

## **CHAPTER I**

### **BACKGROUND OF THE PROBLEM**

#### **Introduction**

*iSumbong* provides an online way of solving the problems faced by the residents of Poblacion Guipos by saving time and eliminating face-to-face interaction. The objective of the *iSumbong* is to make complaints easier to coordinate, monitor, track, and resolve, and to provide the Municipality officials with an effective tool to identify and target problem areas, monitor complaints handling performance, and gives residents good satisfaction. *iSumbong* is a system created for assessing, analyzing, and responding to customer complaints. Complaints management software is used to record resolve and respond to customer complaints, and requests as well as facilitate any other feedback.

Filing the complaint by visiting the municipal office is an effective way to solve faced conflicts or problems of the residents. The Municipal Officials are responsible for handling the complaint and making sure that complaint met its legal standards.

The proposed *iSumbong* system will enable the residents of Poblacion Guipos to file a complaint without delay. Also, the system will help Municipal Officials to review and respond to residents' complaints anytime.

#### **Project Context**

The Municipality of Poblacion Guipos had almost 25,000 population (Google, 2020). Guipos Municipal Hall often received complaint reports from the residents every day with different types of conflicts. Residents are required to go to Municipal Office for processing or further information on procedures used by Guipos Officials to address complaints and resolve disputes. Complainants with a long absence of a response from Municipal Hall will bring a more tedious task to the Officials because they need to find his/her complaint file from the bulky storage of papers alongside other residents' complaints.

The proposed system automates the process and lessens the time of Municipal Officials by managing complaints. Additionally, residents are able to file complaints through a form of a Web app hosted online. The Municipal Officials can view/manage

complaints anywhere, anytime without the need of dealing face-to-face to residents. Correspondingly, residents of Guipos can file a complaint with ease since it's no longer required to physically go to Municipal Hall and wait for hours to be entertained.

By implementing the *iSumbong*, the Municipal Officials tasked with dealing with complaints will reduce their workloads in collecting complaint files. Through this system, complaints will be easy to manage compared to manual filing since it can be done electronically. Reducing the stress of searching files to bulky storage of complaints papers.

### **Purpose and Description**

The project is created to help both residents and Municipal Officials of Pob. Guipos provides direct access to files and receives complaints online. The purpose of this project is to eliminate the manual situation of filing and receiving complaints. It provides the complainant an easy way in filing and submitting of complaints from the Police office, VAWC, RSW, MSW, etc., as well as the admin for managing the complaints generated by the user. The proposed system is not just for large screens such as desktops and laptops but it can be used also using a smartphone.

### **The objective of the Study**

General Objective:

The researcher aims to develop an *iSumbong* to help residents of Guipos file a complaint without the need to visit the Municipal Office, by providing automation of submitting the complaint online and providing less paperwork for the Municipal Official.

Specific Objective:

The researcher aims to:

1. Design a system that is user-friendly and accessible to its users.
2. Develop an *iSumbong* Web app that automates the filing of complaints.
3. Implement a web-based system that provides anonymous reports for its users to secure and protect their identity.

## Scope and Limitation

This web-based system is capable of filing/sending and receiving complaints from residents. It focuses on providing anonymous complaints submitted by the residents.

*iSumbong* is intended only for the residents and municipal officials of Brgy. Poblacion, the system cannot locate the exact location of the complainant.

## Definition of Terms

***iSumbong***. A web-based system that automates the filing of complaints directly to Municipal Officials.

***Unregistered User***. The first-time visitor of the page and not registered yet to the system. It can only view the homepage of the system.

***Registered User***. The term is used for a user who is registered and logged in to the system. It can access some features of the system such as the user dashboard, file complaint, profile settings, and complaint logs.

***Administrator***. The term is used for a type of user that has the features of managing complaints (accepting/rejecting a type of complaint), setting complaint categories, and managing user logs.

***On-processed***. The term used for every complaint being submitted to the admin.

***Closed/Solved***. The term is used for every complaint that is taken action and completed by the officials.

***Rejected***. The term is used for every complaint that is not met any requirements to the admin (e.g. users who file a complaint that is addressed outside of Guipos, etc.).

## CHAPTER II

### REVIEW OF RELATED LITERATURE

#### **Related Studies**

##### **Foreign**

###### *Complaint Management System*

The study entitled Complaint Management System, is a system that provides quality customer service. The Debre Berhan University Debre Berhan, Ethiopia compared the complaint management practices of companies in the United States and Germany. It helps to measure customer satisfaction and is a useful source of information and feedback for improving services. Often customers are the first to identify when things are not working properly (Shiferaw, 2017).

###### *Online Complaint Management System*

The study entitled Online Complaint Management System is a system that provides an online way of solving the problems faced by the public by saving time and eradicating corruption. The objective of the complaints management system is to make complaints easier to coordinate, monitor, track, and resolve, and to provide a company with an effective tool to identify and target problem areas, monitor complaints handling performance and make business improvements (Nasr & Ali, 2015).

###### *Complaint & Claim Handling: An important tool of Customer Relationship Management to have Satisfied Customers.*

The study entitled Complaint & Claim Handling: An important tool of Customer Relationship Management, to Have Satisfied Customers is for customer complaint service that has the responsibility to take care of customers, listen to customers' opinions, and receive customers complaints (Chaurasiya & Baxi, 2018).

##### **Local**

###### *The Implementation of the Barangay Justice System as a Community-Based Dispute Settlement Mechanism in Barangay Mansilingan in Bacolod City: A Policy Review.*

According to Philippine Legal Research (2021) that the Katarungang Pambarangay or Barangay Justice System is a community-based dispute settlement

mechanism that is administered by the basic political unit of the country, the barangay. As a community-based mechanism for dispute resolution, it covers disputes between members of the same community (generally, the same city/municipality) and involves the Punong Barangay and other members of the communities (the Lupon members) as intermediaries (mediators, conciliators, and, sometimes, arbitrators).

#### *Crime Intelligence System*

A study by Ledesma et al., (2013), entitled Crime Intelligence System is a systematic study on police monitoring to promote better police governance. The test bed for this study is for the Philippine National Police (San Juan Police Station). This systematic study intends to break new ground in an attempt to assist the Philippine National Police to improve their services through the use of technology.

#### *Barangay Management System*

A study by Carpio et. al., (2017), entitled Barangay Management System is about Barangay Management System or e - barangay that is a web-based management system which shall reinvent barangay management from a traditional and centrally dependent unit towards a more inclusive and citizens-oriented scheme. It essentially aims to streamline existing administrative processes in terms of requesting documents, filing complaints, and generating apt and accurate local statistics.

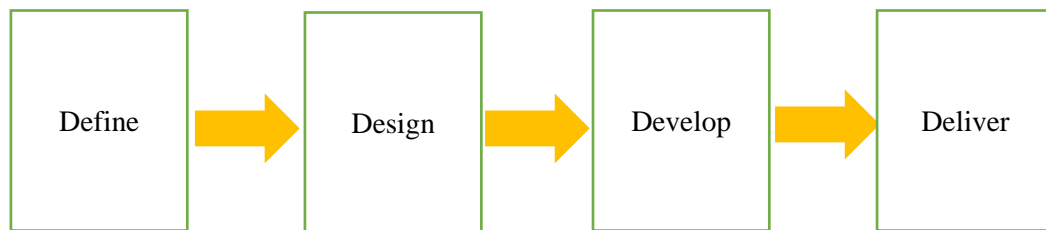
With all the ideas mentioned above, the proponent has come up with the idea of developing a website that helps the residents of Poblacion, Guipos in filing a complaint online as well as the Municipal officials of Guipos to handle complaints with ease.

## CHAPTER III

### DESIGN AND METHODOLOGY

#### Requirement Analysis

The method used by the proponent in developing the proposed study is the 4D Model. It has four effective phases with increasing complexity: define, design, develop and deliver.

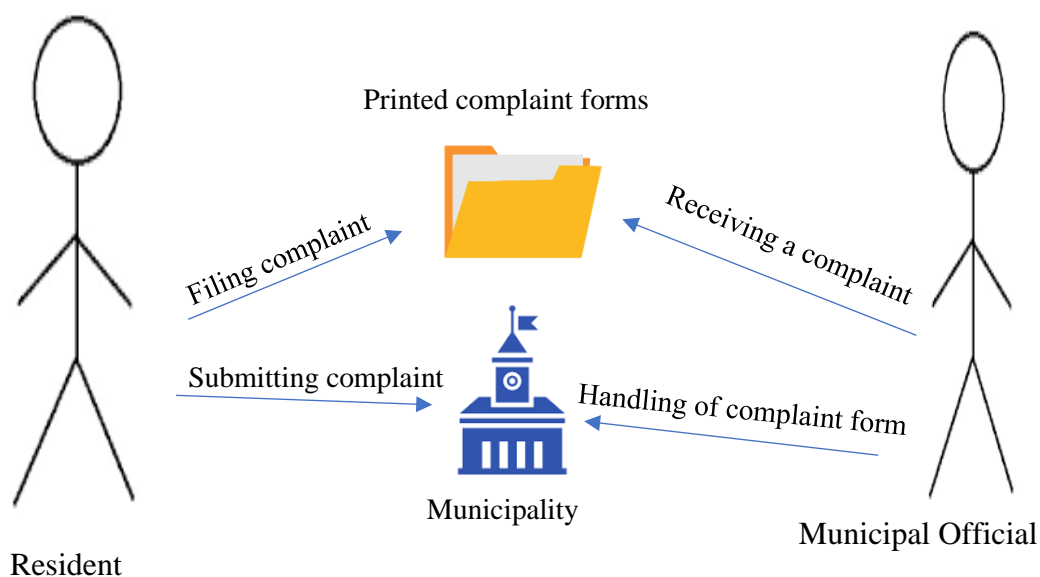


**Figure 1 – 4D Model**

#### Define Phase

The define phase has considered the most important phase because it is the blueprint of the system which the proponent has used. The proponent has collected data to identify and determine the cause and plan on what will be the solution to that problem.

The proponent sent a letter of permission to the Municipal Officials of Pob. Guipos to conduct an interview about their current complaint system. During data gathering, the proponent performed the interview with Mr. Marciano C. Belotendos Jr., the Official who are tasked with handling the complaint and found some complicated problems because they have used manual methods in handling the complaint from residents, and storing all the previous complaints from them will be more tedious work since it will be hard to locate the specific folder from the bulky cabinets



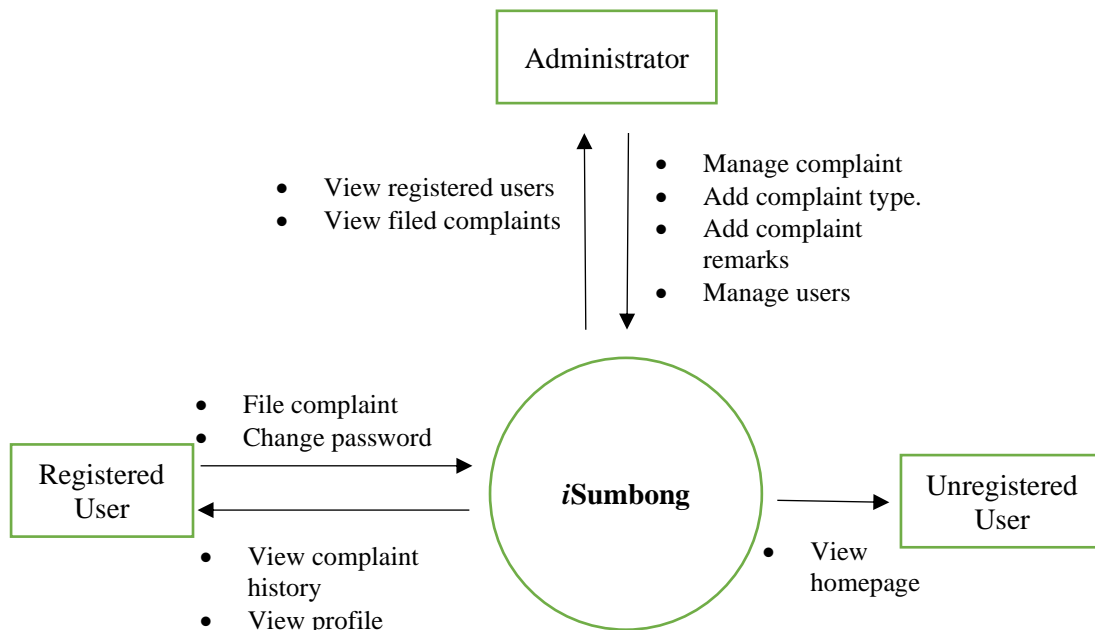
**Figure 2 – Current Technical Situation**

The figure above indicates how tedious the process of filing/submitting a complaint. In filing complaints, residents must fill up a form manually which can cost time and energy that must be submitted to the municipal hall for processing. The municipal officials will receive the complaint forms from the residents, but managing it is still complicated due to the bulky papers stored in cabinets from the previous complaints of the residents.

