

## Residents Complaint Portal

Version 1.0

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# 1. Software Requirements Elicitation

## 1.1. Introduction

Our client for this assignment is an employee of Federal Government Employee Housing Foundation (FGEHF), in office of complaint management. He is a hardworking and very responsible man. He is always busy and have literally any time for visitors. In order to meet him and get information about the system which is about to be documented for further process, the meeting was arranged in his office.

In the meeting or client began with how his day go by in dealing with complaints from residents and what kind of problems his worker face. He told us that the very main issue in this sector is of water shortage and people relay on government provided tankers which are provided by them. He further continued that sometimes there are also some minor complaints from some people like wild bush cutting, stray dogs increasing and service of dengue spray.

In all this he mentioned that yes they have capability to resolve all issues/complaints but the problem is that they are unable to satisfy the residents of the area as they are doing their best everyday but according to residents reviews services are not being provided efficiently as well as not on time.

In meeting he kept repeating that he want the whole procedure of registering complaints to become less stressful and available to residents easily and can satisfy residents In the end.

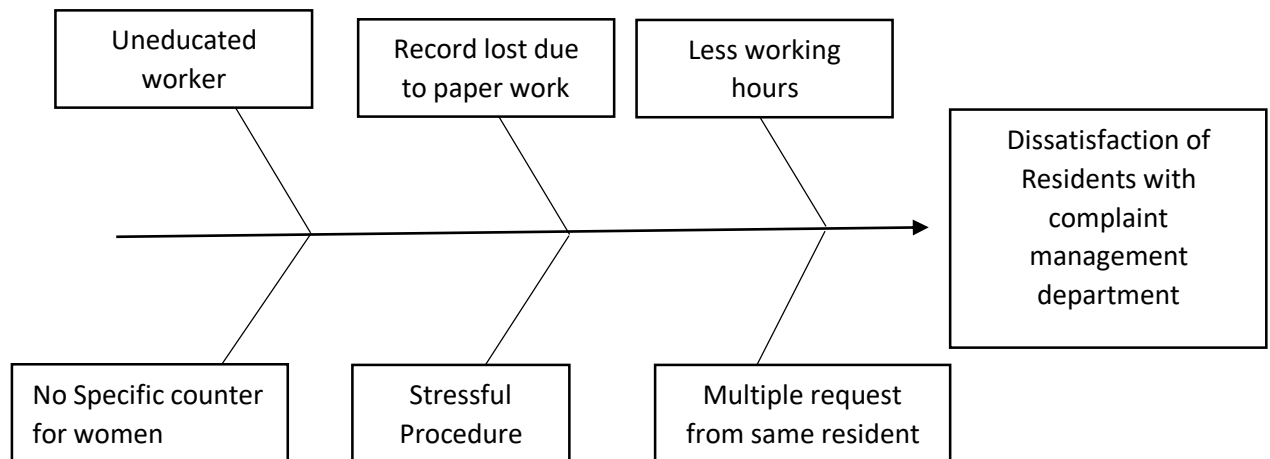
## 1.2. Root Causes

To find out problems in current system our team gained information by going through records and by observing the complaint registration desk, we got to know some of the most know problems currently going on which are described below:

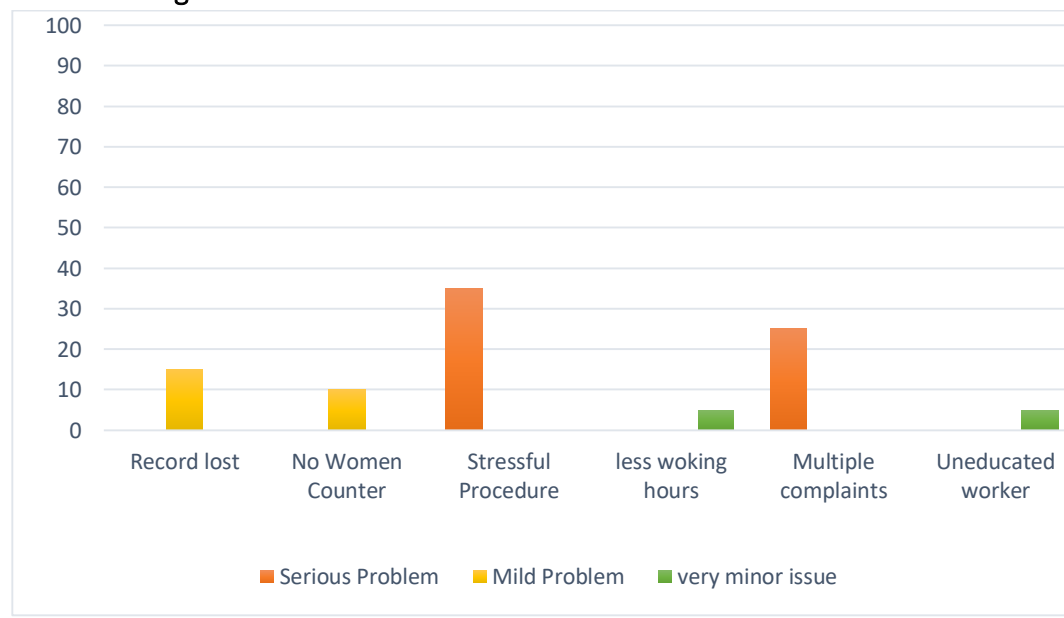
- People tend to get multiple water tankers in a week, which is against the rules
- Most of the worker i.e. drivers, plumbers are uneducated
- Records are being kept on registers and other official files (paper)
- The process of registration of complaints is stressful
- There is no specific counter for women to request water tankers
- The Employee of office don't fulfill office hours and leave early

