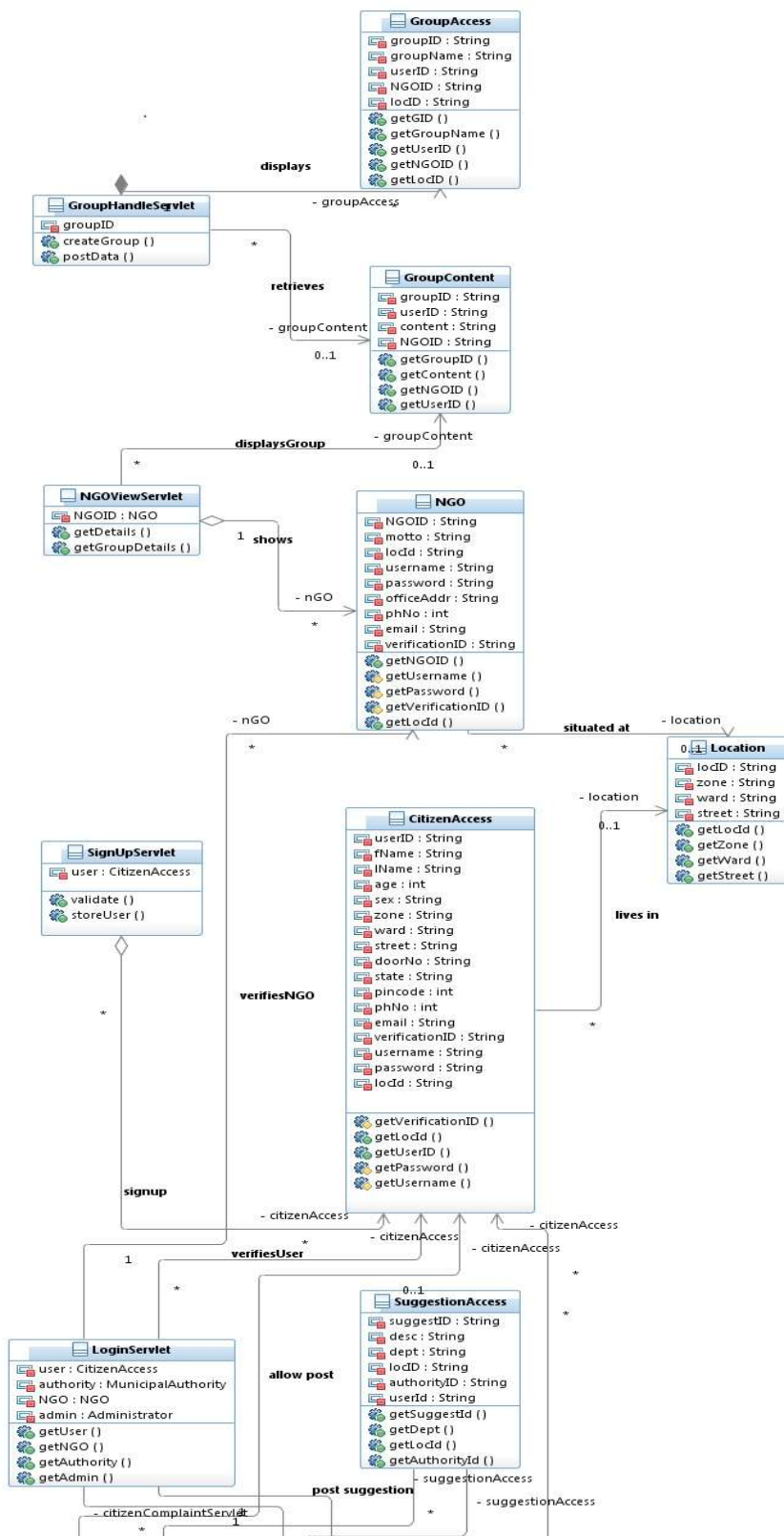
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2.8 Use case Diagram

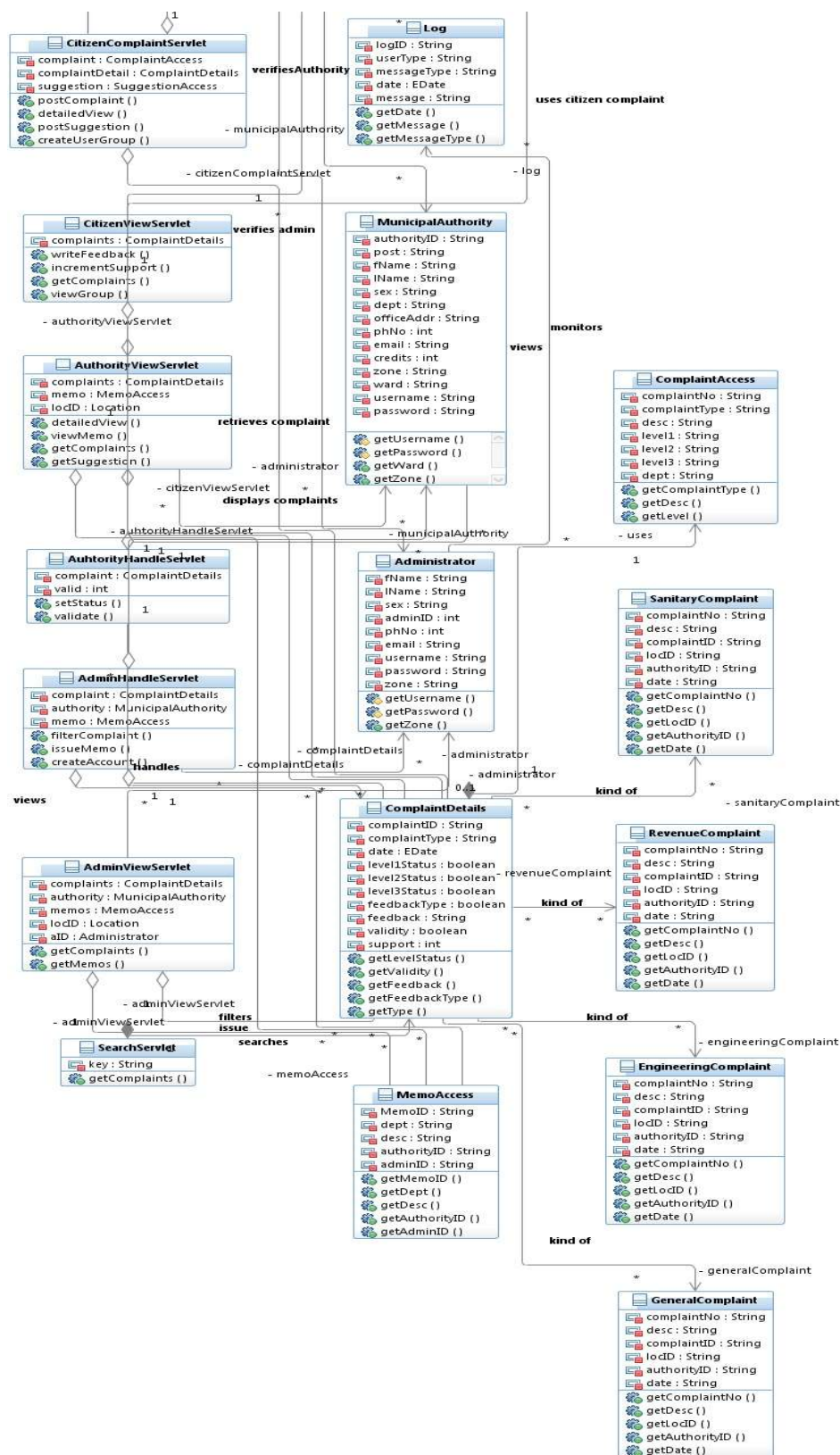


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2.9 Class Diagram



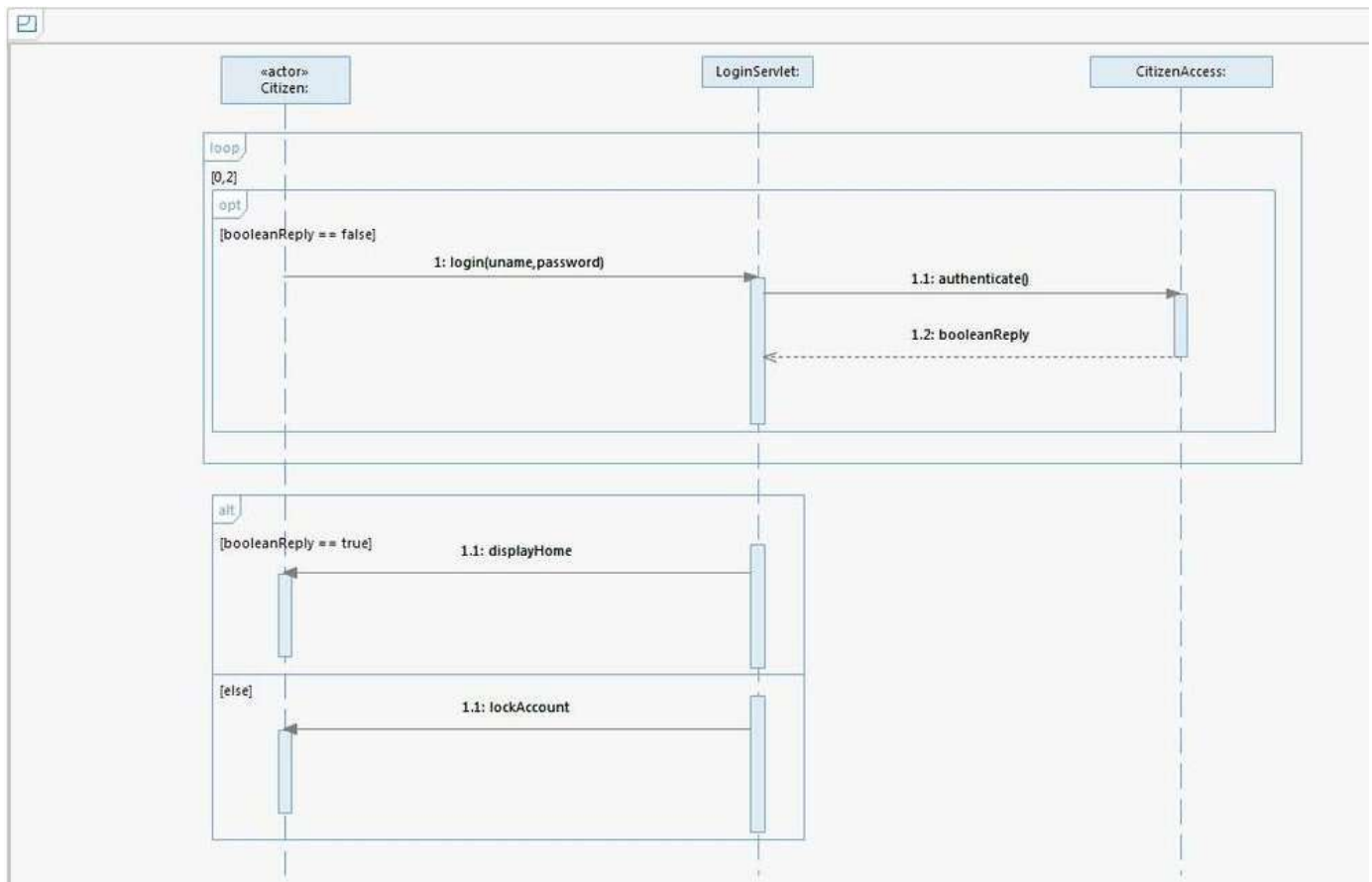
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2.10 Sequence Diagram