The proposed website allows the residents and municipal officials of Guipos to eliminate paper works. It has features like filing and managing complaints and can be used through mobile devices or desktop computers.

### **Design Phase**

The design phase is where the proponent plans the ideal design of the system that is user-friendly so it can be easy to use and comprehend. The proponent makes sure that the UI of the system is uniquely designed and that all features are fully functional.



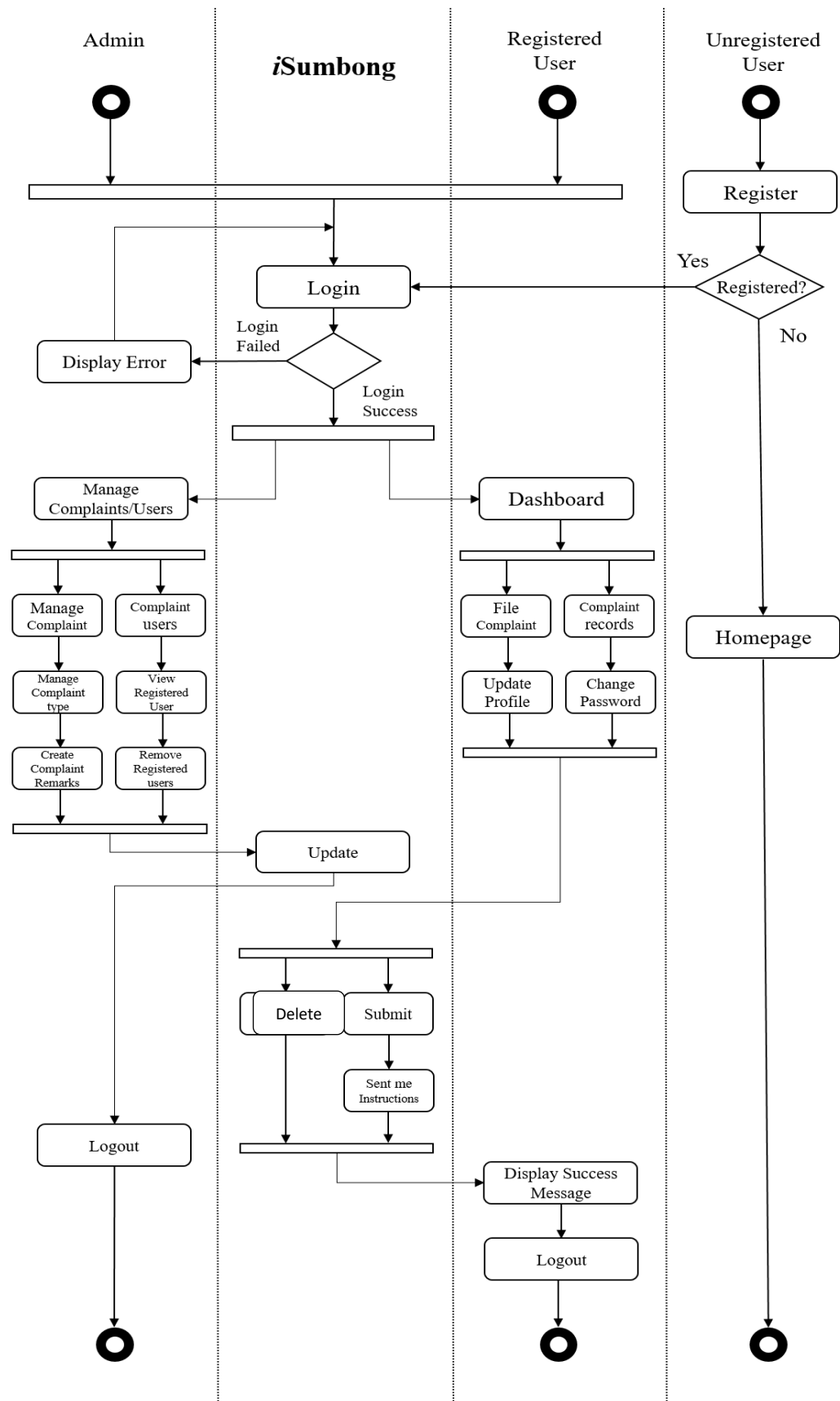
**Figure 3 – Context Diagram**

The Admin manages the registered users' (the ones who registered to the system) complaints to the system. Admin manages the type of complaint of Municipal such as creating complaint type for the users to select when filing a complaint. When users submit the complaint, the admin will accept/reject the complaint and add a remark.

The Registered User (the one who registered to the system) can interact with their dashboard wherein they can file a complaint, view their complaint history, and change their password.

The Unregistered User (probably visitors who don't want to register) can only view the homepage of the system.





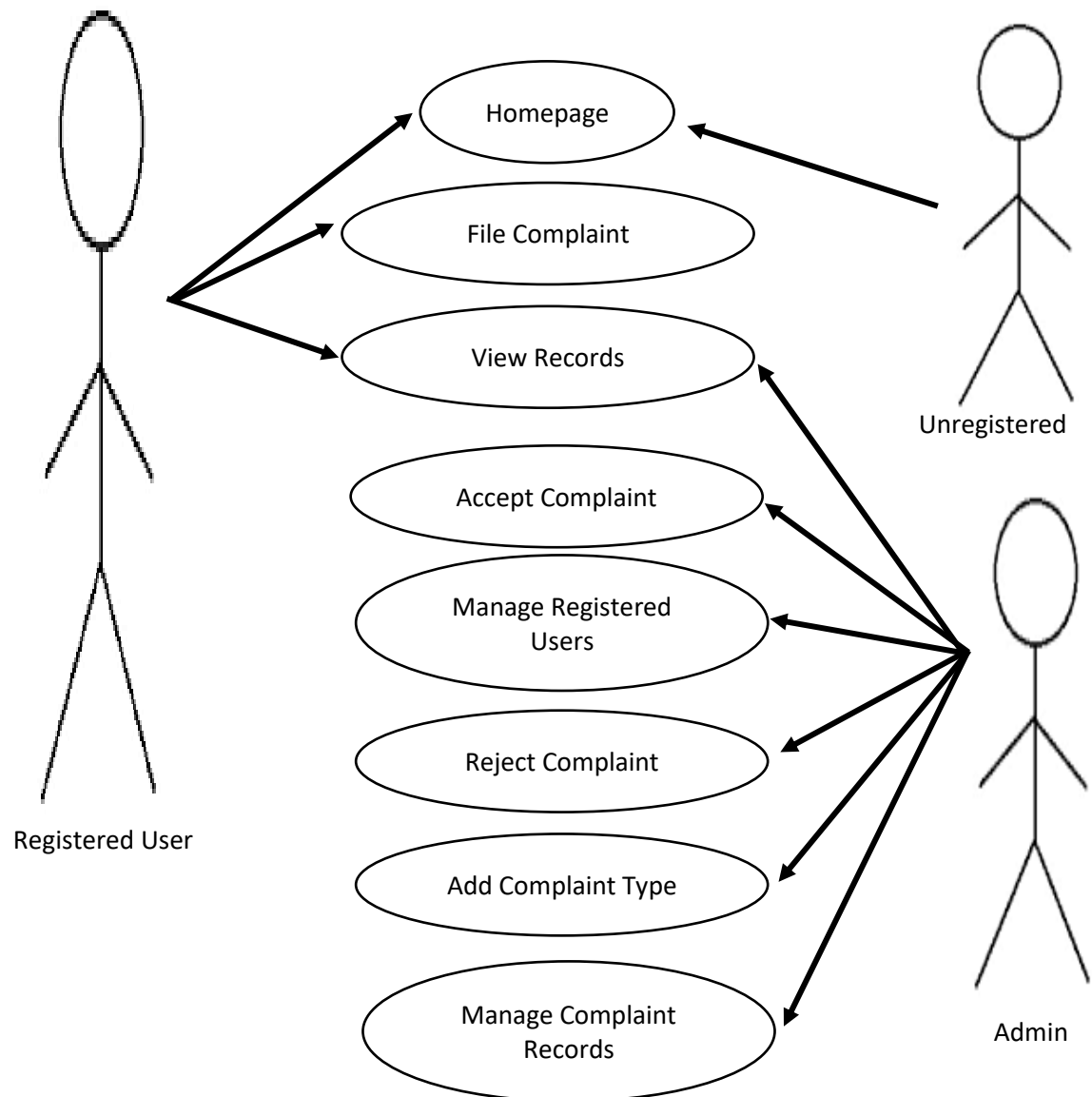
**Figure 4 – Activity Diagram**

Figure 4 shows the activity diagram of the system. The registered users and admin can log in to the system and the login page will be displayed.

The unregistered users can only view the homepage and the displayed complaint services of Poblacion Guipos and its overall complaint progress.

Once logged in, the registered user will directly navigate to the user's dashboard where they can now file the complaint, submit it, display a success message, and view complaint history to track the progress of the complaint, view/edit their profile and change the password, and logout.

The admin will directly navigate to the admin page which has also an admin dashboard wherein they can manipulate the data from the users. The admin is also capable of updating the complaints from users, creating new complaint types and adding remarks to the submitted complaints, view the registered user, remove registered users, and logout.



**Figure 5 – Use Case Diagram**

Figure 5 shows the users of the proposed system that can interact with their corresponding functions or features they can only access. The unregistered user can only access the homepage of the system where they can view the overview of the complaint system of Poblacion Guipos. The registered user has a dashboard where they can now see their profile, file a complaint, and view their complaint history. The admin of the system will accept and reject the complaint. It has a separate dashboard where the admin can manage all data functions of the system.