To find the worst problem causing residents dissatisfaction towards this department, we used root cause analysis, our team has used fish bone diagram as well as Histogram to point out main root problem causing the problem.

### 1.2.1. Fish Bone Diagram



### 1.2.2. Histogram



The main problem which causes most of dissatisfaction to residents is due to stressful procedure of compliant registration, as residents have to go to office and stand if queue wait for their turn. Other main problem is also visible via histogram multiple complaints filed by people in a week and thus many other civilians are left out from services as they are unable to register their complaints, thus causing a lot of discomfort for residents of area and eventually leading to dissatisfaction toward whole department of compliant management.

### 1.2.3. Problem Statements

#### Stressful Procedure of complaints registration

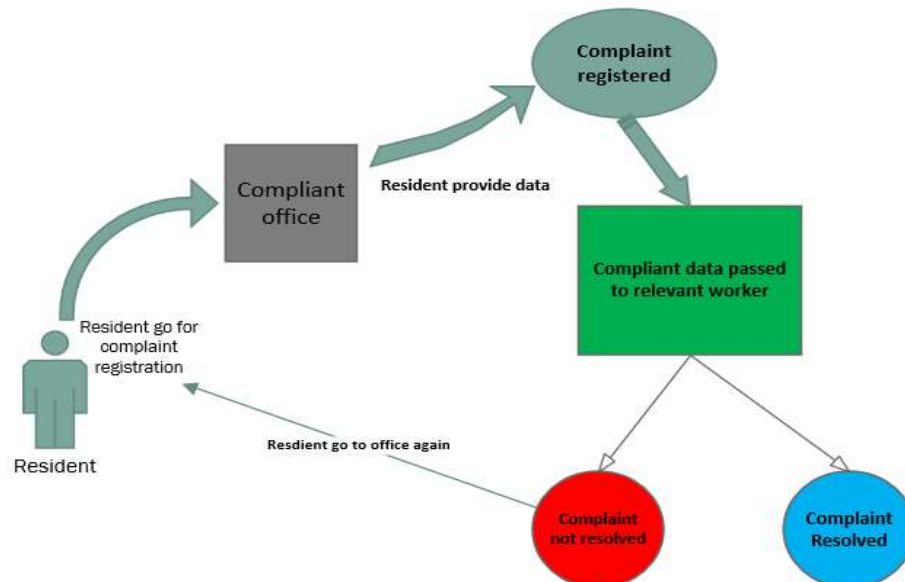
Element	Description
The Problem	Stressful procedure of compliant registration
Affects	Discomfort of residents, causes rush and chaos situation
Results	Residents dissatisfaction
Solution	The registration system should be changed with following changes in such a way that: <ul style="list-style-type: none"><li>• Residents can register complaints easily</li><li>• Residents can register complaints from homes.</li><li>• Ultimately provide services effectively to the residents.</li></ul>

#### Multiple complaints by residents in a week

Element	Description
The Problem	Multiple complaints from residents in same week
Affects	Dissatisfaction of residents
Results	Discomfort to residents, residents are left out from certain services every week
Solution	There should be changes in system which: <ul style="list-style-type: none"><li>• Stop residents form registering multiples complaints</li><li>• Stop duplicate complaints for same week</li><li>• Should point out residents with multiple complaints in a week</li></ul>

### 1.3. Residents Point of view

We also talked to some of the residents (who were inside office for complaints registering) according to them in this system the main flaw comes in not getting any kind of assurance of the complaint that it will be resolved and there is not mechanism, rather than coming in office again if the complaint was not resolved and the procedure of registering complaints is stressful as well as time consuming.