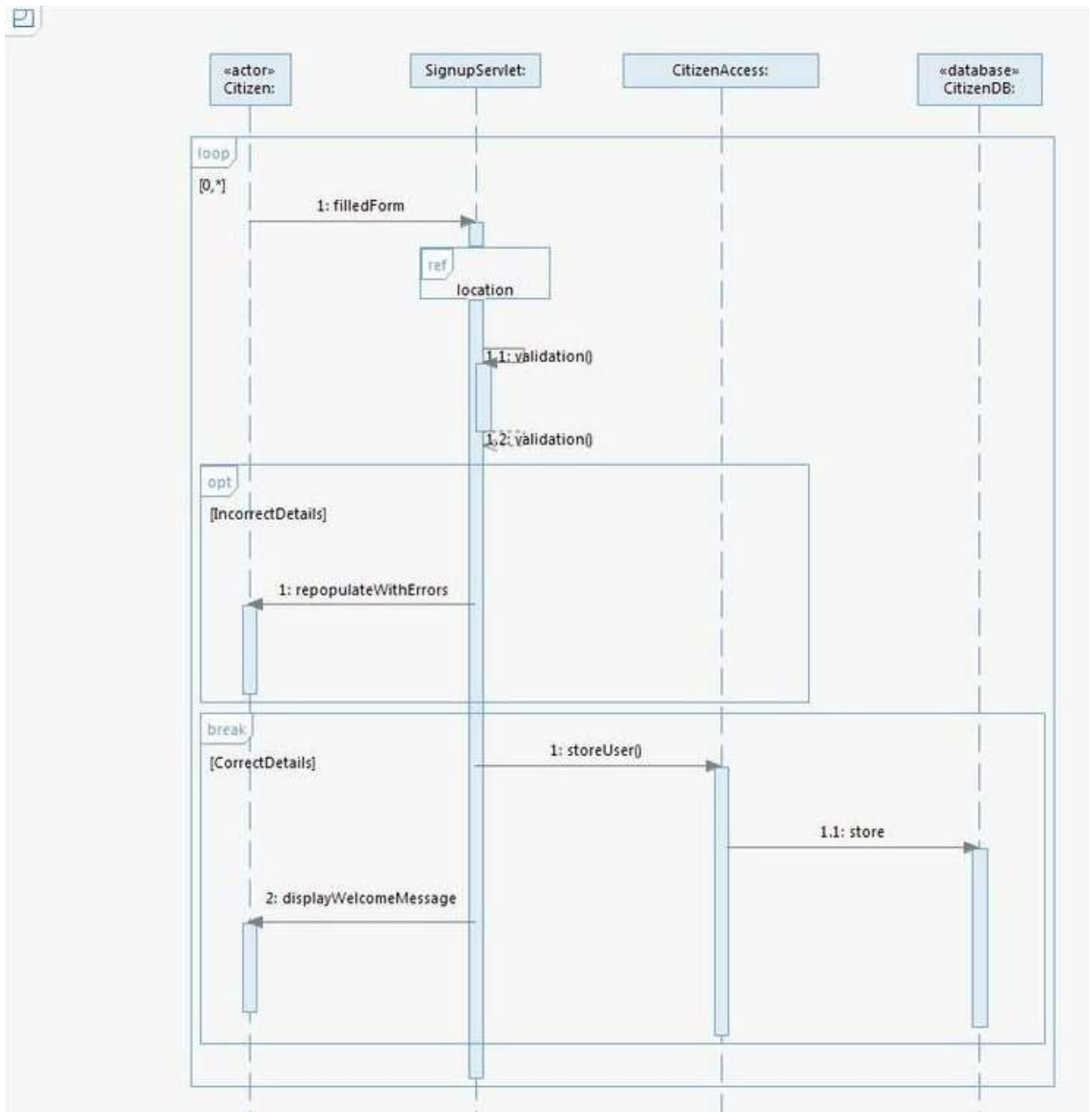
Login



1. The citizen provides with the username and password to the LoginServlet.
2. The LoginServlet makes use of the authenticate() method to obtain a booleanReply stating whether or not the user is authenticated.
3. There are 3 chances given for login (when booleanReply is false)
4. If the user is authenticated with a booleanReply which is true then the home page is displayed
Else the account is locked after 3 consecutive wrong tries.

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Signup



1. Citizen submits the filledForm for creating a new account.
2. The form details are validated and the location id obtained.
3. If any errors encountered in the form, the form is repopulated and

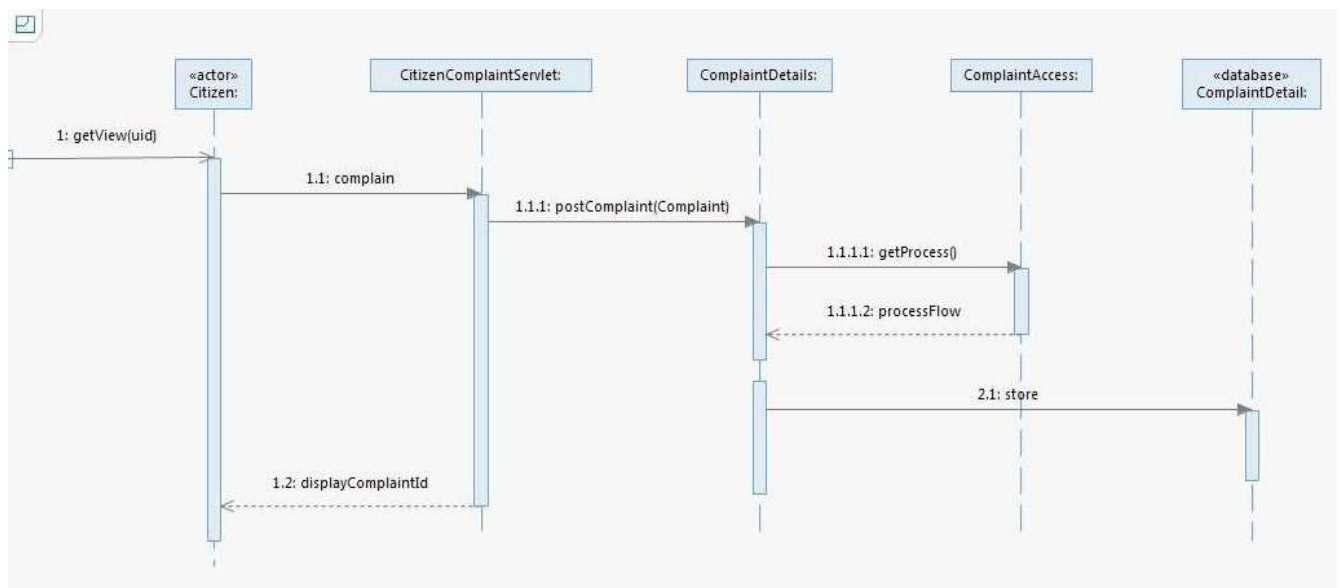
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displayed with errors

Else the data is stored in the Citizen table with the help of CitizenAccess class using storeUser() method of SignupServlet.

4. The welcome message is displayed.

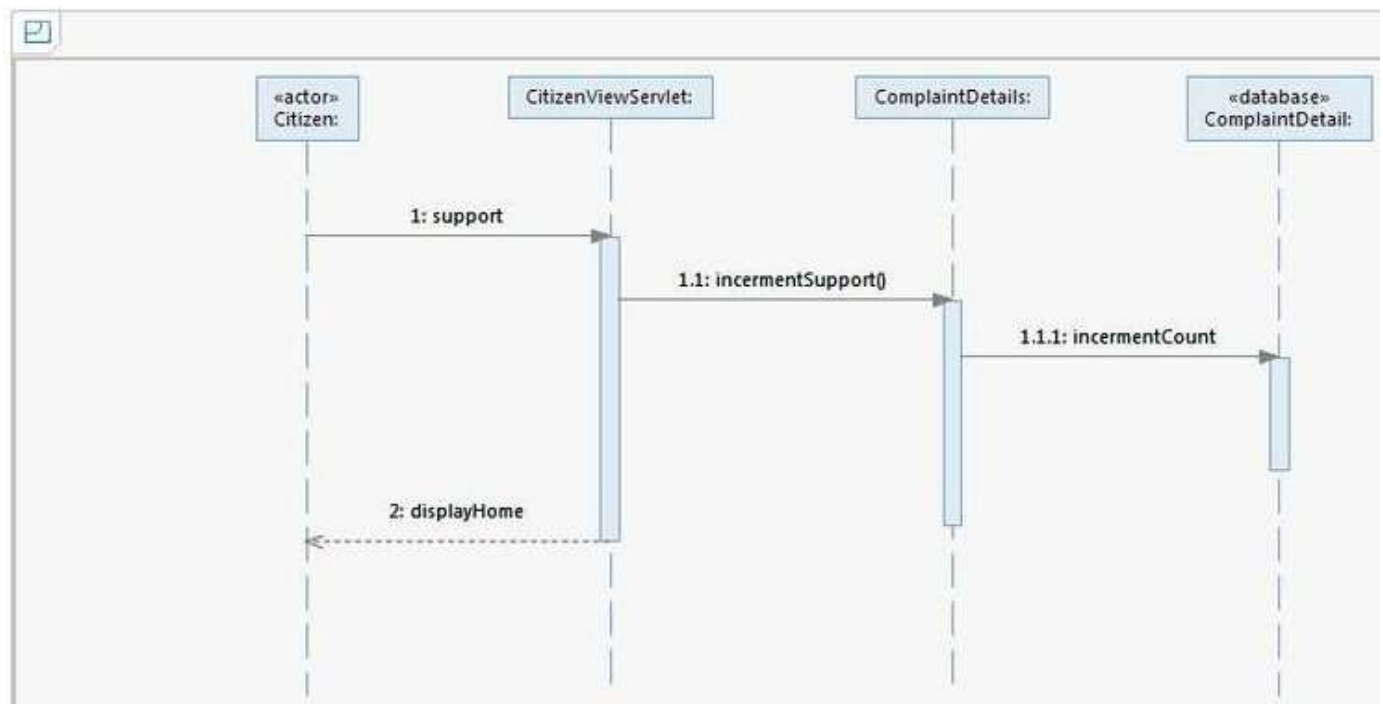
File Complaint



1. The citizen views the home page of his and posts the complaint through the UI.
2. The CitizenComplaintServlet takes care of registering the complaint with the database.
3. It first obtains the process flow of the complaint from its specific type and then stores the same with the obtained results in the ComplaintDetail table.
4. The completion of the sequence of operations leading to the filing of the complaint is marked by the display of complaint id.

