

CYBER CRIME MANAGEMENT SYSTEM

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Project report submitted in partial fulfilment of the requirements of IV Semester BCA, CHRIST (Deemed to be University).

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CERTIFICATE

This is to certify that the report titled Cyber Crime Management System is a bona fide record of work done by Maria Mathew (2141154), Roshan Kataruka (2141133) and Aryan Menon (2141111) of CHRIST (Deemed to be University), Bangalore, in partial fulfilment of the requirements of IV Semester BCA during the year 2023.

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ABSTRACT

The Cyber Crime Management System aims to create a system for managing cybercrime, where details of all police stations, including officers' names and other information, will be available.

Complaints can be submitted online, and depending on the details of the case, the Police Administration Staff will assign it to a police station and subsequently an officer. The assigning process will be handled entirely by the Police Administration Staff. Once an officer has been assigned to the case, the complainant will receive regular updates on the status of their case, along with a direct line of contact with the officer in charge.

1. INTRODUCTION

The cyber crime management system is a website which will have different modules with four level of users: Headquarter, Police Station, Police Officer and the End Users. The website is designed in such a way that it helps the users to file complaints, receive case updates and rest of the services offered.

1.1 BACKGROUND OF THE PROJECT

The Cyber Crime Management System will allow users to lodge complaints anytime and from anywhere. This website will enable users to access all the services they need from a single platform, saving them time compared to traditional methods. They will no longer be required to travel to various locations to file a complaint, simplifying the process and making it easier to receive updates on their case.

1.2 OBJECTIVES

- By enabling users to obtain the services they need from a single website helps users save time.
- This will simplify their task of filing complaints and receiving updates on the same.
- Transparent system as each and every update made by the assigned officer are visible to the users, till the case is completed.
- The system generates reports and provides data and analysis on various aspects.

1.3 PURPOSE, SCOPE AND APPLICABILITY

Purpose:

- The purpose of a cybercrime management system as a project is to create a comprehensive and efficient software solution that helps in making case filing process easier to the user and at the same time, by giving regular feedbacks to the user, the process gets more organized.
- It is designed to streamline the entire case solving process and provide tools and features to assist officers in managing different tasks related to a case investigation.

Scope:

- Complainee management: Managing complainee lists, tracking and sending regular updates and managing meal preferences.
- Officer management: Managing users, case analysis and user communication.
- Mobile compatibility: Ensuring that the system is accessible on mobile devices.
- Cost-effective: Helping the complainee save money on traditional methods of case filing.
- User-friendly: Providing an easy-to-use and intuitive interface that makes cybercrime management easier.

Applicability:

- Streamlined case solving: A cybercrime management system helps streamline the case solving process, allowing the users or complainee to keep track of the updates on their case, more efficiently and effectively. This can help reduce stress and ensure that all aspects of the case solving are properly planned and executed.
- Increased transparency and communication: The cybercrime management system provides a platform for increased transparency and communication between the users/complainee and the officer in charge. This helps ensure that everyone is on the same page and reduces the likelihood of misunderstandings and miscommunications.
- Improved organization and time management: The cybercrime management system allows users/complainee to better organize their time and keep track of all updates made on their case till its completion. This can help reduce the likelihood of missing out on tasks and understanding whether the investigation is going correctly or not.
- Increased accessibility: The cybercrime management system can help increase accessibility to case investigation and analysis, making it easier for the user/complainee to keep track of the update on their case from anywhere.

2. SYSTEM ANALYSIS AND REQUIREMENTS

This chapter contains details of the existing system and its limitations along with the proposed system and its benefits.

2.1 EXISTING SYSTEM

- The online crime management system is an online application, from which a user can file cases online.
- Admin can track all the information regarding the case.
- Admin can edit, add, delete, and update the records of the police station and police
 officers.
- This website will help users to file cybercrimes anytime from anywhere.