Name	File Complaint
Description	The system will allow users to file a complaint to the Municipality.
Actor	Residents
Preconditions	To file a complaint, users have to register with the system first by providing the needed information.
Postconditions	The Residents file their complaints.
Main Course	<ol style="list-style-type: none"> <li>1. Fill In the registration form</li> <li>2. Registration complete</li> <li>3. Login</li> <li>4. File Complaint</li> </ol>
Alternate Courses	AC 1: Users incomplete of filing complaint. <ul style="list-style-type: none"> <li>• Incomplete fields when filing complaint.</li> <li>• Return to Main Course Step 4.</li> </ul>

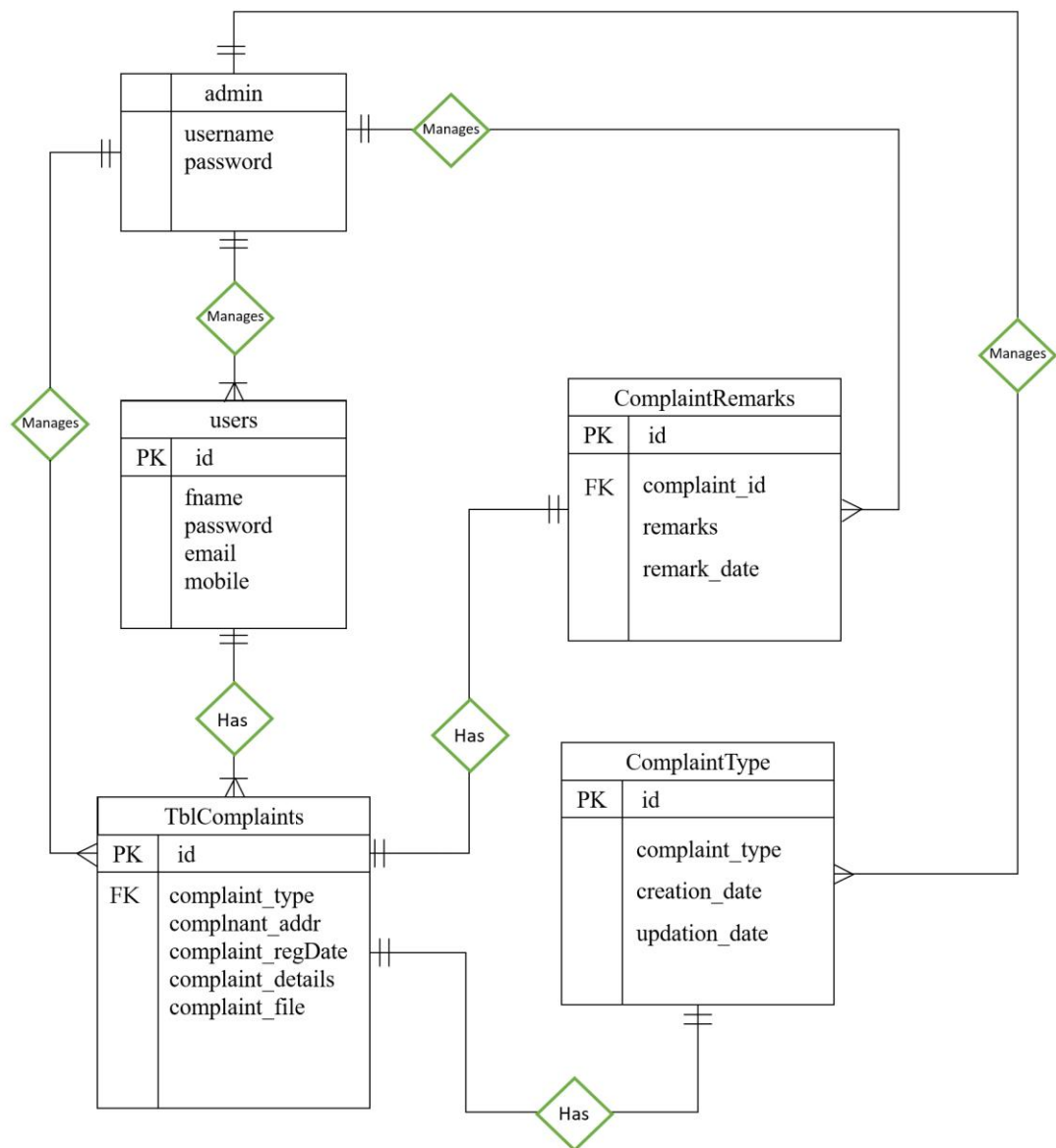
**Table 1 – Use Case Description (File complaint)**

Name	Manage Complaint
Description	The admin will view all submitted complaints from the users.
Actor	Admin
Preconditions	Admin must log in first to manage the user's complaint.
Postconditions	Admin check all complaints.
Main Course	<ol style="list-style-type: none"> <li>1. Log in to the system.</li> <li>2. Change the status of complaints.</li> <li>3. Put a remark every time a change in the status of the complaint.</li> </ol>
Alternate Courses	AC 1: Admin login is not correct. <ul style="list-style-type: none"> <li>• Invalid username or password.</li> <li>• Return to Main Course Step 1.</li> </ul>

**Table 2 – Use Case Description (Manage Complaint)**

Name	Manage User
Description	The admin will manage registered users in the system.
Actor	Admin
Preconditions	The admin will manage all registered users in the system.
Postconditions	Admin check all registered users in the system.
Main Course	<ol style="list-style-type: none"> <li>1. The admin will view all registered users.</li> <li>2. The admin will remove the users from the system</li> </ol>
Alternate Courses	AC 1: Admin unsuccessfully removes users. <ul style="list-style-type: none"> <li>• 404 message.</li> <li>• Return to Main Course Step 2.</li> </ul>

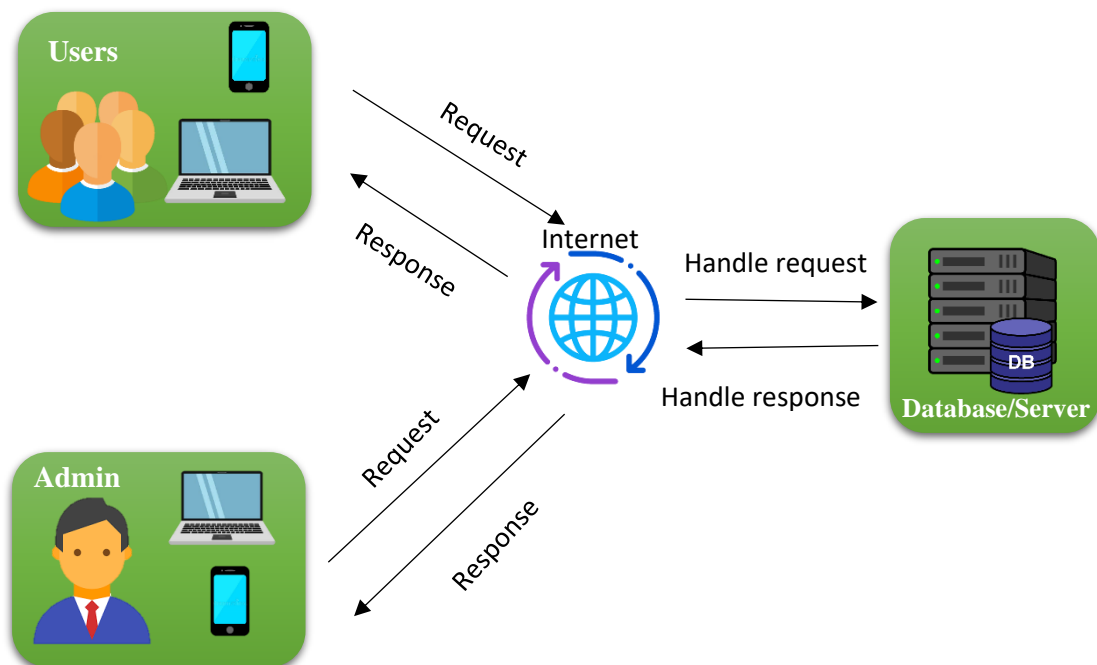
**Table 3 – Use Case Description (Manage User)**



**Figure 6 – Entity-relationship Diagram**

The “isumbong” database contains entities: *admin*, *users*, *TblComplaints*, *ComplaintType*, and *ComplaintRemarks*. The *admin* entity has a one-to-many relationship with the *users* entity because only one admin can manage the multiple users to the system. The *users* has one-to-many relationship with *TblComplaints* entity because the *users* can file a complaint more than one or optional. The *admin* has one-to-many relationship with the *TblComplaints* entity because the admin will manage the

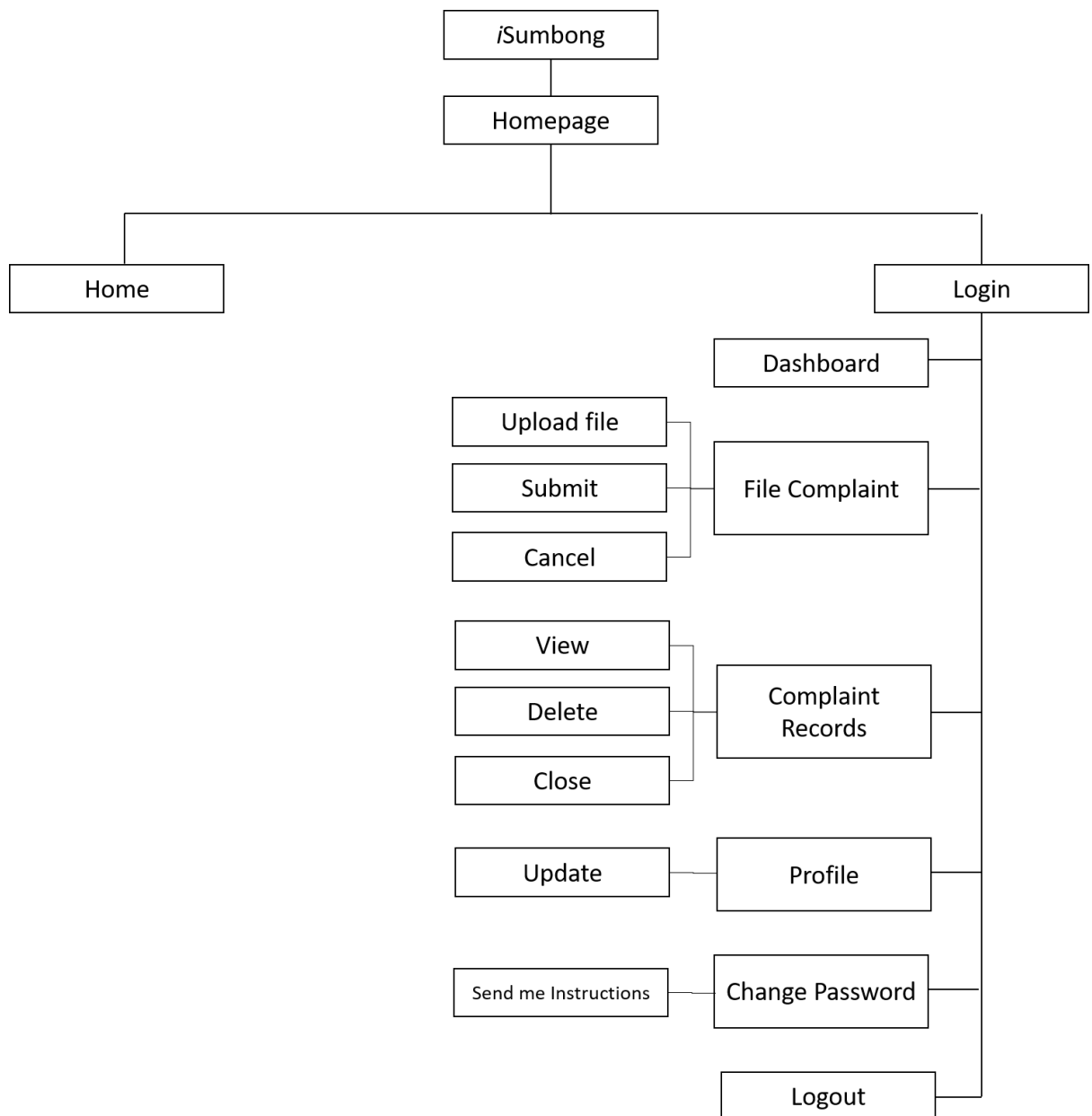
numerous complaints from the users. The *TblComplaints* has one-to-one relationship with *ComplaintRemarks* entity because every complaint generated from users will be added a remark by admin when taken action. The *admin* has one-to-many relationship with the *ComplaintRemarks* entity because the *admin* manages the remarks when returning the submitted complaints from the *users*. The *Admin* entity has one-to-many relationship with the *ComplaintType* entity because admin will create types of complaints for the users to choose when filing the complaint. the *TbleComplaints* entity has one-to-one relationship with the *ComplaintType* entity because every single complaint only focus on one type of complaint.