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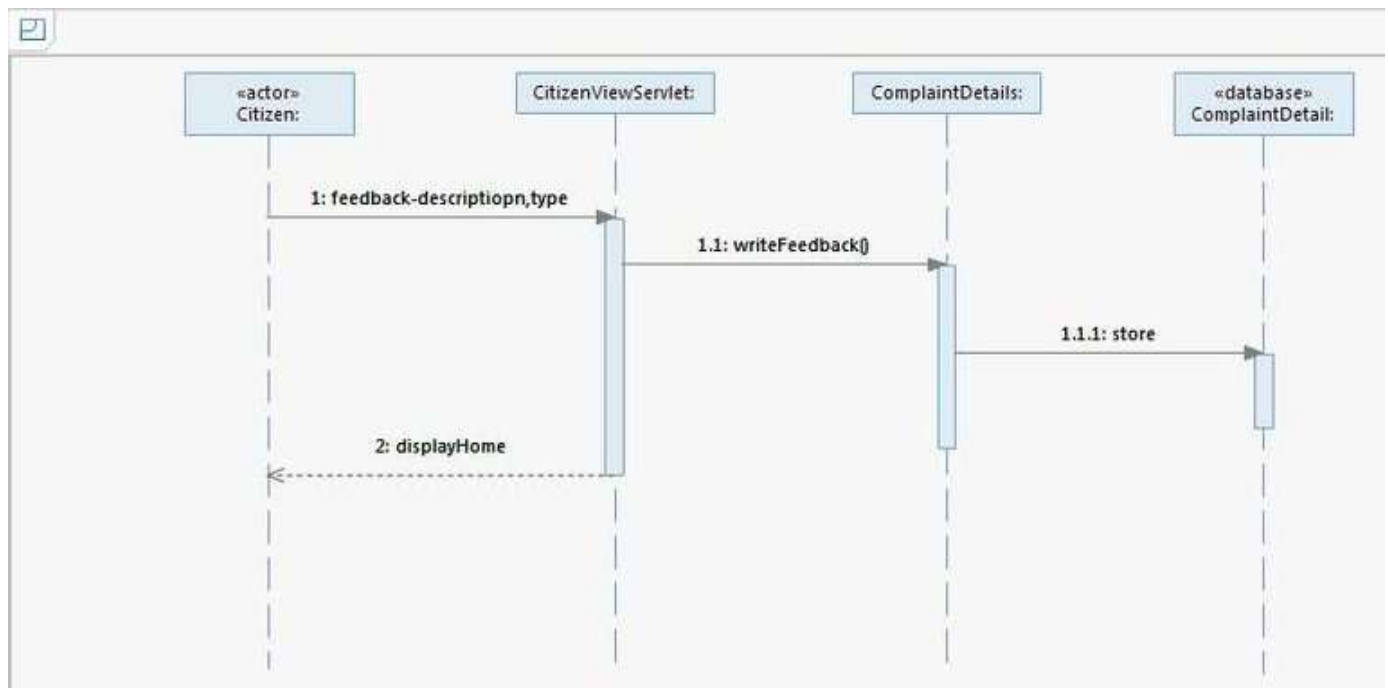
Support Complaint



1. The citizen can support any complaint he/she is capable of viewing.
2. The incrementSupport() method of CitizenViewServlet is called upon support.
3. This increments the support count in the database using the ComplaintDetails database access object.
4. Then finally the home page of the user is displayed.

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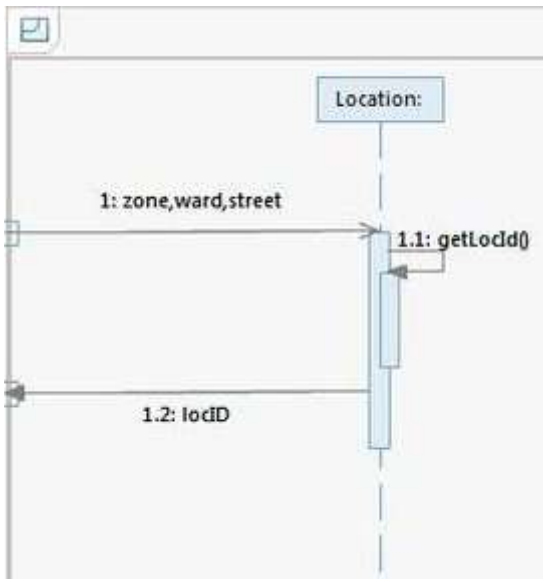
Feedback



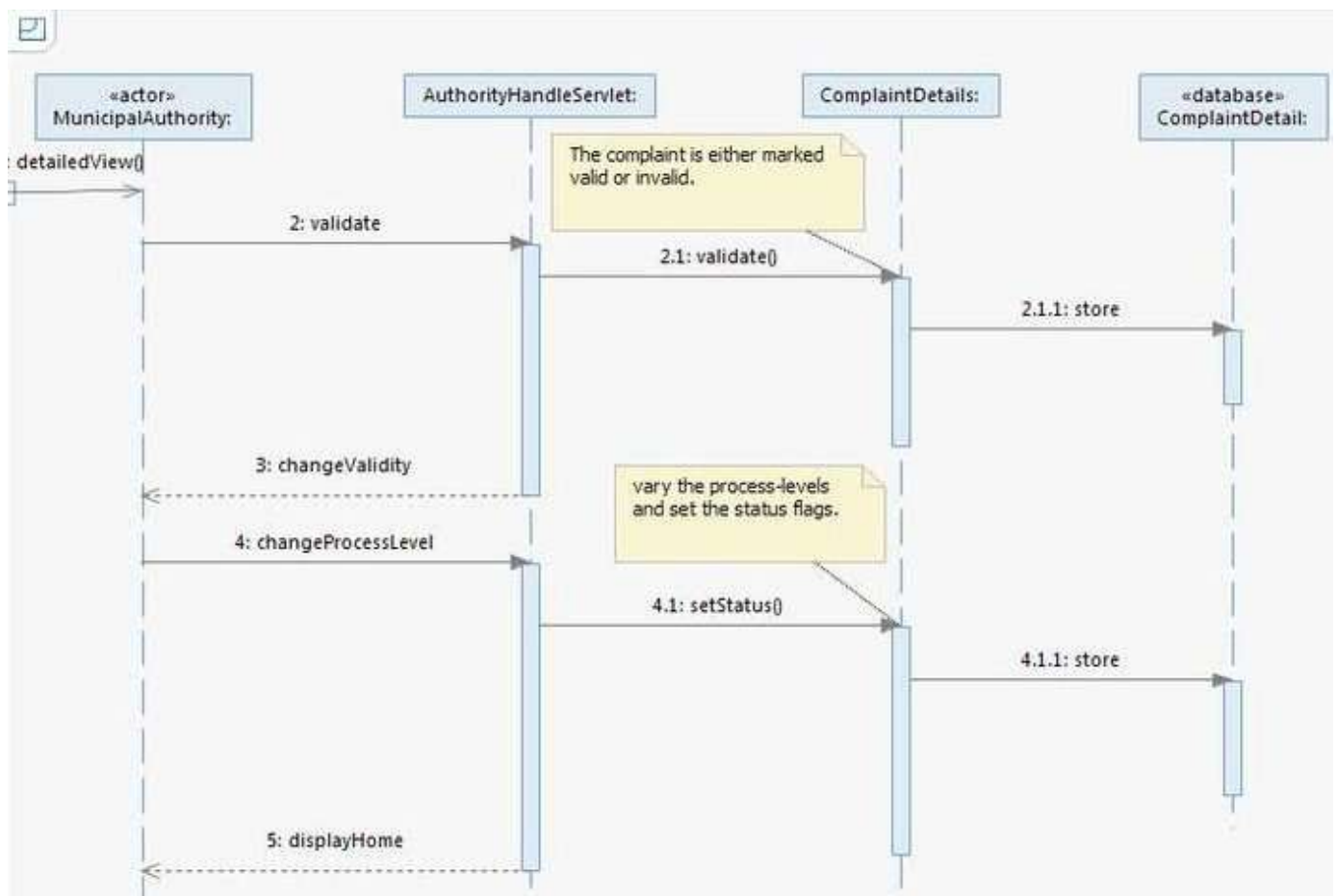
1. The citizen can provide with a feedback (positive or negative) with a small write up of what the feedback is about.
2. The writeFeedback() method of the CitizenView class is called to store the feedback into the database.
3. The home page is displayed once the feedback has be submitted.

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Get Location



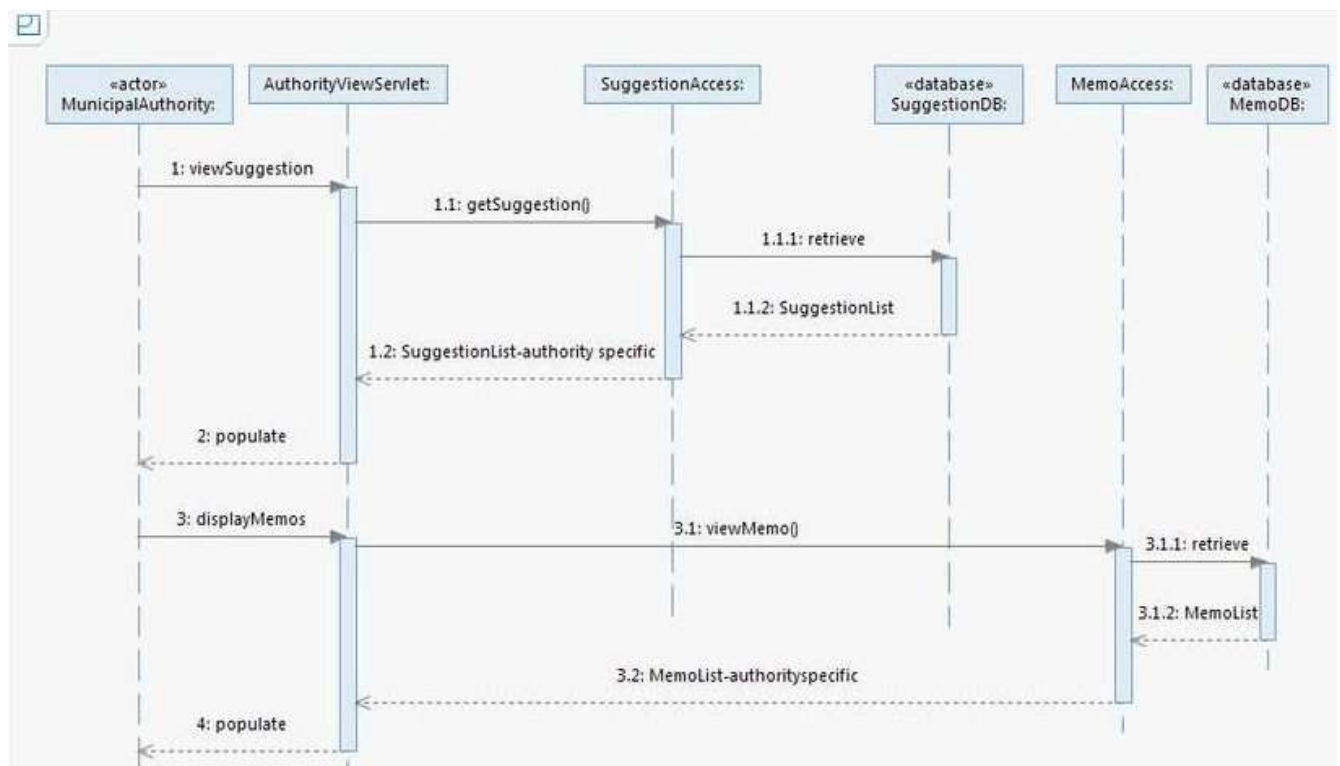
Handle Complaint



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1. The municipal authority is provided with the detailed view of the complaint.
2. The complaint can be validated and on validation, the changes are reflected to the database.
3. The process level of the complaint can be changed and this is done making use of the setStatus() method of the AuthorityHandleServlet calss.
4. Once the status flags are set the changes are reflected in the database.
5. The home page is displayed at last.