#### 1.4. Solution Provided by our Team

Team after discussing and analyzing the problem of our client, we got to point that our client needs a system which is and has to be an online system, which will create online bridge connection between the residents and compliant management office.

Hence our team proposed two solutions:

1. A website based complaint portal
2. A mobile application based complaint portal

After presenting these ideas to our client (which was via telephone call) the idea of mobile application was approved, some new requirements were also provided which included a mechanism for resident to register complaint about anything illegal going on in their sector street i.e. illegal Drill Water Boring, water theft from line etc. and we continued our documentation with plan to make mobile application base complaint portal.



## 2. Software Requirements Specifications

## 2.1. Introduction

### 2.1.1. Purpose

The purpose of this report is to document all the requirements gathered from our client during elicitation in order to make a software requirements specification report. This report has all the requirements required to design our Residents Complaint Portal. We have collected many different requirements from our client from which some are functional and some are non-functional as well. The main purpose of our system is to facilitate the residents of our clients sector to access complaint management office remotely easily and register their complaint easily without following any stressful procedure.

Main stakeholder of this Residents Complaint Portal are:

- Head of Department of Complaint Management office
- Staff of Complaint Management Office
- Workers of Complaint management Office
- End Users

The Residents Complaint Portal development team:

- Residents Complaint Portal Designer
- Residents Complaint Portal tester
- Residents Complaint Portal maintainer
- Project manager
- Requirement Engineer

### 2.1.2. Scope

The scope of Residents Complaint Portal is to provide services to residents of area by using it they would be able to register their complaints about water tanker, stray dogs, wild bushes cutting, electricity, garbage collection and any sort of illegal activity going on in the area, they can do all this but by staying under some rules regulation, and they could also track their complaints any time. The Residents Complaint Portal is an online app and available at Playstore (android) and on AppStore (ios). A user can login in this app and register his/her complaint by selecting desired (available only) category, also a user can track already registered complaints and can also contact office via app to check on any other kind of problem.

The main objectives of Residents Complaints Portal are as follow:

- Graphical User Interface (GUI)
- Reliable system
- Automatic Backup
- System availability
- Android and IOS platform available

Some objectives which are not included in cope of this system are:

- This system is for this area only not interlinked with any other sector/area
- This system does not provide live chat help with employee of office
- This system is not available on Windows, Macintosh and Linux.

### 2.1.3. Definitions, Acronyms, Abbreviation

- RCP – Residents Complaint Portal
- SRS – Software Requirements Specifications
- IOS – iPhone Operating System
- HOD – Head Of Department
- GUI – Graphical User Interference
- NA – Not Applicable
- App – Application
- TCP/IP – Transmission Control Protocol / Internet Protocol
- DBMS – Database Management System

### 2.1.4. Overview

The purpose of writing this report is to write all the software requirement specifications (SRS) for RCP.

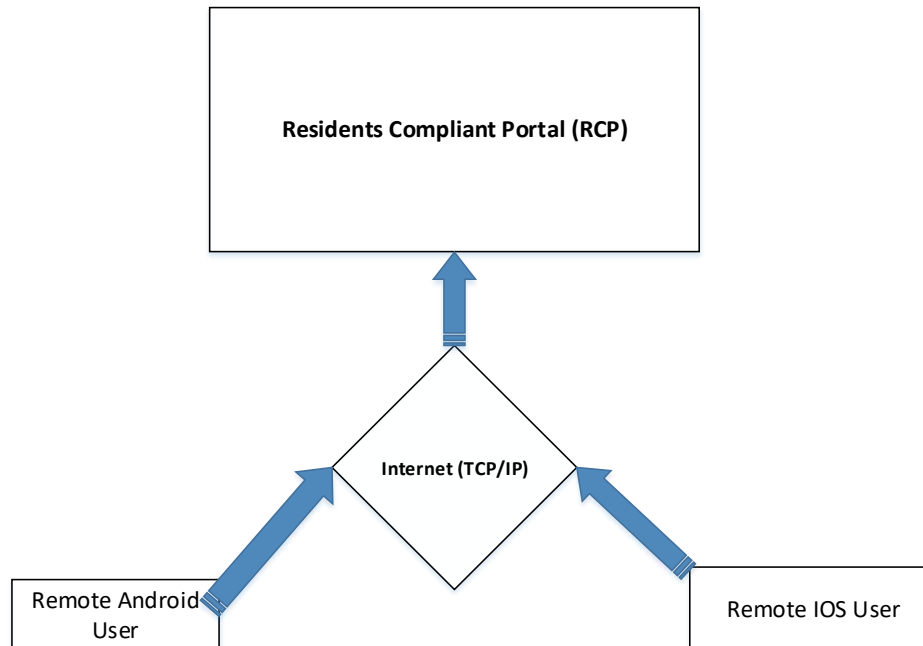
## 2.2. All Descriptions

In this part all the factors that effects all the product and its requirements will be discussed