**Figure 7 – System Architecture Diagram**

The diagram above shows the outline and flow of the implementation of the system. Both Admin and User can send requests from the internet by using the UI of the Webapp and then, sent a request to the web server/database and sent back a response to the Admin and the User.

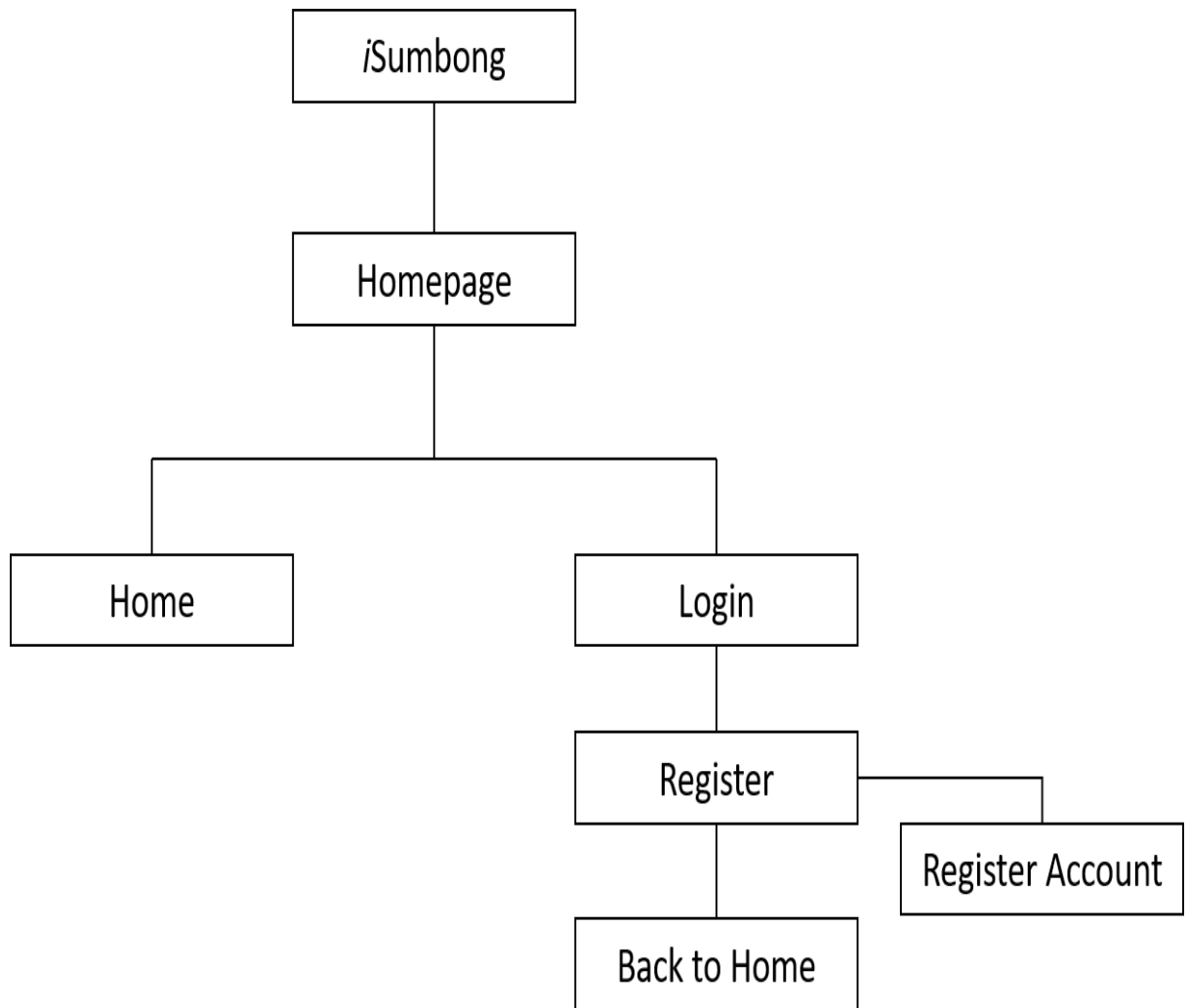
## Develop Phase



**Figure 8 – Structured Diagram (Registered Users)**

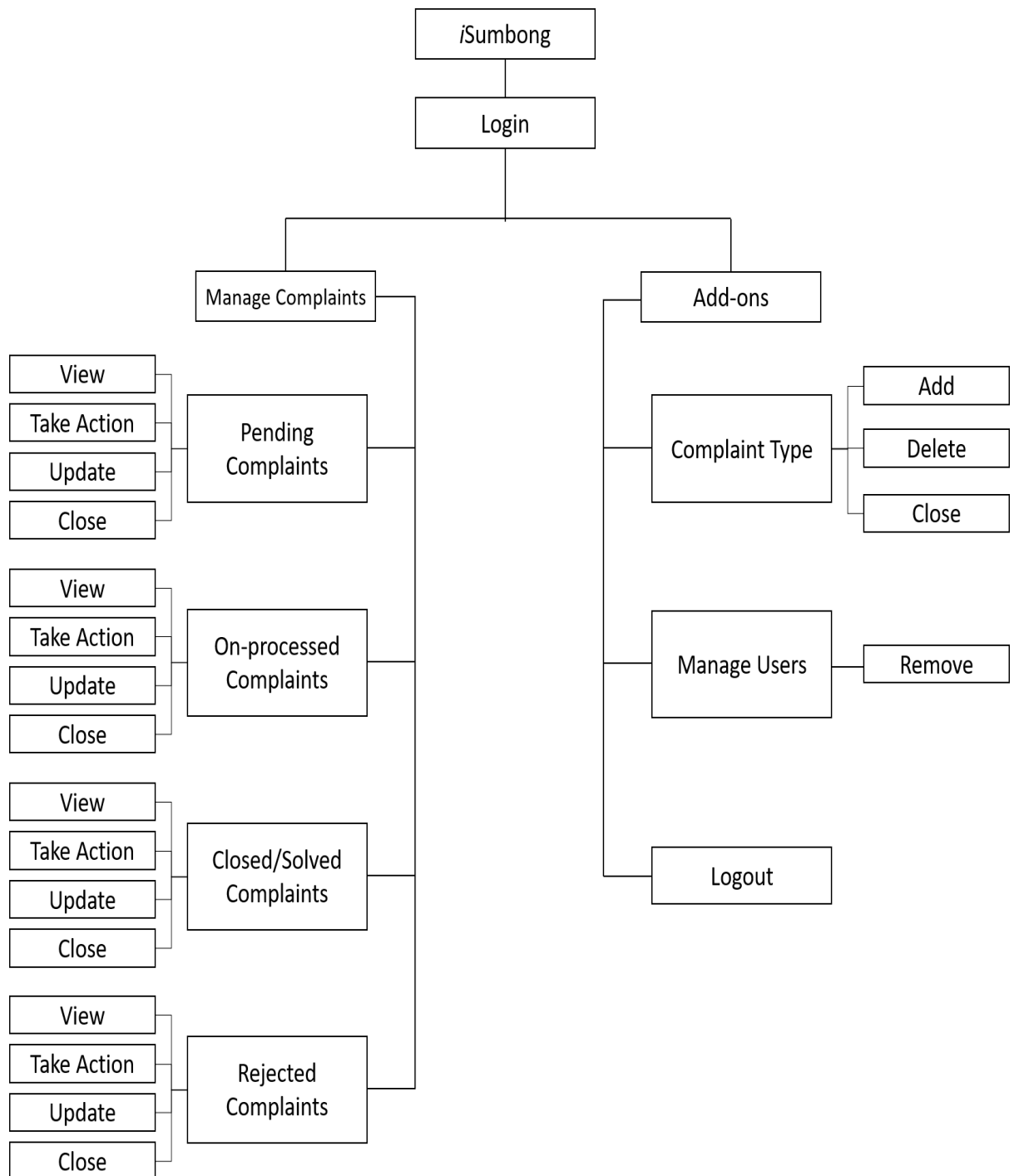
Figure 8 above shows the structure of the system where you can see all the featured functions of the verified users. It can pinpoint the process of each button that is assigned its corresponding functions.





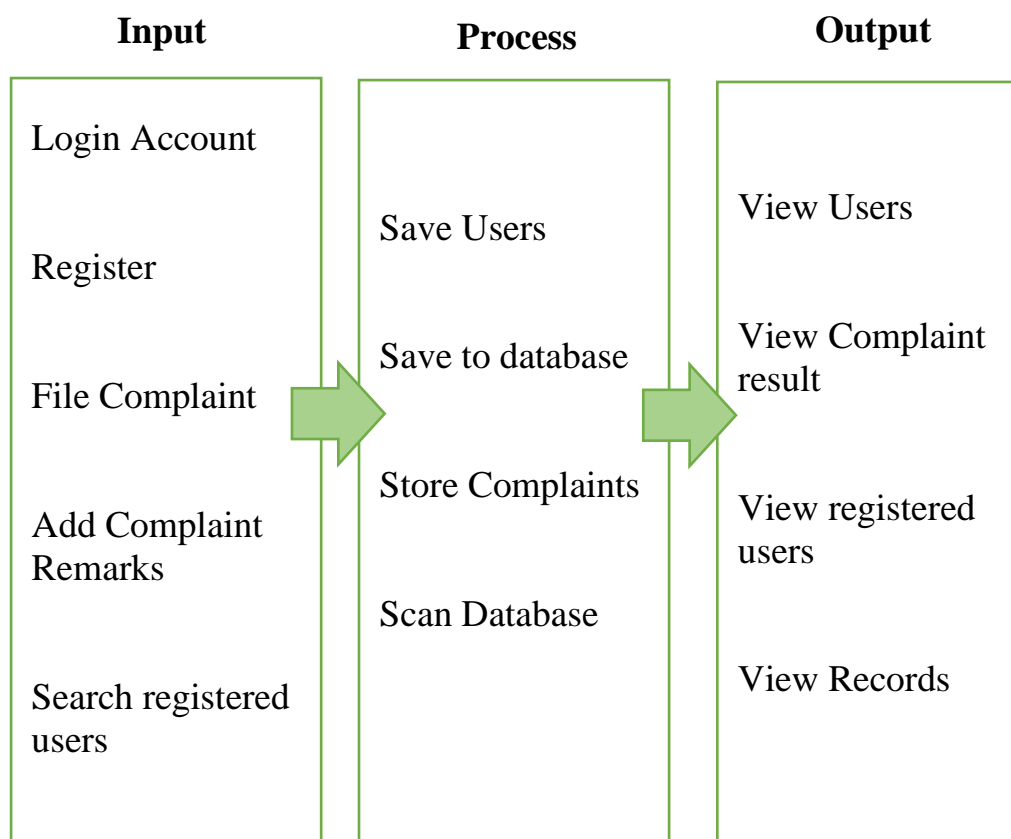
**Figure 9 – Structured Diagram (Unregistered Users)**

The structure above shows the activity of the system where you can see all the functions. The unregistered users can only view the homepage, but cannot directly go to the user's dashboard unless they will registered.



**Figure 10 – Structured Diagram (Admin)**

Figure 10 shown above represents the structure of the system for the admin and its functions where the admin can manipulate the complaints submitted to users and create complaint types for which the users will select when filing a complaint, and add complaint remarks when taking action.