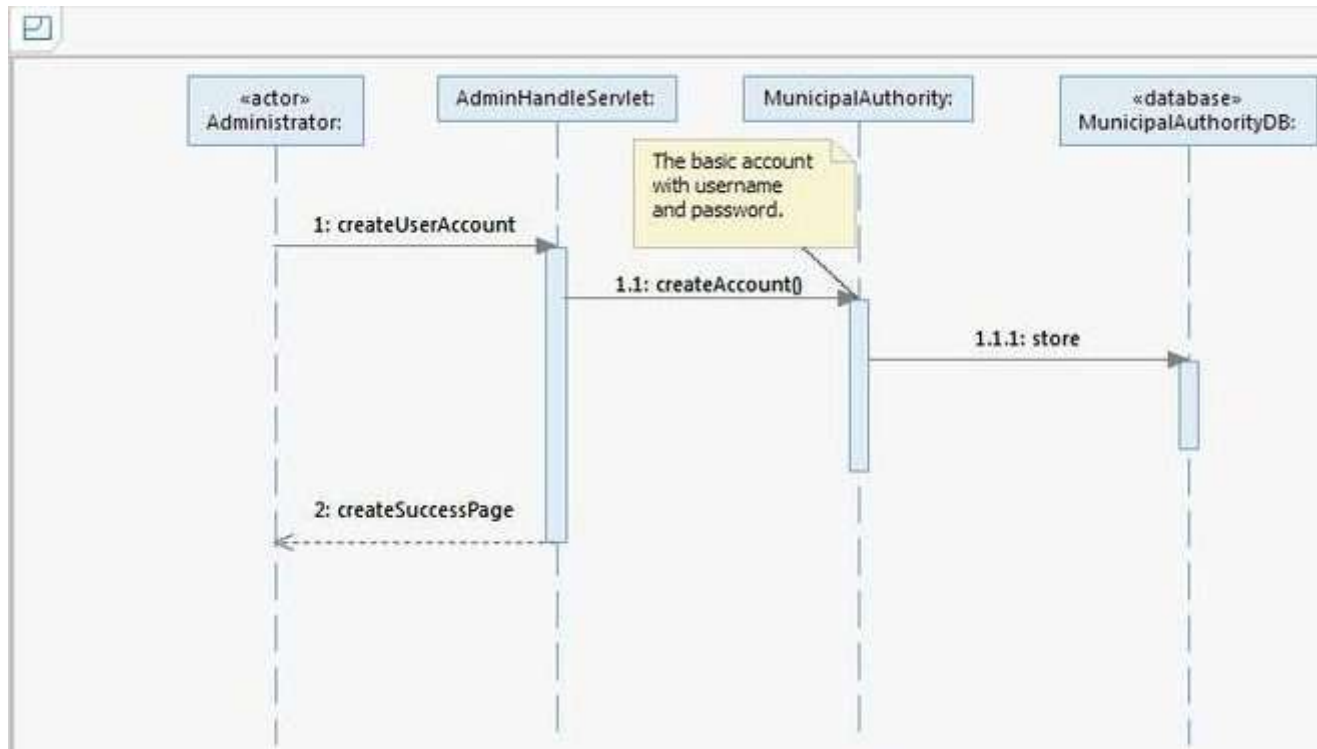
View – Municipal Authority



1. The municipal authorities can view the suggestions from various users of the same area.
2. The getSuggestion() enables retrieval of the SuggestionList.
3. The memos issued by the admin reaches the authority by making use of the viewMemo() method of the AuthorityViewServlet.

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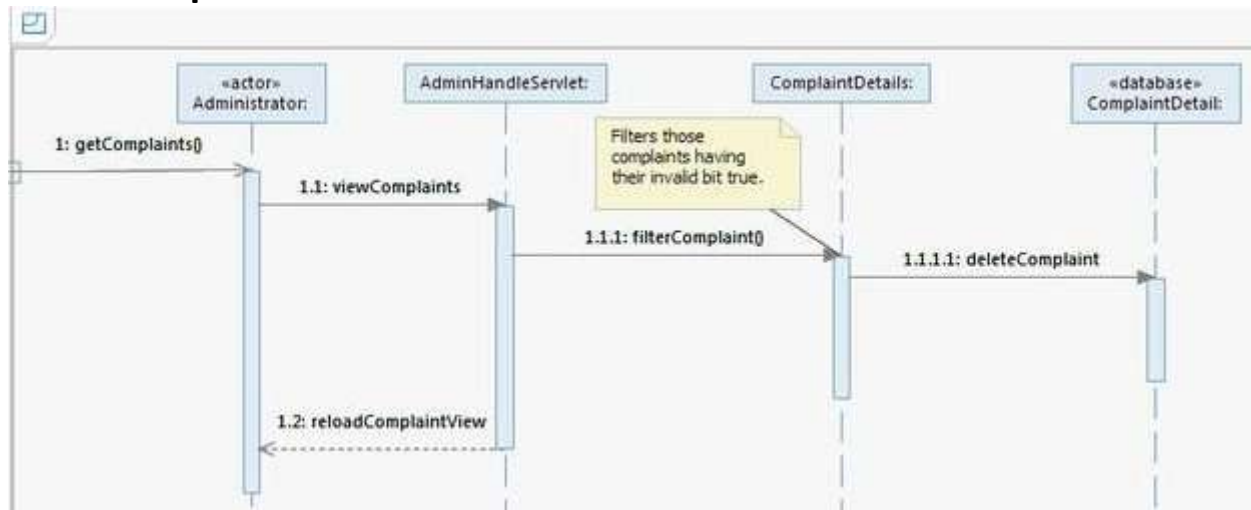
Create authority account



1. The administrator is responsible for the creation of login details for the municipal authority on their first login.
2. createAccount() of the AdminHandleServlet is used to store the newly created value into the database.
3. A success page is displayed on the successful creation of the account.

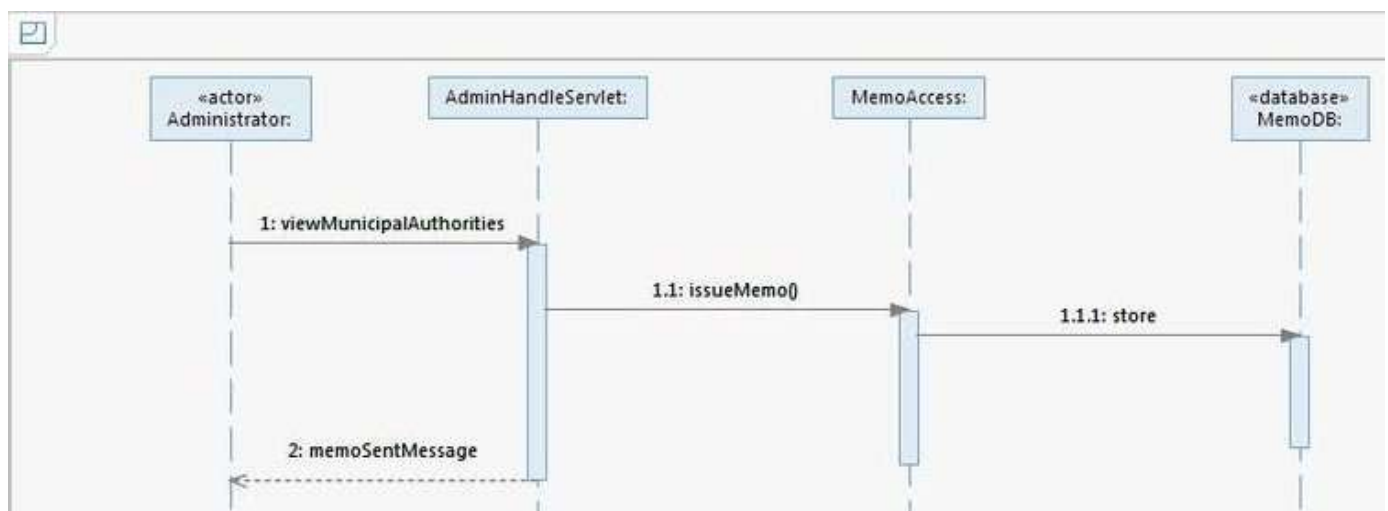
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Filter Complaint



1. There is already a complaint view created for the administrator.
2. The invalid complaints are removed by the action of filterComplaint()
3. This effectively deletes the complaint.
4. The view is reloaded afresh with the valid complaints.

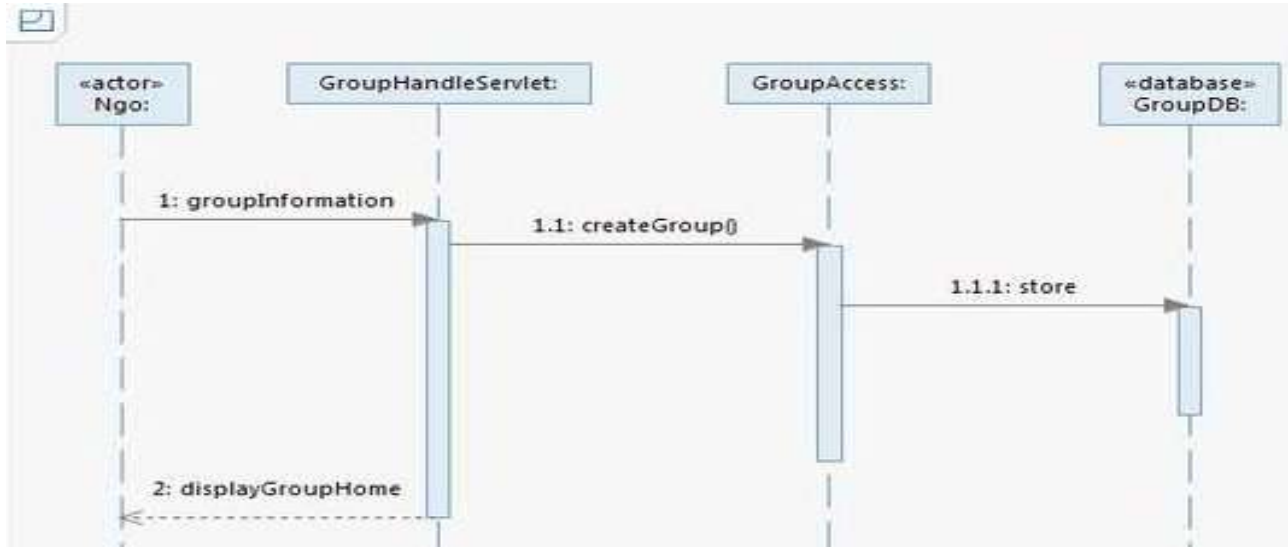
Issue Memos



1. The administrator views multiple authorities and issues memo to any of them based upon the table contents.
2. The memo is stored once created.
3. The memos once sent are intimated by means of a memo sent message.