### 2.2.1. Product perspective

The main purpose of this RCP is to automate the current compliant registration, which will make compliant registering easier for residents as well as for office staff to keep track complaints as they are received and solved. The residents can register compliant while sitting in homes easily. This is an online portal, which uses TCP/IP. The client machines will on Androids and IOS devices whereas the server machine will run Windows platform. The office has its own licensed Oracle system which will be used as DBMS as well as for automatic backup feature if the system fails due to any reason hence recovery system will be able to use that automatic backed up data to restore data from the point it failed.

The diagram on next page shows visual representation of Residents Compliant Portal (RCP)



Visual Representation of RCP

### 2.2.2. All Product Functions

The RCP will provide these major functionalities:

- *Complaints Reviews*

The HOD of department will be able to see how many complaints have been registered of all kinds and will also be able to see how many have been resolved and how many are under way to be resolved.

- *User Reviews*

The HOD of department can see how many new people have registered and how people are satisfied with their portal.

- *Complaint Menu*

The system will provide user with very user friendly complaint menu where they will be able to select and register complaint even with very low knowledge of smart phones.

- *Complaint Management*

The system will let users register their complaints and then would let them track them as they are being proceed. The user will also be able to contact the office to enquiry in case if compliant is not resolved on time or for any other reason.

- *Report facility for users*

The system will also provide users with an option to send in any kind of report for illegal activities, crimes, robberies using this option. This option will allow users to type any custom message to clearly identify the problem.

- *Suggestion box*

The system will give option to users for their suggestion, there will a suggestion box where users can give their suggestion in order to make the system more and more smooth, simple and easy to use for everyone.

- *Multilanguage Support*

The system will provide users with two very common languages English and Urdu. The user will be able to interchange between these two languages whenever desires to.

- *Regular Report Service*

This functionality will be available to staff of office as well as HOD. The system will show the all the reports received in a week and in whole previous month. The system will also show which kind of reports were most received and which were received minimum in a week or in a month.

- *Notifications*

The system will send notification to users if new version is released and they have not updated their app yet. The system will also send notification to users about different kind of reminders like new timings to register complaints.

- *Extra Security*

The system will also provide with an option to log in their account using touch Id, but only after system get to knows that the machine of user supports such feature of security.

- *Keeping everything straight and good*

The system will look out for people trying to register multiples complaints of any sort and will show them warning sign about it and will block them from accessing their account for a week. The system will also not let someone not from this area to get access or register complaints for them.

### 2.2.3. User Characteristics

The main user and their characteristics are mentioned below:

- HOD
- Office Staff
- End users

Type Of User	Education Level	Practical Experience	Technical Expertise
HOD	High	Expert	Average
Office Staff	Medium	Medium	Low
End Users	Medium	Primary	Low

Users Characteristics

### 2.2.4. Constraints

- Will be available in 10 months
- Automatic Backup and Restore
- Safe Reliable System
- Authenticated user is allowed only
- Quick Response time
- Very little training for staff to use this system

### 2.2.5. Assumptions and dependencies

The data of previous 6 months will be filled in current system.

## 2.3. Specific Requirements

This part of SRS document contains all the requirements details in order for designer to design and for tester to test out the system properly.

### 2.3.1. External Interference

<b>Requirement ID:</b>	<b>SR01</b>
<b>Title:</b>	Platform
<b>Description:</b>	System will run on Windows OS
<b>Rationale:</b>	Very user friendly to use
<b>Source:</b>	Head of Department
<b>Restrictions and Risks:</b>	Windows may crash due to any kind of issue in OS itself like blue screen of death and it can cause loss of data and other s
<b>Priority:</b>	High
<b>Dependencies:</b>	NA

### 2.3.2. Functional Requirements

The functional requirement are the main parts which comprises of all the data on which system is built on.