**Figure 11 – Conceptual Framework**

The users must first log in to the system. The unregistered users will first register to the system before logging in. The registered users can file a complaint and submit it for processing, then the admin will receive the complaint to take action and return it to the registered users with remarks. The admin can search numerous registered users and complaints. The system's data generated from users will be stored in the database and can also be retrieved. The system will be able to display the complaint result and the registered users.

## CHAPTER IV

### DEVELOPMENT, TESTING AND IMPLEMENTATION

#### Description and Prototype

The prototype of the system has done a step-by-step procedure to meet the qualifications of the functionality of the system. The purpose of this chapter is to create a schedule plan so that the proposed system meets the specification and quality to provide better service to the residents of Pob. Guipos. The schedule of the activities is illustrated in Table 1.

Month	July				August				September				October				November				December				January			
Week	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Activities																												
<b>Define</b>																												
Planning																												
Data Gathering																												
Req. Analysis																												
<b>Design</b>																												
GUI																												
<b>Develop</b>																												
Coding																												
Testing																												
<b>Deploy</b>																												
Implementation																												

**Table 4 - Gantt Chart**

The Gantt chart above represents the flow of time in every activity for this proposed system. The planning was done in August. Data gathering and requirement analysis were started in the last week of August and ended in the second week of September to provide all necessary data in order to complete the system. The proponent conducted an interview with the Municipal Officials who were assigned the task of handling the complaint in order to identify the problems and difficulties based on their current encounters to come up with a solution. The designing of the GUI was conducted in the third month of July. The coding was scheduled together with Planning and designing the GUI in 1<sup>st</sup> week of August. Implementation was followed.

## Technical Background

An efficient complaint management system does more than just assist in handling negative customer feedback. A contemporary system also offers sufficient documentation for the investigative process and helps organizations to link complaints to corrective measures, and supplier quality, and provides the option to re-assess risk. It's important to handle complaints quickly and effectively. Complaints can quickly pile up and be an unnecessary burden that wastes time and resources.

The web application is a cost-effective communication medium used by millions of organizations. They can communicate with their target market and conduct quick, secure transactions thanks to it. Server-side scripts are combined with web applications to manage data storage and retrieval.

Alongside with web application, a complaint management system will now help people across the web, and phone to help receive and respond to feedback, and report dissatisfaction with the organization online.

## Development

The proponent used the 4D model for the development of the system which is suitable for creating the iSumbong system. In the development phase, the proponent measured the flexibility and functionality of the system to ensure that it will be useful to the residents of Pob Guipos and Municipal Officials in handling the complaints. After the development of the system, a set of testing was conducted to make sure its functionality met the requirements and will operate to the best of its capability.

The following are the modules created in order to achieve the functionality of the proposed system:

### Module to Complaint Type

The code below is managed by the admin of what type of complaint will enable the users (Residents) to select a complaint type when filing a complaint. The function *complaint\_type* will let the system store the complaint-type data created by the admin, returning a render method to display the output to the *complaint-type.html*.

```
def complaint_type(request):
    type_complaint = ComplaintType.objects.all().order_by('id')
    return render(request,
        'officials/complaint-type.html',
        {'complaints': type_complaint })
```

## Module to Complaint Action

The code below will enable the admin to decide which received complaint taken action. The actions contain dictionary key-value pair that will be the output whenever the admin wants to change the status of a complaint.

```
actions = [
    {'type': 'Pending'},
    {'type': 'Processed'},
    {'type': 'Closed'},
    {'type': 'Reject'},
]
return render(request,
'officials/pending.html', {
    'takeAction': actions
})
```

## Module to view Complaint History

The code below will allow users (residents) to review their submitted complaints, and enable them to change misspelled words/files before checking by the admin. The function *complaint\_history* will let the system display the complaints submitted to the user. Using the *render* method, the output will be displayed in *complaint-history.html*.

```
def complaint_history(request):history =
TbleComplaint.objects.all().order_by('-id')
return render(request,
'residents/complaint-history.html', {
'history' : history})
```

## Program Specifications

### Hardware Specifications

#### Server-side

Hard Drive	- 1 GB Minimum space
Processor	- Intel (R) core (TM) i3 7100U 2.50 GHz
RAM	- 4 GB (DDR2 or up)
Internet Connection	- Mobile data, WiFi or wireless 5mbps.

#### Client Side

Hard Drive	- 1 GB Minimum space
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Processor	- Intel (R) core (TM) i3 7100U 2.50 GHz
RAM	- 4 GB (DDR2 or up)
Internet Connection	- Mobile data, WiFi or wireless 5mbps.

## **Software Specifications**

### **Server Side**

Operating System	- Windows 10
Mobile Version	- Any mobile phone with a browser and Internet
Frontend Tools	- HTML, CSS, JavaScript, Bootstrap, Tailwind
Backend Tool	- Django
Internet Connection	- Mobile data, WiFi, or wireless 5mbps.
Server Control	- Pythonanywhere
Version Control	- Git
RAM	- 1 GB

### **Client Side**

Operating System	- Windows 10 or below
Mobile Version	- Any mobile phone with a browser and Internet
RAM	- 1 GB

## **Programming Environment**

### **Frontend**

In this study, the proponent used HTML for the body of the system, JavaScript for interaction and animations. Also for appearance and designs, the proponent used Bootstrap and plain Cascading Style Sheets (CSS).

### **Backend**

In this study, the proponent used MySQL for storing databases together with MySQL Workbench, it is commonly used in web applications and is the database technology behind many popular content management systems. The proponent also used Django, a Python web development framework for rapid and clean code building as well as giving maximum security protection for making interactive web apps.

## Testing

### Load Testing

The main function of the system is to have an online filing of complaints, the admin can manage the complaints and their types. The user can upload their complaint documents and save them to the system database. During the testing, the admin will add some complaint configurations and save it, the system will load the data in less than a second depending on the internet speed. The data generated by the user are text or files (images/docx) so it takes a few seconds to save or retrieve the information. For the user to delete their previous complaints takes only less than a second but also depends on the internet speed.

### Stress Testing

The researcher conducted stress testing to measure and determine the capability and the requirements of the installation of the iSumbong. The result shows that the system is slowing if users upload more than 500 MB of document files and videos.

### Beta Testing

The researcher conducted beta testing with the Municipal Officials of Poblacion Guipos. The researcher tests the functionality of the system in offline activity. The admin functionalities that were tested are interactive buttons, adding users, and complaints. The responsiveness of the system in mobile devices was also tested. The respondent is satisfied with the design, method, and functionality of the system and asked when the system is deployed online.



Images 1 – Beta Testing



For the resident's module functionality, the beta is also tested offline. The system's performance was tested in real-time usage and gathered users' feedback and applied some modifications based on their suggestions.

The researcher visited the Municipality of Guipos to conduct a beta testing of the system to Mr. Marciano C. Belotendos Jr., RSW, MSW, MSWDO. The researcher discussed detailed features and their uses of the system. The Municipal Official were given enough time to explore the system.

### **Deploy Phase**

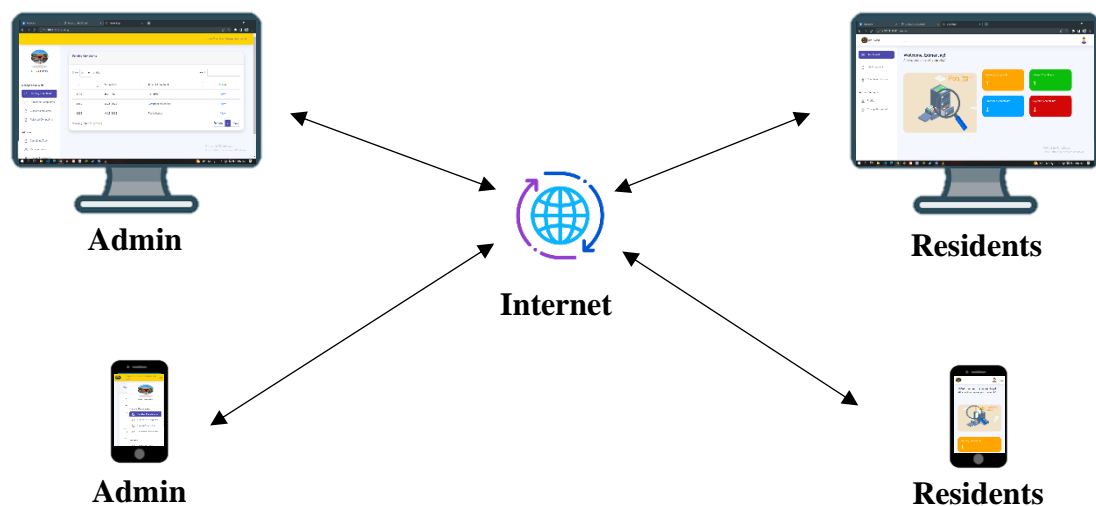
In this phase, the researcher conducts all possible testing on its users to give some insights into capabilities of the system.

<b>Strategy</b>	<b>Activities</b>	<b>Persons Involved</b>	<b>Duration</b>
Testing	Trial to test the system's capabilities and limitation	Municipal Officials	1 day
Approval from the users and panelists	Acceptance of the project	Proponent, Users, Panelists	2 days
Installation	To train the users of the system	Proponent, Users	4 days

**Table 5 – Implementation Plan**

The system shown above represents the semi-final stage of the system where iSumbong will be deployed online. After several processes of testing and debugging, the system has been finally full operational and ready to be deployed and used to the users. The researcher consumed 1 week on the implementation plan. The first one is the testing of the system to Municipal Officials which only take 1 day because most of the features that they want are already in the system. Second, is approval from the users and panelists will decide whether the system is adequate during the defense. The final strategy is the installation of the system which takes 4 days, to ensure the website is fast and secure.

### Deployment Diagram



**Figure 12. Deployment Diagram**

Figure 12 shows the deployment diagram of the system. The users will visit the site via a link provided in order to access the system. The users must be connected to the internet to access the system.

## CHAPTER V

### IMPLEMENTATION RESULT, DISCUSSION, CONCLUSION, RECOMMENDATION

#### Implementation Result and Discussion

This implementation result shows the screenshots of all user interfaces and a sequence of processes within *iSumbong* Web app.

Homepage:

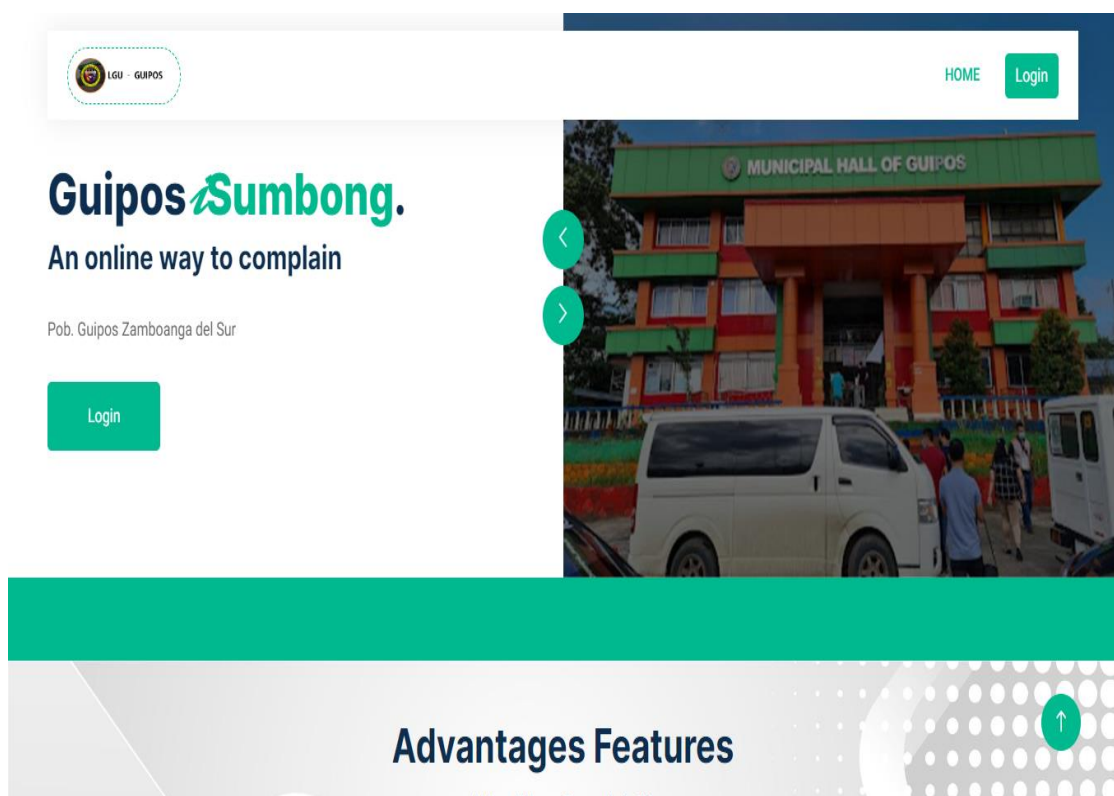


Image 2 – Homepage

Image 2 shows the homepage of the system wherein you can see the home and login buttons.