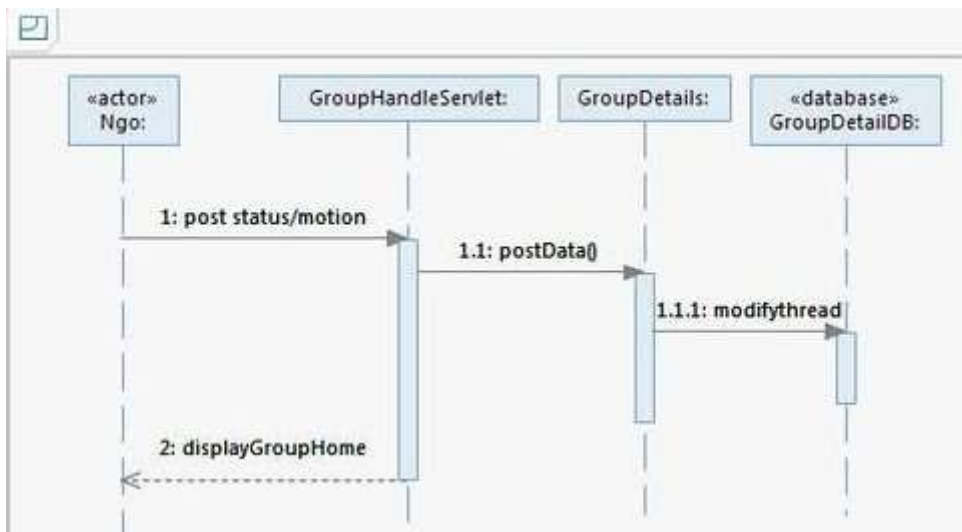
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NGO group creation



1. The group information that is provided is used to create the group using createGroup().
2. This can be stored.
3. The group home is displayed on success.

Status Update

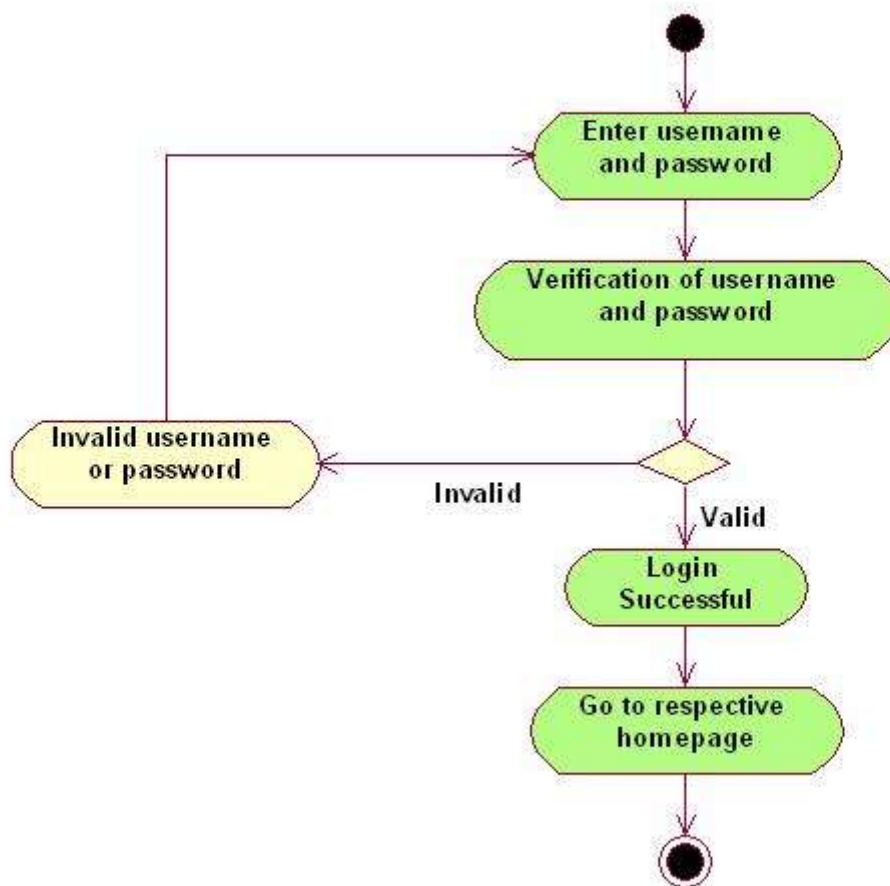


1. The actor being the NGO, the postData() updates the group details.
2. The thread of group is modified.
3. The group home is then displayed.

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2.11 Activity Diagram

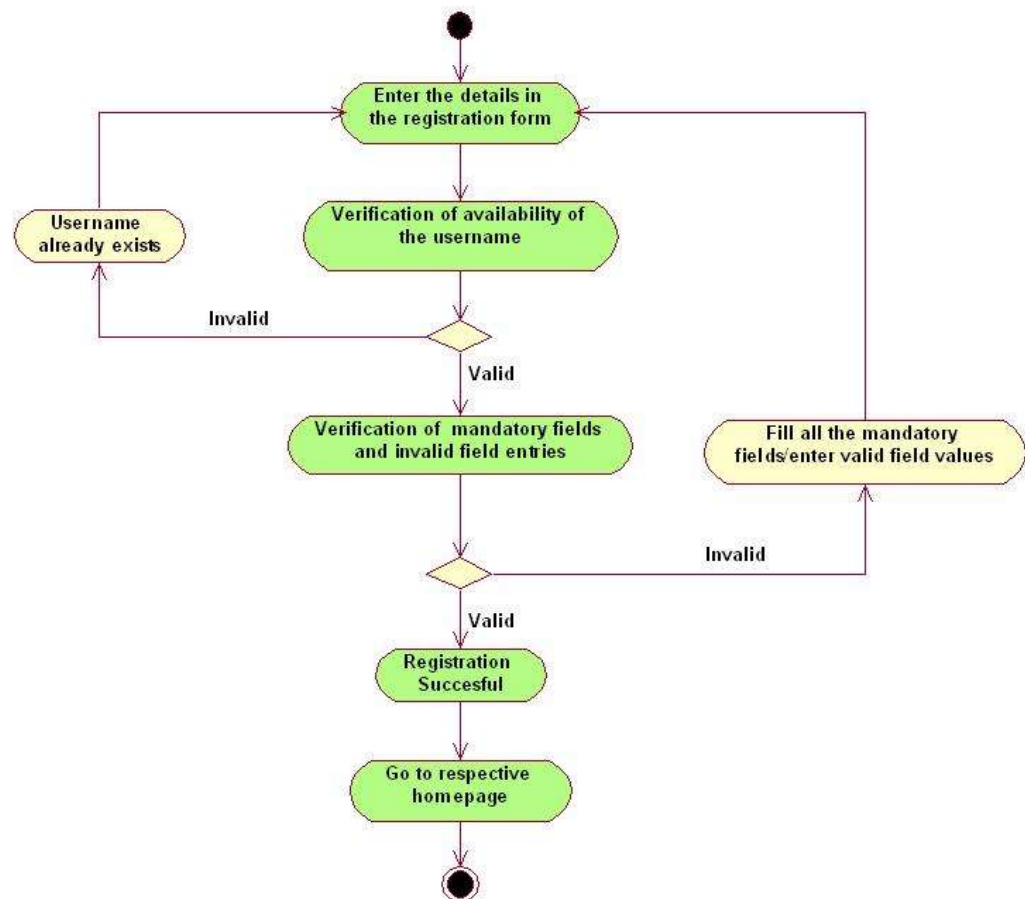
Login (Citizen, Authority, Admin, NGO)



The user (citizen,municipal authority ,administrator and NGO) will be able to login by providing his username and password.
Invalid username or password will cause an error message to be displayed.

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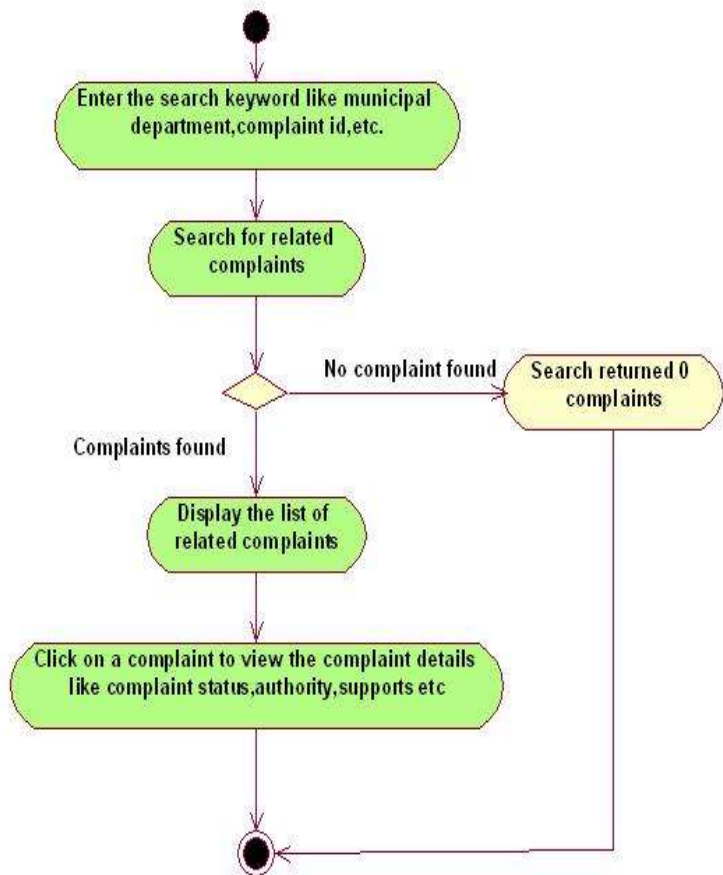
Signup (Citizen, NGO)



The citizen is provided with a registration form and he enters the details. A check is made for availability of username. Error message is displayed if the mandatory fields is not entered or one of the entries is invalid. The user account is created upon successful registration.