#### 1. User Interfaces

<b>Requirement ID:</b>	<b>SR02</b>
<b>Title:</b>	Graphical User Interference
<b>Description:</b>	An mobile base GUI application for Android and IOS
<b>Rationale:</b>	Very user friendly environment
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	High
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR03</b>
<b>Title:</b>	Log In
<b>Description:</b>	A Login system which requires username and password
<b>Rationale:</b>	User will be able to register complaints
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	High
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR04</b>
<b>Title:</b>	Log Out
<b>Description:</b>	A Logout system for user
<b>Rationale:</b>	User will be able to log out from system
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	High
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR05</b>
<b>Title:</b>	Automatic Log Out
<b>Description:</b>	System will automatically logout user
<b>Rationale:</b>	User will be automatically Logged out by system after inactivity of user for 30 minutes from app
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	Normal
<b>Dependencies:</b>	NA

## 2. User Account Management

<b>Requirement ID:</b>	<b>SR06</b>
<b>Title:</b>	Creating Account
<b>Description:</b>	Setting up user
<b>Rationale:</b>	User will be able to register his/her account before use of RCP
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	High
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR07</b>
<b>Title:</b>	User Account
<b>Description:</b>	User will provide Full Name, Email address, Phone number
<b>Rationale:</b>	User information will be used to verify account and to register them in server
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	High
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR08</b>
<b>Title:</b>	Deleting User Account
<b>Description:</b>	The system will automatically delete accounts unused for a year
<b>Rationale:</b>	User can also delete his/her account manually
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	Normal
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR09</b>
<b>Title:</b>	Credentials Recovery
<b>Description:</b>	User will be able to recover password and username
<b>Rationale:</b>	User will recover password and username using email
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	Normal
<b>Dependencies:</b>	NA



<b>Requirement ID:</b>	<b>SR010</b>
<b>Title:</b>	Help
<b>Description:</b>	User will be able to get help in case of problem
<b>Rationale:</b>	User will can see how to use app and how to register, track their compliant using this app
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	Normal
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR011</b>
<b>Title:</b>	Edit profile
<b>Description:</b>	User will be able to edit their profile
<b>Rationale:</b>	User will be able to edit their username, phone number, full name, email address
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	Normal
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR012</b>
<b>Title:</b>	Accessibility of system
<b>Description:</b>	User will be access System from homes
<b>Rationale:</b>	User will be able to access the system while sitting in their homes and use this system
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	High
<b>Dependencies:</b>	NA

### 3. Registering, Tracking, Changing complaints

<b>Requirement ID:</b>	<b>SR013</b>
<b>Title:</b>	Water Tanker Request
<b>Description:</b>	User can order water tanker
<b>Rationale:</b>	User can order water tanker for them
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	User can only order 1 tanker per week
<b>Priority:</b>	High
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR014</b>
<b>Title:</b>	Water Line leakage
<b>Description:</b>	User will be able to report if there is any water line leaking
<b>Rationale:</b>	The user will provide address of area in order to register this report
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	Normal
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR015</b>
<b>Title:</b>	Electricity complaint
<b>Description:</b>	User will be able to register electricity complaint
<b>Rationale:</b>	User will register his/her complaint if electricity is not available/ cut off
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	High
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR016</b>
<b>Title:</b>	Electricity Theft
<b>Description:</b>	User will be able to report electricity theft
<b>Rationale:</b>	User will report electricity theft by providing images and address of the area where electricity is being theft.
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	Normal
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR017</b>
<b>Title:</b>	Garbage Collection
<b>Description:</b>	User can report if garbage is not being collected
<b>Rationale:</b>	The user report their issue and will provide the information about their area and address and for how many days the garbage is not being collected
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	Normal
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR018</b>
<b>Title:</b>	Garbage piles report
<b>Description:</b>	User can also report about garbage which is lying around causing problems
<b>Rationale:</b>	The user will send pictures of area and will send in address of area as well in order to register report and to get that area clean
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	Normal
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR019</b>
<b>Title:</b>	Tracking Compliant
<b>Description:</b>	The user will be able to track status of compliant
<b>Rationale:</b>	The user will be provided with an Id corresponding to their report. The user can use that Id and contact office about statues of their compliant
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	High
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR020</b>
<b>Title:</b>	Editing Complaint
<b>Description:</b>	User can also change complaint
<b>Rationale:</b>	The user will be able to change attributes of a complaint i.e. if he/she has chosen wrong compliant or for wrong address
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	This option will be available for 5 min after registering compliant
<b>Priority:</b>	High
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR021</b>
<b>Title:</b>	Cancel Complaint
<b>Description:</b>	User can also cancel their complaints
<b>Rationale:</b>	User can cancel their complaint as well if they don't need services from RCP
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	This option is available for 30 minutes after complaint has been registered
<b>Priority:</b>	High
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR022</b>
<b>Title:</b>	Stray Animals
<b>Description:</b>	User can report stray animals on loose
<b>Rationale:</b>	The user will be able to report about stray animals being loose and harming people. They will need to provide pictures and address of area. Then those animals would be dealt with accordingly.
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	Normal
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR023</b>
<b>Title:</b>	Wild Bushes
<b>Description:</b>	User will be able to report about wild bushes growing too much
<b>Rationale:</b>	User will report about a lot of wild bushes growing and causing trouble around area. The user will have to provide pic and address of area.
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	Normal
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR024</b>
<b>Title:</b>	Sewerage Blockage
<b>Description:</b>	User can report about sewerage blockage
<b>Rationale:</b>	User will provide their home address in order to get their sewerage system unblock
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	High
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR025</b>
<b>Title:</b>	Manhole report
<b>Description:</b>	User can also report about missing manhole
<b>Rationale:</b>	User will report about missing manhole by providing picture of the gutter without manhole and address of area as well.
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	Normal
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR026</b>
<b>Title:</b>	Illegal Water Boring
<b>Description:</b>	User can report about illegal water boring
<b>Rationale:</b>	User will be able to report about illegal water boring either by calling for directly to office or register report by providing pictures and address of area
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	Normal
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR027</b>
<b>Title:</b>	Dengue Spray
<b>Description:</b>	User can request for dengue spray
<b>Rationale:</b>	User will be able to request dengue spray in their sector by providing address of their area
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	Normal
<b>Dependencies:</b>	NA