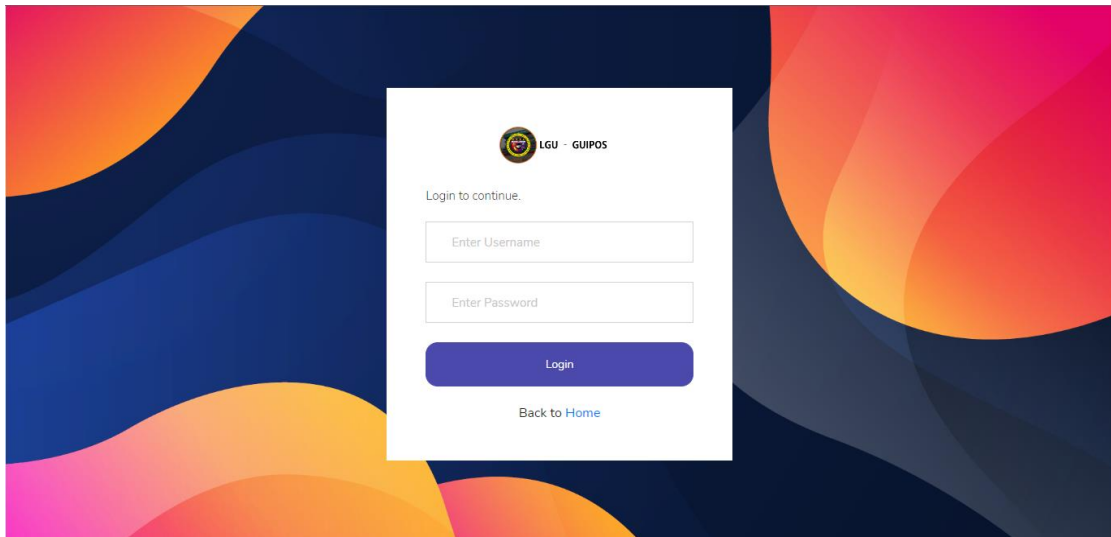


Image 3 – Admin login page

Image 3 shows the login page for the admin to enter a valid username and password.

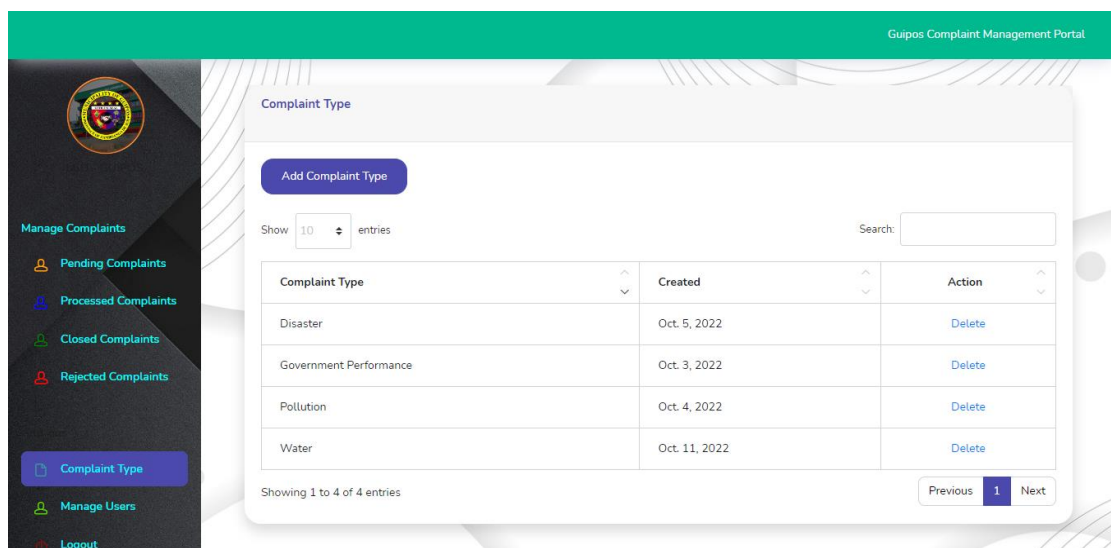


Image 4 – Manage Complaint Types

Image 4 shows the Manage Complaint page. Every complaint type that users selected is created by the admin first. The sidebar serves the navigation page, the Add Complaint Type button enables the admin to create more complaint types. The admin can delete the complaint type anytime.

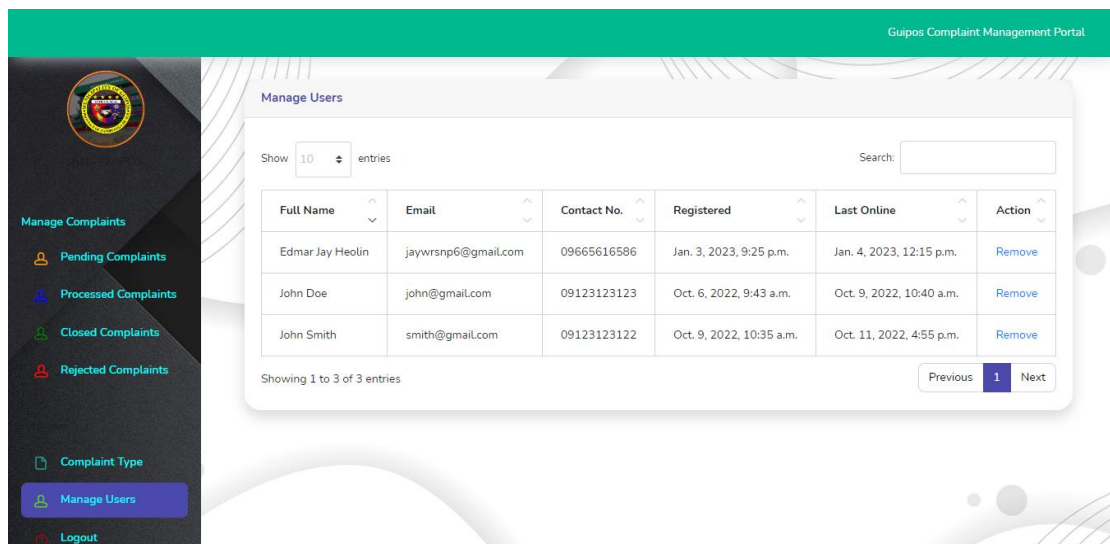


Image 5 – Manage Users

Image 5 shows the Manage Users Page, where the admin will monitor who registered to the system, what date they registered, and their last online date. The admin can remove a user anytime if they violate the procedure. In case of numerous registered users, the admin will use the search function to find a specific user

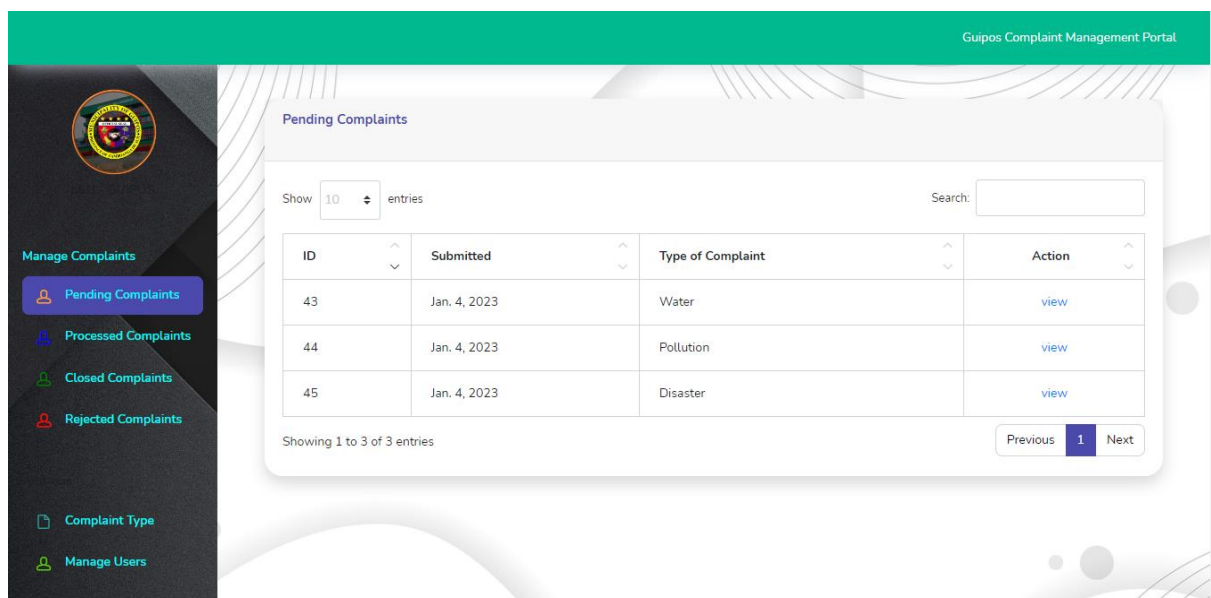


Image 6 – Pending Complaints

Image 8 shows the Pending Complaints page in the admin area. Registered users who submitted complaints will directly go to Pending Complaints which can be managed by the admin for further actions.

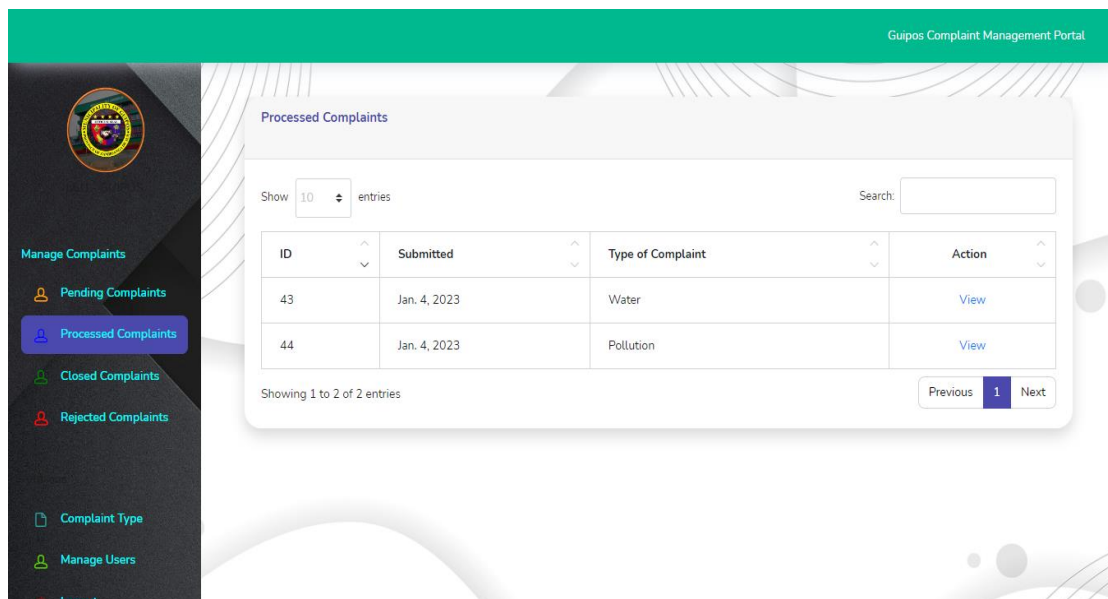


Image 7 – On-process Complaints

Image 9 shows the Processed Complaint page. Every complaint submitted by the registered users will go to on-processed complaints first before proceeding with actions to the municipal officials.