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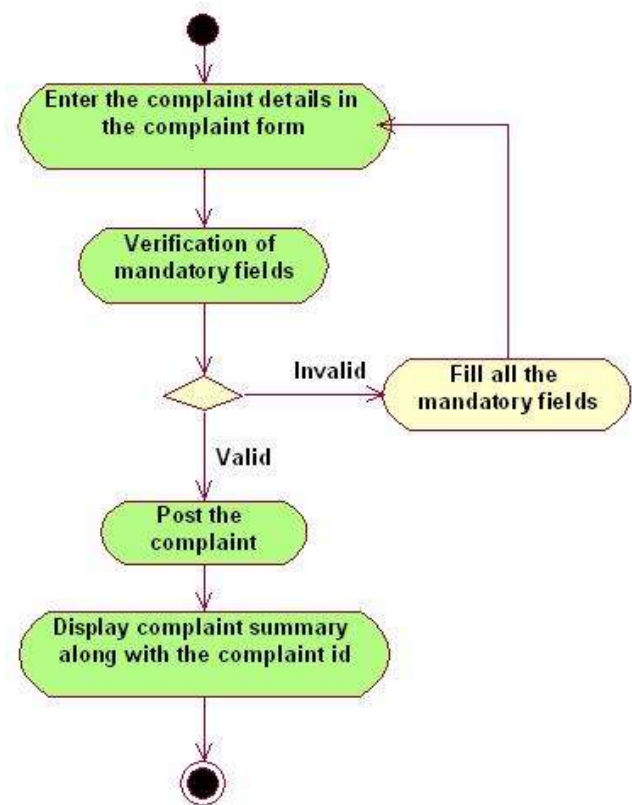
Search Complaint



The search keyword is entered into the search field. The search operation is carried out and the related complaints are concisely displayed. The user can then view their complaint of interest. If no related complaint is returned, the message is displayed to the user.

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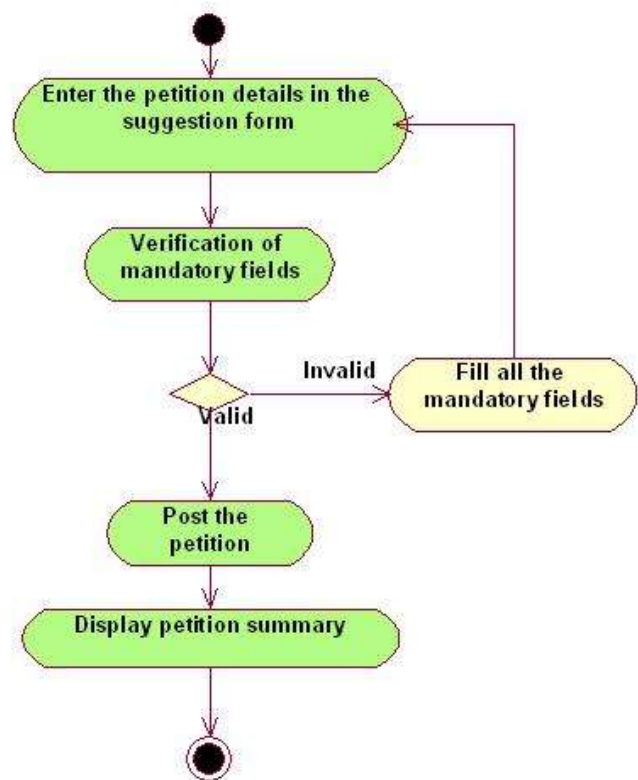
Post Complaint



If the citizen intends to post complaint, a complaint form is displayed. The user then enters the details of his complaint. The verification of the details is performed and errors are notified to the user. After the complaint detail are validated , the complaint details are displayed to the user for their perusal.

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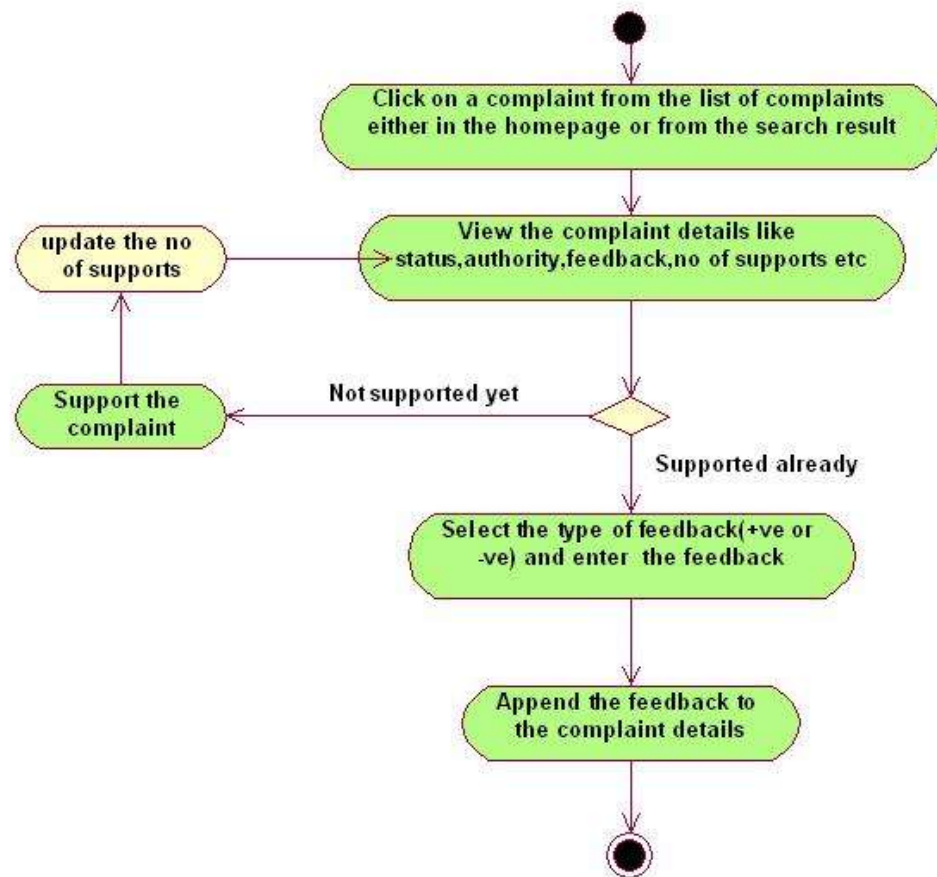
Post Suggestions



A citizen can post a suggestion by filling in the suggestion form. The details are verified and an error message is displayed in case of any discrepancy. Following validation, the petition is posted and the summary is displayed to the user.

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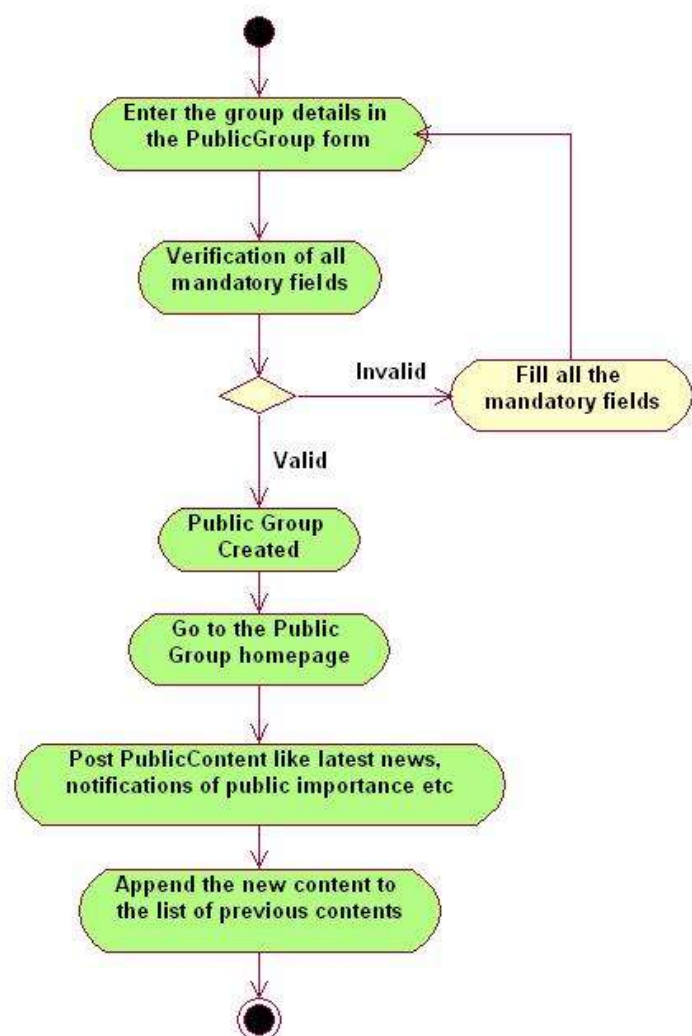
Write Feedback



The citizen can give a feedback to a complaint. The complaint is displayed to the citizen and he can choose to provide a positive or negative feedback and subsequently the feedback is entered. The feedback is appended to the complaint details. Also, the citizen can raise support to the complaint by clicking on the support icon.

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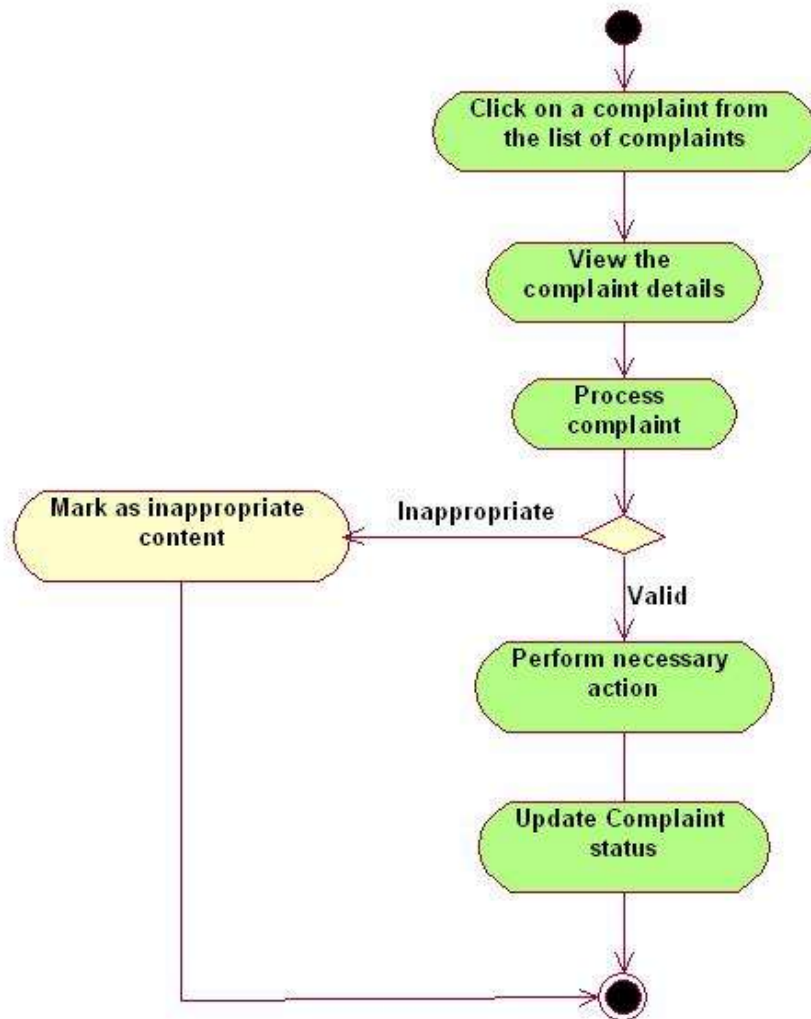
Create Group (Citizen, NGOs)



A citizen can create a user group and NGOs can create a group by entering the details of the group in the form. The entries are validated and the user is notified of the group creation. Following this the home page for the group is displayed and the citizen will be able to post public content on the group page.