#### 4. Support

<b>Requirement ID:</b>	<b>SR028</b>
<b>Title:</b>	Search Box
<b>Description:</b>	User can use search box to look for desired option
<b>Rationale:</b>	User will be able to use search box to look for desired option which he/she wasn't able to access or didn't knew how to access
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	High
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR029</b>
<b>Title:</b>	Notification
<b>Description:</b>	User will be notified about changes
<b>Rationale:</b>	Users will get notification, if new version of app is available and they still haven't updated their app
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	High
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR030</b>
<b>Title:</b>	Timing Changes Notification
<b>Description:</b>	User will get notified about changes in timing of compliant registration system
<b>Rationale:</b>	The timing of system can changed for various reason and so it is very necessary to notify user about them
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	High
<b>Dependencies:</b>	NA

#### 5. Suggestion

<b>Requirement ID:</b>	<b>SR031</b>
<b>Title:</b>	Suggestion
<b>Description:</b>	User can provide suggestion about app
<b>Rationale:</b>	User will be able to provide their own suggestion in order to make app more smooth and easy to use for everyone
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	Normal
<b>Dependencies:</b>	NA

#### 6. Data Storage

<b>Requirement ID:</b>	<b>SR32</b>
<b>Title:</b>	Data Storage
<b>Description:</b>	Currently system can store 15000 daily reports
<b>Rationale:</b>	Data storage for reports is very necessary in order to keep track of all reports ever received and resolved
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	High
<b>Dependencies:</b>	NA

## 7. Reports

<b>Requirement ID:</b>	<b>SR33</b>
<b>Title:</b>	Report Generation
<b>Description:</b>	The system will provide reports about <ul style="list-style-type: none"><li>• Most kind of received complaints in a week</li><li>• Most kind of received complaints in a months</li><li>• All kind of complaints received in a year</li></ul>
<b>Rationale:</b>	The reports are very helpful in improving and to keep check on data records
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	Normal
<b>Dependencies:</b>	NA

## 8. Database Requirement

<b>Requirement ID:</b>	<b>SR034</b>
<b>Title:</b>	Data Base Management System
<b>Description:</b>	The system will use Oracle DBMS
<b>Rationale:</b>	The Oracle DBMS is very secure, fast, and reliable. Our client has a for this DBMS system as well.
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	High
<b>Dependencies:</b>	NA

## 9. Performance

<b>Requirement ID:</b>	<b>SR035</b>
<b>Title:</b>	Performance time for all users
<b>Description:</b>	The performance time for all user is less than 8 seconds
<b>Rationale:</b>	The minimum performance time is very crucial to make system fast and more useful
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	High
<b>Dependencies:</b>	NA

## 10. Design Constraints

This application is a mobile based online application, will be available on android as well as on ios devices. It has not design constraints

## 11. Non – Functional Requirement

The non – functional requirements are about quality of system and how well the system is satisfying design requirements

### 11.1. Reliability

<b>Requirement ID:</b>	<b>SR36</b>
<b>Title:</b>	Automatic Backup
<b>Description:</b>	The system will perform an automatic backup
<b>Rationale:</b>	The system will always be making automatic backup of system data in order to restore later if needed.
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	The system will only make backup after an hour and will only keep two latest backups only and delete any older than that.
<b>Priority:</b>	High
<b>Dependencies:</b>	NA