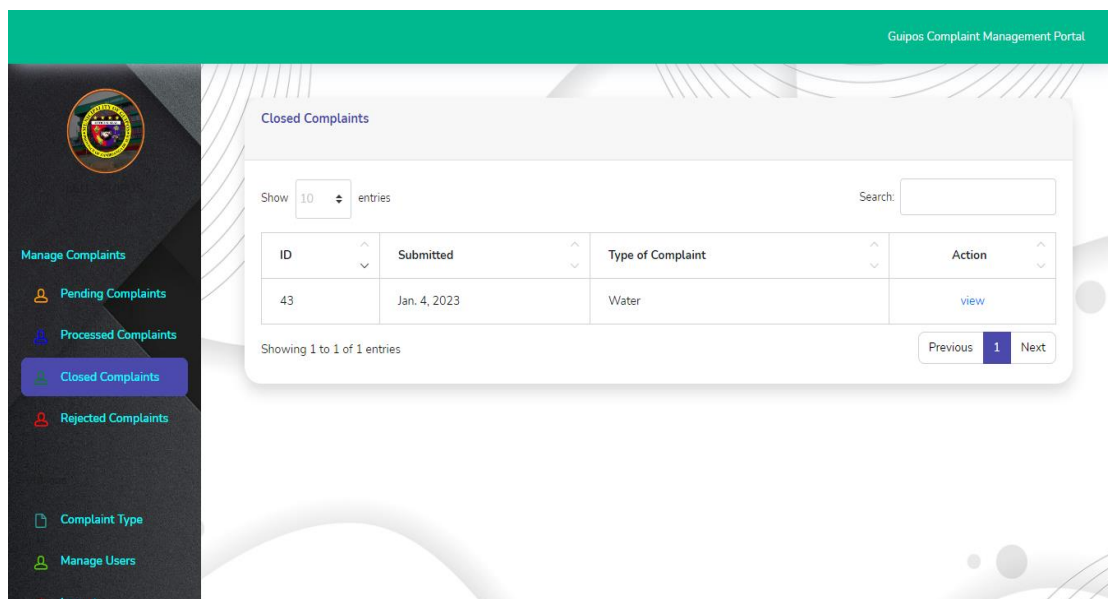


Image 8 – Closed Complaints

Image 10 shows the Closed Complaint page. All the complaints submitted by the registered users who have already taken action will be going to this page by changing the status.

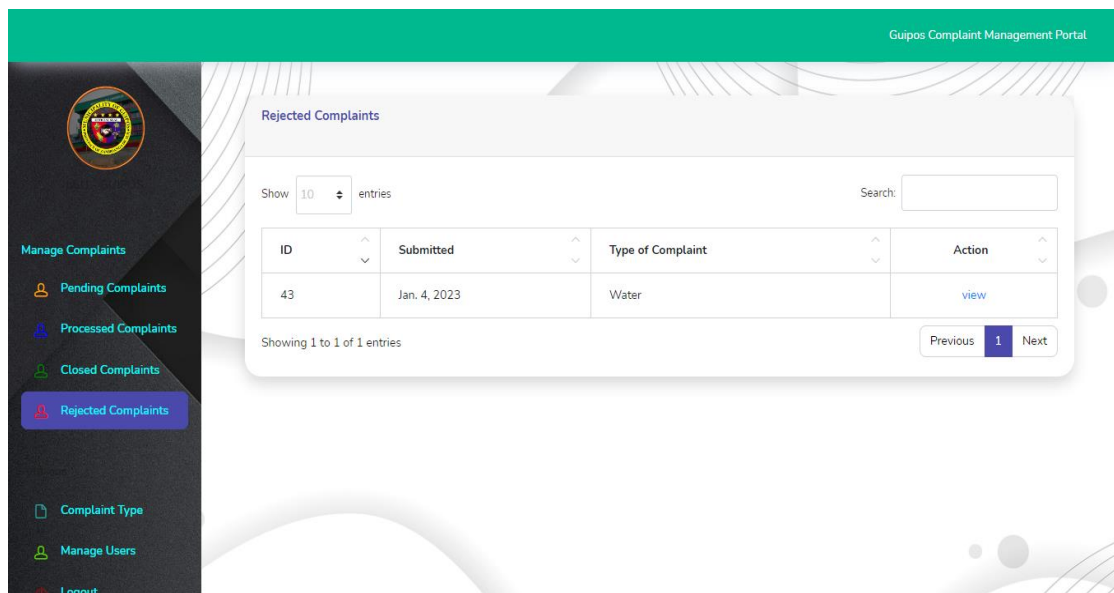


Image 9 - Rejected Complaints

Image 11 shows the Rejected Complaints page, where all complaint that doesn't fit, violates or are misleading reports will be redirected to this page.

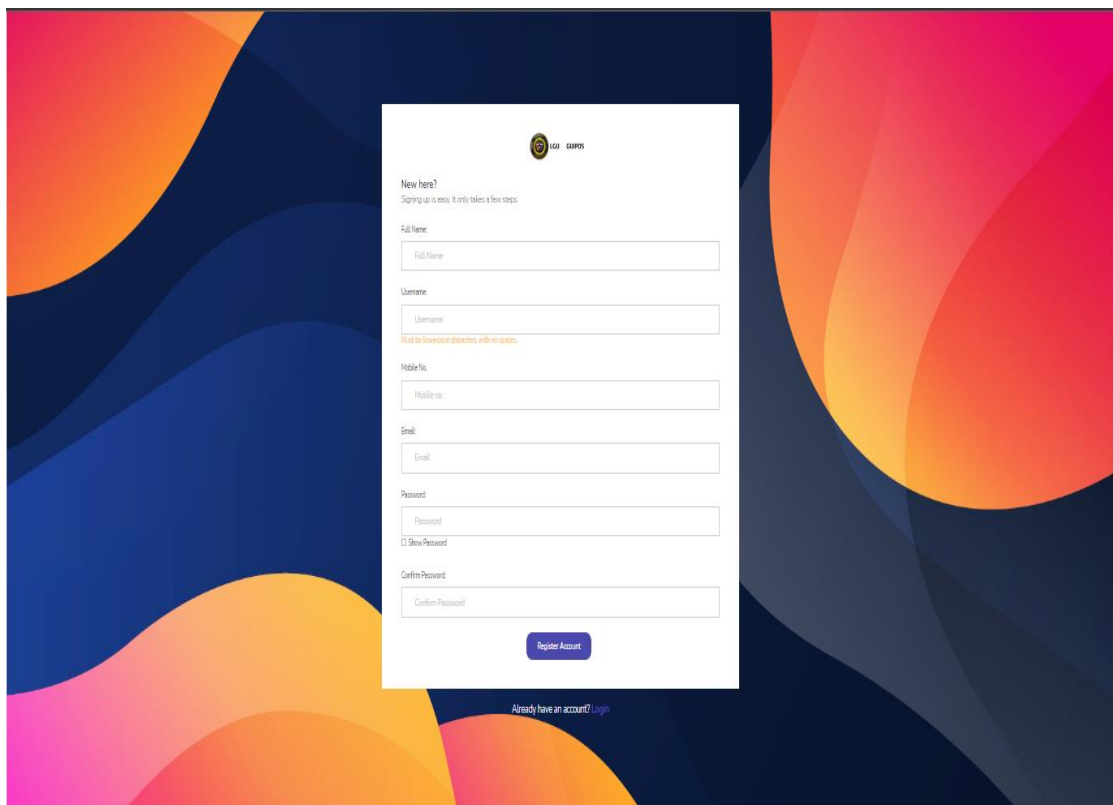


Image 10 – Registration Page

Image 13 shows the Registration Page for the users. Fill the boxes with real email to avoid inconvenience if you forgot your password.

Image 11 – File Complaint page

Image 14 shows the File Complaint page for the users. The users are required to fill all the boxes for a valid and accurate report.

Complaint Number	Complaint Type	Submitted Date	Status	Action
43	Water	Jan. 4, 2023	Rejected	<a href="#">view</a>
44	Pollution	Jan. 4, 2023	On-Process	<a href="#">view</a>
45	Disaster	Jan. 4, 2023	Pending	<a href="#">view</a>

Image 12 – Complaint Records

Image 16 shows the Complaint Records page. Users who submitted their complaints will be displayed here, it will allow them to monitor their complaints if there are any changes.



## **Conclusions**

The researcher concluded that the *iSumbong* was for Municipal officials and residents of Pob. Guipos Zamboanga del Sur will deliver a user-friendly design that will help to file a complaint online and a modern design that will enable the users to quickly interact with the system. The system will also provide easy functionality that can file complaint faster.

## **Recommendations:**

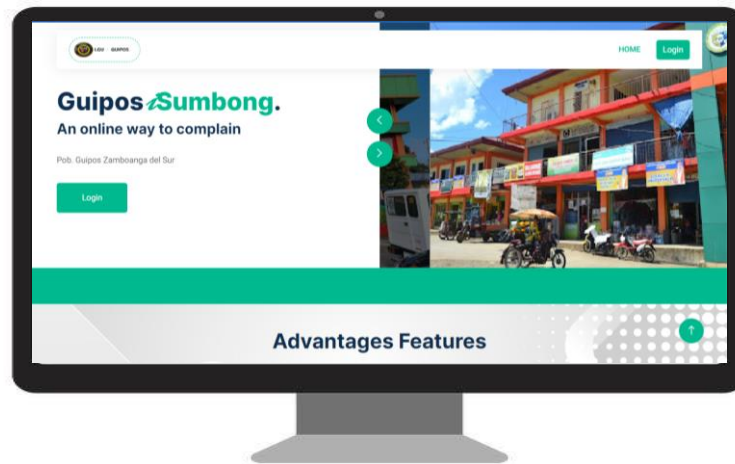
Based on the result of the study, the following recommendations are being mentioned:

- For better service, it is recommended to transform the system into offline mode (Similar to Facebook's free data). Some of the residents are not in an area with strong connections when they needed it.
- To add more communication support, it is recommended to add a chat box for the user side where they can ask further questions about how their complaint is proceeding.
- For further efficiency, it is recommended to add a feature for satisfaction ratings based on solved complaints done in 1 day.
- For future researchers, *iSumbong* needs more updates and automation that will allow the printing of the report.
- To make it more interactive, it is recommended to add a push notification feature to notify users about their complaint progress.