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Handle Complaint

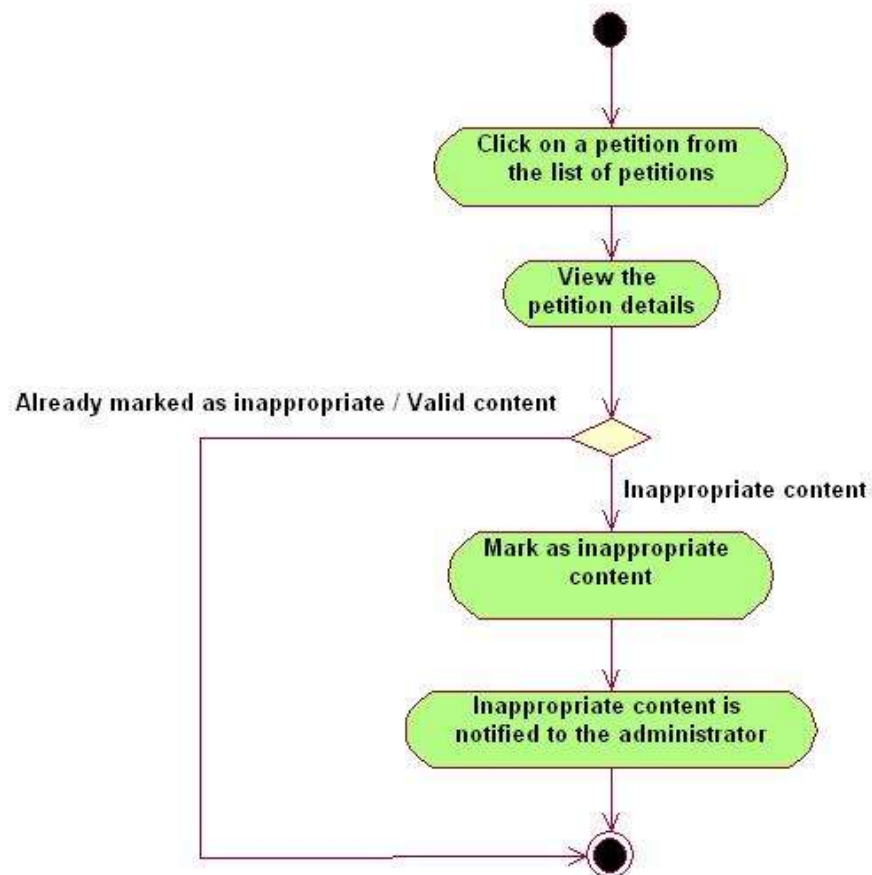


The municipal authority selects a complaint from a list and it is processed. The necessary action is taken in response to the complaint and the status of the complaint is updated accordingly.

A complaint can be marked as inappropriate by the authority.

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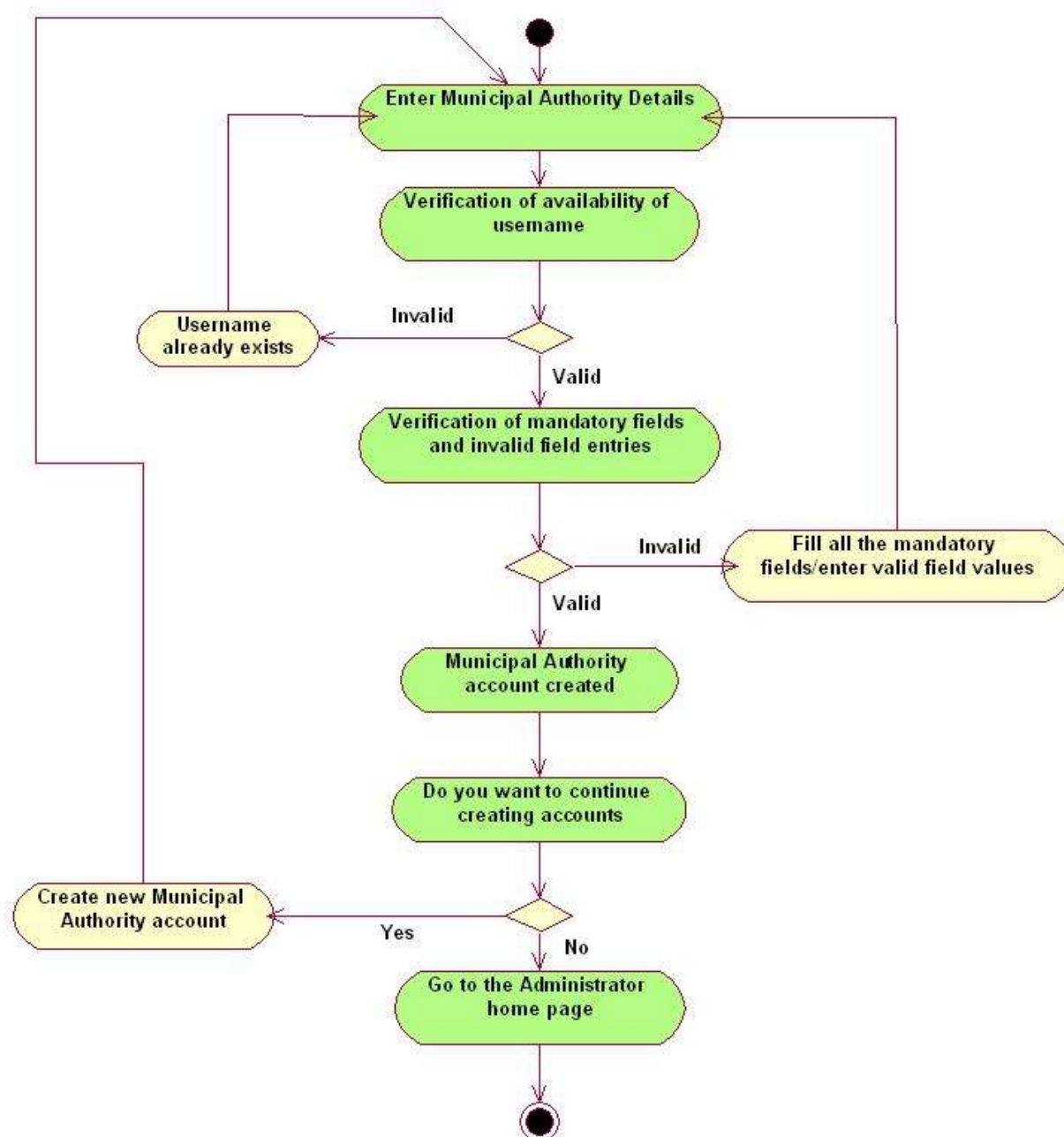
View Suggestion



The municipal authority views the petition from the list of petitions. The petition can be marked as inappropriate by the authority as per his discretion. This is then notified to administrator.

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Create Account (Admin)



The administrator creates account for municipal authority by entering the respective details. The details are validated and the account is created for the municipal authority. Following creation of accounts of the municipal authority, the administrator is directed to his homepage.

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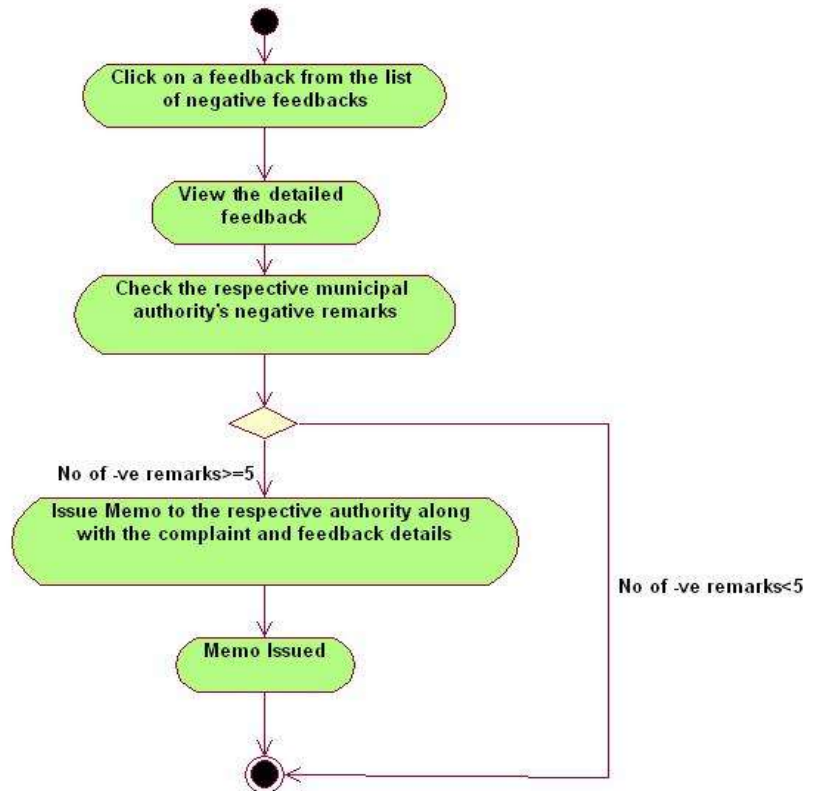
Filter Complaint



The administrator can choose a content from the list of inappropriate contents. The associated details and feedback is noted and the content is removed from the database by the administrator.