<b>Requirement ID:</b>	<b>SR37</b>
<b>Title:</b>	Automatic Recovery
<b>Description:</b>	System will be able to recover automatically if failure occurs
<b>Rationale:</b>	The system will recover as soon failure has been resolved and will become online from the point the failure occurred. The system will recover itself using automatic backup.
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	High
<b>Dependencies:</b>	SR36

### 11.2. Availability

<b>Requirement ID:</b>	<b>SR38</b>
<b>Title:</b>	Availability of System
<b>Description:</b>	System should be available 24/7 for all year
<b>Rationale:</b>	System will be available all the time 24/7 for all year so that user can access it all the time
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	High
<b>Dependencies:</b>	NA



### 11.3. Security

<b>Requirement ID:</b>	<b>SR39</b>
<b>Title:</b>	Security of System
<b>Description:</b>	System should not allow any un-authorized person log in to the system
<b>Rationale:</b>	If any breaches are detected by system, the system will automatically notify maintenance team about it to avoid any further breach
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	High
<b>Dependencies:</b>	NA

### 11.4. Maintainability

<b>Requirement ID:</b>	<b>SR40</b>
<b>Title:</b>	Maintenance of System
<b>Description:</b>	System will be built on best architecture available
<b>Rationale:</b>	The system maintenance will help in future in updating system
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	Normal
<b>Dependencies:</b>	NA

### 11.5. Portability

These system is very portable as it will run on android and ios mobile devices (smart phone). As it is an application normal user with android phones or ios phones can install it directly from their respective app provider. If windows or any other OS user wish to install this app then that user can simply install android or ios simulator and install this app on their computer machine and use it as on using it on android and ios.

## 12. Other Requirements

### 12.1. Multi Language

<b>Requirement ID:</b>	<b>SR41</b>
<b>Title:</b>	Multilanguage support in system
<b>Description:</b>	System will have Multilanguage support. The system will have support for English and Urdu.
<b>Rationale:</b>	The multi-language support for system will enhance its usability for a lot of user who find it confusing to use an app in English or Urdu, so they would be able to interchange between two
<b>Source:</b>	Head Of Department
<b>Restrictions and Risks:</b>	NA
<b>Priority:</b>	Normal
<b>Dependencies:</b>	NA

## 2.4. Analysis and Review of Requirements

The requirements of following factors were analyzed in our review meeting

1. Clarity
2. Completeness
3. Consistency
4. Feasibility
5. Tractability
6. Verifiability
7. Modifiability
8. General Content
9. Necessity

After the meeting the requirements were changed. The check is shown in appendix A below.

## Appendix A

### Software Requirements Specifications Review Checklist

Validation Criteria		Results
<b>1. Clarity</b>		
Are the requirements are written in the SRS in a non-technical language?		No
Is in the SRS all the terms are defined?		Yes
Is all the requirements are understandable and implemented for each group separately?		Yes
<b>2. Completeness</b>		
Is the table of contents available?		Yes
Are all the tables, figures, and diagrams are well defined?		Yes
Are the terms are define in the documentation?		Yes
Is the index is available?		Yes
Are all the requirements are more explain in detail?		Yes
Are all the system related requirements are well define?		Yes
Are the requirements are there according to the system functionality?		Yes
Are there any requirements which you feel difficultly to be specified?		No
Is there performance requirements are included?		Yes
Are there requirements related to design constraints?		Yes
Are there internal and external requirements are there?		Yes
Are there requirements which is written is related to software?		No
Is there hardware requirements are written?		No
Is there reporting requirements are written?		Yes
Are requirements are written for the security of the system?		Yes

Is the installation requirements are included?	No
Are possibilities for the change of requirements?	No
<b>3. Consistency</b>	
Are there any requirements which are conflicted with other requirements with respect to terminology?	No
Are there any requirements which conflict with respect to characteristics?	No
Are there is any requirements which conflict with the actions?	No
<b>4. Traceability</b>	
Are all the requirements are traceable according to the user needs?	Yes
Are all the requirements are traceable to the system module?	Yes
<b>5. Verifiability</b>	
Are any requirements which are difficult to implement?	No
<b>6. Modifiability</b>	
Is the requirements are clearly documented?	Yes
Is the requirements are written according to the organization needs?	Yes
Is any duplication in the requirements?	No
<b>7. General Content</b>	
Is the introduction section is available?	Yes
Is the product description is available?	Yes
Is the scope section is available?	Yes
Is the definition, acronyms, and abbreviations are written in the specification?	Yes
Is the specific requirement section is mentioned in the document?	Yes
Is the product function is available?	Yes
Is the user characteristics are written in the specified document?	Yes