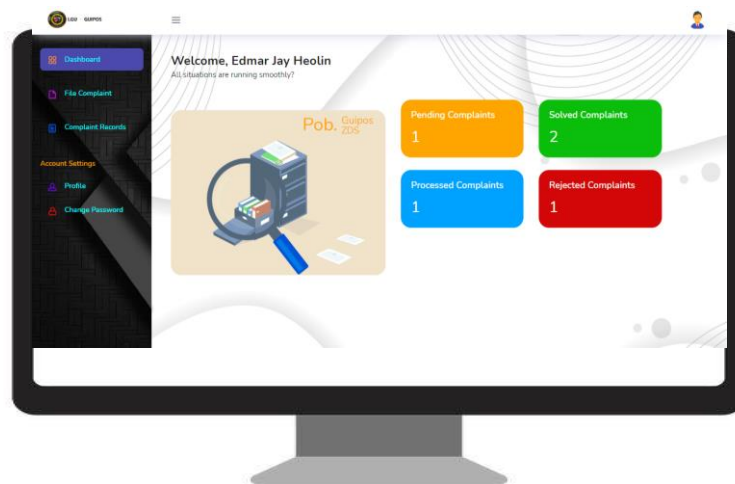
## APPENDICES

### APPENDIX A

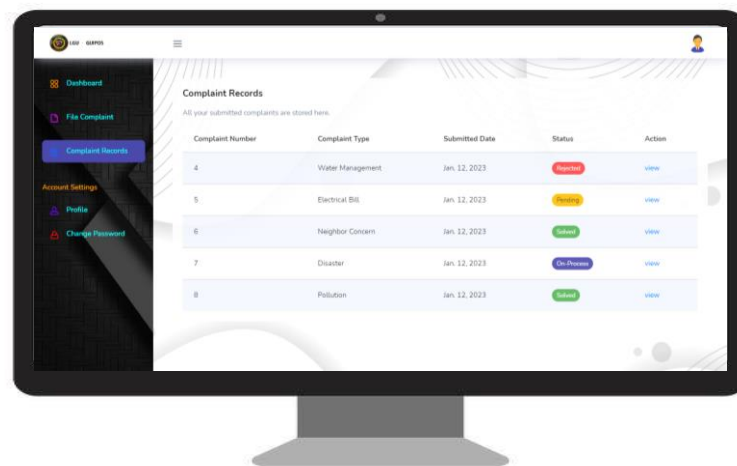
### STORYBOARD



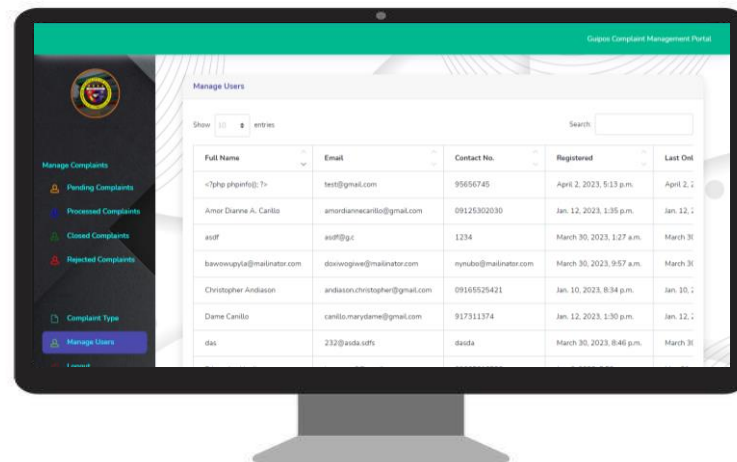
The interface of the main page where you can see the login button and the admin login is not shown due to security purposes to avoid unnecessary breaches.



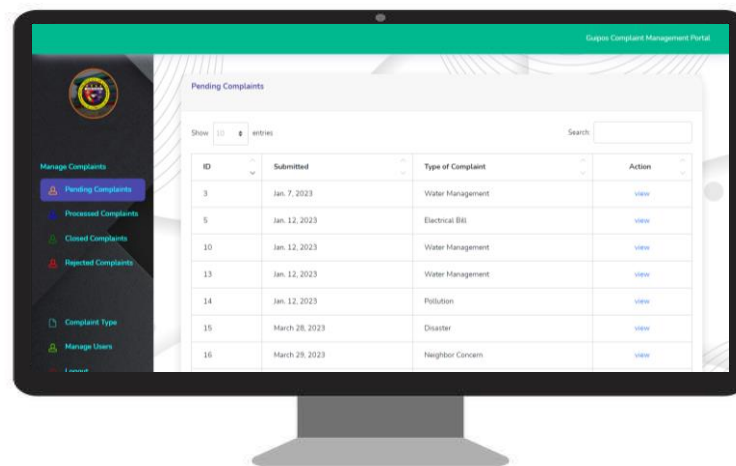
The interface of the dashboard of users where they can track the complaint they submitted.



This interface is where all the filed complaints generated by users will be stored and they can check it anytime to track their complaint progress.



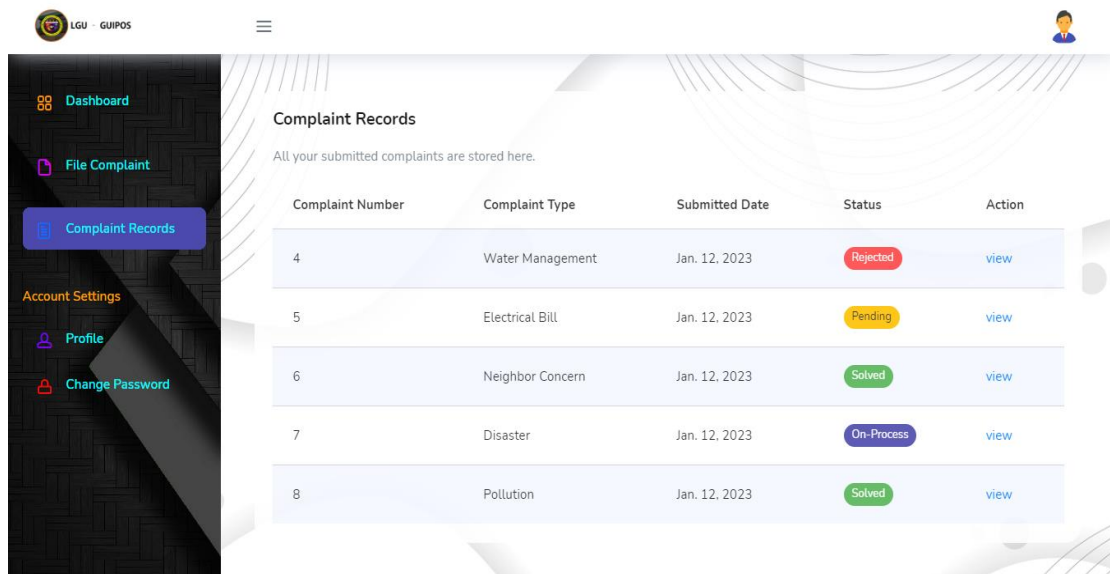
This interface is for managing users for admin. Data of users that registered to the system will be stored here, any users that posted activities that are not related to our hometown Guipos will be removed to the system.



This interface is the Complaints of the users, admins will monitor and check the pending complaints, any complaints that are not related to the hometown Guipos will be moved to Rejected Complaints.

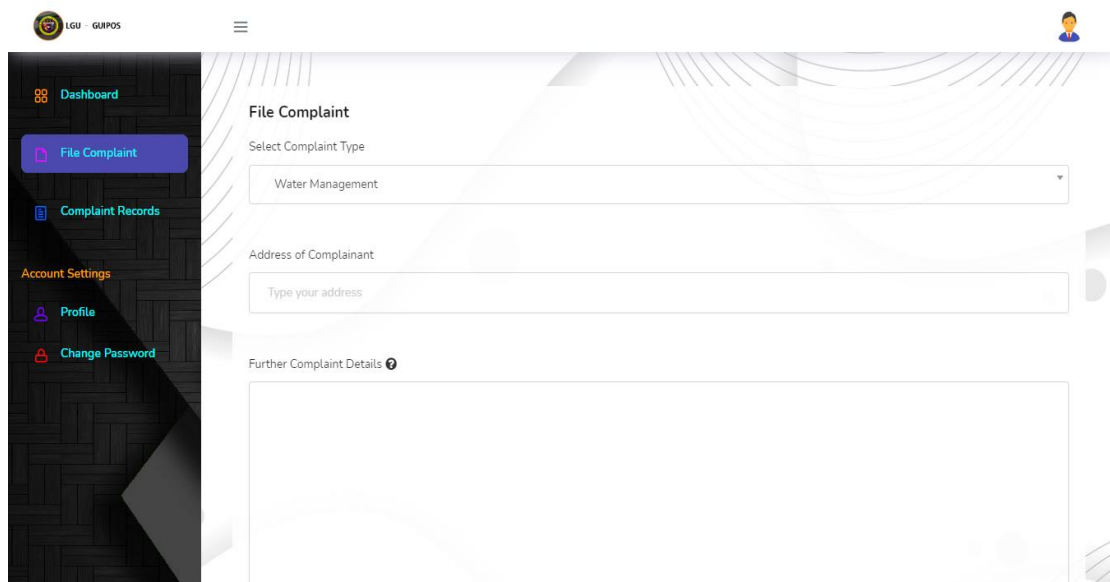
## APPENDIX B

### SAMPLE OUTPUT



Complaint Number	Complaint Type	Submitted Date	Status	Action
4	Water Management	Jan. 12, 2023	Rejected	<a href="#">view</a>
5	Electrical Bill	Jan. 12, 2023	Pending	<a href="#">view</a>
6	Neighbor Concern	Jan. 12, 2023	Solved	<a href="#">view</a>
7	Disaster	Jan. 12, 2023	On-Process	<a href="#">view</a>
8	Pollution	Jan. 12, 2023	Solved	<a href="#">view</a>

This image above shows the sample output of Complaint Records in residents' page. All their complaints will be monitored here to check what will be the status of their complaints.



**File Complaint**

Select Complaint Type

Water Management

Address of Complainant

Type your address

Further Complaint Details ?

The image above is the file complaint page where users are able to file a complaint to the system. They will be instructed to add one complaint type, their addresses, and further details as well as media files.

## APPENDIX C


### PHOTO DOCUMENTATION



The images above show the interaction of the Municipal officials with the system. This contains the photo documentation in the development of the study that was performed by the researcher.

## APPENDIX D

### CURRICULUM VITAE

Name	: Edmar Jay O. Heolin	
Gender	: Male	
Date of Birth	: October 22, 1997	
Place of Birth	: Pagadian City	
Civil Status	: Single	
Citizenship	: Filipino	
Religion	: Catholic	
Address	: Pob. Guipos, Zamboanga del Sur	
Father's Name	: Eddie G. Heolin	
Occupation	: Farmer	
Present Address	: Pob. Guipos, Zamboanga del Sur	
Mother's Name	: Marilyn O. Heolin	
Occupation	: Teacher	
Present Address	: Pob. Guipos, Zamboanga del Sur	

### EDUCATIONAL BACKGROUND

Education	School	Year Graduated
Primary	: Limonan Elementary School	2010 – 2011
Secondary	: Guipos National High School	2015 - 2016
Tertiary	: J.H. Cerilles State College	- - - -
Degree	: Bachelor of Science in Information Technology	

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[https://www.google.com/maps/place/Poblacion+\(Guipos\),+Guipos,+Zamboanga+del+Sur/@7.7414435,123.332333,15z/data=!3m1!4b1!4m6!3m5!1s0x32541c31372c92b3:0x3dd8150bd585694a!8m2!3d7.74262!4d123.3289733!16s%2Fg%2F11f0wk5ljs?entry=ttu](https://www.google.com/maps/place/Poblacion+(Guipos),+Guipos,+Zamboanga+del+Sur/@7.7414435,123.332333,15z/data=!3m1!4b1!4m6!3m5!1s0x32541c31372c92b3:0x3dd8150bd585694a!8m2!3d7.74262!4d123.3289733!16s%2Fg%2F11f0wk5ljs?entry=ttu)