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Issue Memo

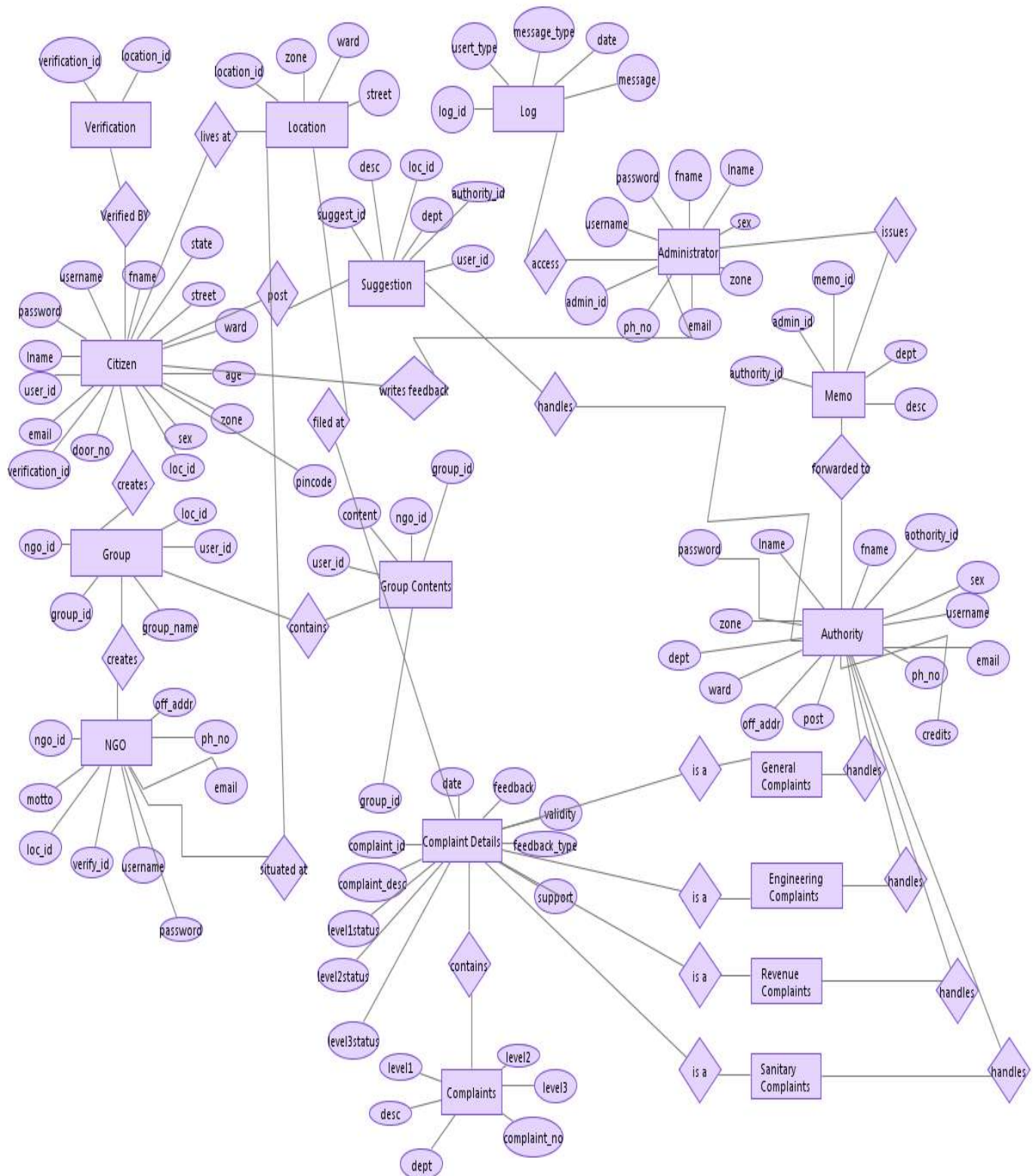


The administrator views the negative feedback from the list of feedbacks. A memo is issued to a particular municipal authority if the negative remarks about the authority exceeds 4.

The complaint and feedback details is included in the memo to the municipal authority.

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2.12 Entity Relationship Diagram



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Database Description:

- Individual tables for every actor (Citizen, Municipal Authority, Administrator and NGO) containing their personal information, zone and ward details and their unique ids have been created
- The complaint table is created which contains all the complaint details along with unique complaint ids.
- For various complaint types (Revenue, Sanitary, Engineering, General) individual tables are created which refers the complaint details table using complaint id.
- Individual tables for suggestions, memo and public groups are created and the group contents are stored in a separate table.
- All activities of the system are logged as log description along with log id, date and time in the log table.
- Verification table contains voter's id along with the information which can be used for authentication of the citizen.
- Location table contains all the zone and ward details and can be referenced by other tables like citizen, NGO, Municipal authority etc

2.14 Assumptions and Dependencies:

- The details related to the citizen and other users are provided manually.
- Roles and tasks are restricted and predefined.

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3.0 Specific Requirements

3.1 Use case Reports

Actors:

The system caters to following types of user:

1. Citizen
2. Municipal Authority
3. Administrator
4. Non Governmental Organisation

Use case Name: Sign up

Actors: Citizen, NGO

Description: Actor creates his account to log into the system

Preconditions: An unregistered citizen enters the system.

Post Conditions: The user is registered and automatically logged in and his homepage is displayed.

Normal flow of events:

1. The actor enters all the details in the registration form
2. Authentication of username is performed
3. Authentication of mandatory fields is performed
4. The actor is logged in to the system and home page is displayed.

Alternative flow of events:

2. If the authentication fails invalid username/password is displayed.
3. If the mandatory fields are not filled then display error message.

Use case Name: Login

Actors: Citizen, Municipal Authority, Administrator and NGO

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Description: Actor logs into the system

Preconditions: The user account is existing in the database and has not yet logged in
U The user is logged in and his homepage is displayed.

Normal flow of events:

1. The actor enters user name and password.
2. Authentication is performed by the system
3. Corresponding home page is displayed.

Alternative flow of events:

2. If the authentication fails invalid username/password is displayed.

Use case Name: Post Complaint

Actors involved: Citizen

Description: The citizen posts a new complaint to the municipal authority.

Preconditions: The citizen is logged into his profile.

Post conditions: Complaint is successfully posted and updated in the database.

Normal flow of events:

1. Citizen fills in the details of the complaint such as location, complaint type and other descriptions.
2. Authentication of all mandatory fields is performed.
3. The complaint is posted updated in the database

Alternate flow:

1. If a complaint's fields are incorrectly filled or left blank , display error message

Use case Name: Post suggestion/petition

Actors involved: Citizen

Description: The citizen posts a new suggestion to the municipal authority.

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Preconditions: The citizen is logged into his profile.

Post conditions: Suggestion is successfully posted and updated in the database

Normal flow of events:

1. The citizen fills in the details of the petition.
2. Authentication of all mandatory fields is performed.
3. The suggestion is posted and updated in the database

Alternate flow:

2. If the mandatory fields are left blank , display error message

Use case Name: Search complaints

Actors involved: Citizen

Description: The citizen search for the complaints by providing some keywords

Preconditions: The citizen is logged into his system

Post conditions: The search results are displayed

Normal flow of events:

1. The citizen enters the search keyword
2. Related complaints are searched.
3. The complaints matching the keywords are listed

Alternate flow:

1. If no complaints are found matching then display “search returned 0 results”.

Use case Name: View Complaint

Actors involved: Citizen, Municipal Authority

Description: The actor can view the details of the complaint

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Preconditions: The actor is logged into his account

Post conditions: The complaint details are displayed.

Normal flow of events:

1. The actor clicks on a complaint from the list of complaints either from homepage or from the search results.
2. The complaint details are displayed along with complaint status and feedback

Alternate flow: Nil

Use case Name: Support Complaint

Actors involved: Citizen

Description: The citizen can extend his support for a particular complaint

Preconditions: The citizen has to be logged into the system

Post conditions: The no of supports of the complaint is incremented and updated in the database

Normal flow of events:

1. The citizen clicks on a complaint to view the complaint details
2. The citizen presses the support button on the complaint page.
3. The no of supporters is increased by 1 and displayed.

Alternate flow: Nil

Use case Name: Write feedback

Actors involved: Citizen

Description: The citizen submits a feedback for a complaint

Preconditions: The citizen is logged into his profile

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Post conditions: The feedback is updated in the database

Normal flow of events:

1. The citizen selects whether positive or negative feedback
2. He posts a new feedback
3. The feedback gets appended to the previous feedbacks and updated in database.

Alternate flow: Nil

Use case Name: View memo

Actors involved: Municipal authority

Description: The municipal authority can view the memo he has received from the administrator.

Preconditions: The municipal authority is logged into his account.

Post conditions: The municipal authority views his memo

Normal flow of events:

1. The municipal authority clicks on the view memo tab
2. He clicks on the memo to view the details

Alternate flow: Nil

Use case Name: Filter inappropriate content

Actors involved: Administrator

Description: The administrator removes the inappropriate content from the database

Preconditions: The administrator is logged into his account

Post conditions: The inappropriate complaint/suggestion is removed from the database

Normal flow of events:

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1. The administrator clicks on the inappropriate content tab
2. He views all the inappropriate content marked by the municipal authority
3. He deletes the content from the database
4. Content is removed

Alternate flow: Nil

Use case Name: Handle complaint

Actors involved: Municipal authority

Description: The complaint is viewed by the municipal authority and the status is updated accordingly.

Preconditions: The municipal authority is logged into his account

Post conditions: The complaint is processed and status changes reflected in database.

Normal flow of events:

1. The municipal authority views the complaint.
2. Process the complaint and take necessary actions regarding the complaint.
3. The complaint status is updated and reflected in the database.

Alternate flow:

1. If the complaint is inappropriate the authority can mark it as inappropriate content which will be notified to the administrator for deletion.
-

Use case Name: Post public content

Actors involved: Citizen, NGO

Description: The citizen or NGO can post some public content like latest news, notifications of public importance.

Preconditions: The citizen or NGO is logged into his account

Post conditions: The public content is posted into the public group

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Normal flow of events:

1. The citizen/NGO clicks on a public group related to his ward
2. The Public Group's home page along with previous contents are displayed
3. The citizen/NGO posts new content to the group
4. The content is updated to the database

Alternate flow: Nil

Use case name: Create Public group

Actors involved: Citizen/NGO

Description: The citizen or NGO can create public groups for creating awareness to the public

Preconditions: The citizen or NGO is logged into his account

Post conditions: New public group is created

Normal flow of events:

1. The citizen or NGO clicks on create Public Group tab
2. The public group form is displayed
3. He enters all the necessary details in the form
4. The public group is created and updated in the database

Alternate flow: Nil

Use case name: Issue Memo

Actors involved: Administrator

Description: The administrator issues memo to the municipal authority

Preconditions: The no of negative remarks for the authority ≥ 5

Post conditions: A Memo is sent to the respective municipal authority

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Normal flow of events:

1. The administrator clicks on the view negative feedback tabs
2. He selects a feedback from the list to view the details
3. He checks the no of negative remarks for the respective authority
4. If no of negative remarks ≥ 5 then issue memo to the authority
5. Memo sent to the authority and updated in database

Alternate flow:

4. If no of negative remarks < 5 then discard the feedback

Use case name: Create Authority accounts

Actors involved: Administrator

Description: The administrator creates authority user accounts

Preconditions: The administrator is logged in to the system

Post conditions: Municipal authority user accounts are created

Normal flow of events:

1. The administrator clicks on create authority accounts tab
2. The administrator fills in the create authority account
3. Authentication of username availability
4. Verification of all mandatory fields and invalid fields
5. Municipal authority account is created and reflected in the database

Alternate flow:

3. If authentication of username fails then display, "username already exists".
4. If verification of mandatory fields or invalid fields fails then display errors

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3.2 Supplementary Requirement

- The system must operate 24 x 7 - Because system is semi-automated Process, it can stay operational for 24 x 7. Hence UPS support must be provided to the server site with a power backup time of at-least 8 hours in case of power failure.
- Secure Access of Confidential Data – Since the system primarily deals with complaints and sensitive citizen information, security is a critical requirement. All the communication between the server and the client will be encryption. SSL (Secure Socket Layers) technology is used for secure communication.
- Better component design to get better performance at peak time – The functionalities are designed using EJB (Enterprise Java Beans) technology which provides better performance even at peak time. EJB is a distributed model; hence it is feasible to scale the system across multiple physical systems for better performance.
- Flexible service based architecture will be highly desirable for future extension – The product is designed as a service based architecture that will be scalable in the future to handle increasing loads.

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