Validation Criteria	Results
Is the general constraints are define?	Yes
Is there a general constraints section?	
Is the assumptions are dependencies are written in the specified document?	Yes
Are all the important figures are available?	Yes
Are all the tables are there in the document?	Yes
<b>8. Reports</b>	
Are the report format well followed?	Yes
Are all the requirements in the report are well define and filter specifically?	Yes
<b>9. External Interfaces</b>	
Are in the document all the user interfaces are define and specified?	Yes
Are the systems interfaces are define and specified?	Yes
Are the interfaces for communication is specified?	Yes
Are the interface for HCI interactions are define In the document?	Yes
<b>10.Internal Interfaces</b>	
Are all the internal interfaces are specified?	Yes
Is the internal interfaces are there according to the organization needs?	Yes

## Release Plan for 1<sup>st</sup> version:

These part of document contains the requirements to be released for first version of product. This section has four parts.

### First Release Plan:

The first release of product will contain following requirements:

- ❖ **GUI**

As our user wants a mobile application it is must to include this requirement in first release. By this requirement the end user will deal with graphical interference instead of any complex system.

- ❖ **Create Account**

As this system is to be used privately by each individual it is very necessary that one must sign up in order to create account and access services offered by product.

- ❖ **Login**

The user must have to login with his/her correct credentials in to their account in order to use the system.

- ❖ **Logout**

This requirement will also be released in first release as a user might want to logout his/her account.

- ❖ **Credentials Recovery**

A might forget his/her credentials to login to his/her account hence this requirement is must in order to facilitate user to recover their credentials and use product.

- ❖ **Water Tanker Request**

As the very main problem we know is the complexity in registration of complaint for water tanker, hence it is very important to include this requirement in first release.

- ❖ **Electric report**

As electricity reports requirement is implemented, so that user can report about electricity problems using this system as well to register their complaint faster and easier.

- ❖ **Auto Backup**

As this is first release of product, it may have several issues during or after implementation which might cause system failure to avoid data lost it is very important to make backup of data.

- ❖ **Auto Recovery**

If system at some point fails, it will automatically try to recover itself using backup which was created just before failure point of system.

## Second Release Plan:

The second release plan will have following requirements:

- ❖ **Auto logout**

In our second release this requirement will be implemented because a user may forget to logout their account hence to ensure security of user's account the system will automatically log him out after certain time limit.

- ❖ **Delete Account**

This requirement will be added in second release, because till this point some people want to delete their account for certain reasons.

- ❖ **Edit profile**

This requirement will be implemented hence so if a user entered wrong information during creating account or if their information have changed they could edit that specific kind of information.

- ❖ **Garbage report**

This requirement will also be implemented to facilitate users with a new kind of report category which is to report of garbage is not being collected.

- ❖ **Sewerage report**

This requirement will be implemented as there are high numbers of these kind of problem every day and now users can report about this problem easily from their homes.

- ❖ **Tracking**

This requirement will be implemented to help users track the status of their registered complaints.

- ❖ **Report Generation**

This requirement will help HOD of department to review all kinds of reports being received for a week or month.

- ❖ **Availability**

This requirement will make system available 24/7 in a week and system will constantly be running instead any specified timings the system will be available all the time.

### Third Release plan:

The third release of product will have following requirements implemented in it:

- ❖ **Cancel Complaint**

This requirement will be implemented in third release because user might register wrong kind of complaint by mistake or if user don't want to resolve that issue now but later. The hence he/she can cancel their complaint.

- ❖ **Notification**

This requirement is implemented because till this point a user may have missed update for system or any kind of changes which were made to this system. To ensure user knows about changes in product is necessary to notify him/her.

- ❖ **Help**

This requirement is implemented if a user is facing issues in creating account, login, logout or even in registering complaint the system will assist them by showing instruction t resolved faced issue.

- ❖ **Security**

This requirement is implemented in third release because to this point many will be using this product and some might try to attack this system and steal information, hence to prevent that product will be covered with extra layer of security preventing such people and notifying these kind of activity to management team of this product.

### Fourth Release Plan:

This section contains last requirements which are to be implemented in final release for first version of product:

- ❖ **Illegal Water Boring**

This requirement is implemented in last as it was not that much wanted or anticipated option by users of system, but is very important requirement as a user can report about illegal water boring even when office is close and get response on that report as well.

- ❖ **Suggestions**

This requirement is implemented to get users feedback or their suggestion in order to improve the system and make it easier to use for everyone.

- ❖ **Maintenance**

This requirement is implemented to make maintenance of system easier and faster.

- ❖ **Edit Complaint**

This requirement which will be implemented in last will help user to make changes in their registered complaint for about 15 minutes after registering report.