2.2 LIMITATIONS OF THE EXISTING SYSTEM

- **Transparency:** In the current system, the complainer does not know who is the officer in charge and nor he gets any regular updates through the portal.
- Look and feel of the system have become outdated.
- Slower response time which leads to frustration of the user.

2.3 PROPOSED SYSTEM

The cyber crime management system is a website which will have different modules with four level of users: Headquarter, Police Station, Police Officer and the End Users. The website is designed in such a way that it helps the users to file complaints, receive case updates and rest of the services offered.

2.4 BENEFITS OF THE PROPOSED SYSTEM

- Complains can now be addressed and solved quickly.
- We provide nearest Police Station and best Officer related to the case.
- The complainee/victim gets frequent updates regarding the case and gets the details of the station and officer assigned details in the portal and as well as limitation of the existing is also solved.

2.5 FEATURES OF THE PROPOSED SYSTEM

- Transparent system as each and every update made by the assigned officer are visible to the users, till the case is completed.
- Reporting and analytics: The system should provide reporting and analytics features, such as case reports, workforce reports, and number of cases received and solved reports.
- Feedback processing: the feedback given by the user is reviewed by the headquarters.
- Case rejection: the cases that does not come under cybercrimes are rejected directly by the headquarters.
- User can be blocked by the admin, if at all fake profiles are found.

2.6 SYSTEM REQUIREMENTS SPECIFICATION:

- User management: The system should allow users to create and manage their profiles, including personal and contact information.
- Case management: The system should allow users to create and manage cases, which comes under the cybercrime section.
- Officer management: The system should allow users to view the officer details of the officer that is assigned to his /her case.
- Task management: The system should allow users to file a case, view updates regarding the same and progress tracking.
- Reporting and analytics: The system should provide reporting and analytics features, such as case reports, workforce reports, and number of cases received and solved reports.
- Security and privacy: The system should ensure the security and privacy of user data, including personal information.
- Mobile compatibility: The system should be compatible with mobile devices, allowing users to access and view details regarding their case from anywhere.

2.6.1 USER CHARACTERISTICS

End user

The end user is the person who uses this website in order to file a complaint and to get regular updates on the case until the case gets complete. They use the website to help them get better processing of the case based on the case profile, and the police officers are assigned to each of the cases based on their area of expertise, so that he/she will be able to

analyse the case better and helps give the complainee proper updates on the case. They are responsible for specifying the genuine and correct details regarding the case as the police officer initially analyses the case from the details given by the complainee. They can make changes in their profile at any time.

Admin

In our website, the admin is the Headquarters. The headquarters receives the cases that are filed by the end users or the complainee and based on the locality of the cases' happening, the headquarters assigns the case to the nearest police station. The headquarters can view the case and if at all the case is not coming under cybercrime, then they can reject the case and give proper update to the user as well. Headquarters has access to all the case as well as user details. Admin can also add new police stations and officers. He/she can grant or revoke permissions to the officers.

Police Station

The admin assigns the case to the police station that is nearest to the crime happening. Then the SHO or the Station Head Officer assigns the case to a police officer. The SHO analyses the case and assigns the case to an officer based on their area of expertise and the case profile. The SHO can also change the officer whenever needed. The police station is basically handled by the headquarters.

• Police Officer

The police officer can view the cases that are assigned to them. Then based on the actions they are taking, they can give regular updates, which will be visible to the user as well, so that they can keep track of progress of the case. Once the case is complete, they can close the case and the user will be able to see all the actions taken as case updates till the case completion. An officer can only view the cases that are assigned to him/her and based on their analysis they can update the user. The officer can view all the details regarding the case as well as the user. Similarly, the user can also see the details of the officer that's assigned to his/her case, which makes the system transparent.

2.6.2 SOFTWARE AND HARDWARE REQUIREMENTS

- (i) Software Requirements Windows 7 and above
- (ii) Hardware Requirements--- Processors ranging from pentium,2gb ram,1 Gb HDD

2.6.3 CONSTRAINTS

- **Time Constraints:** Complaint processing are time-sensitive events and if it takes longer, the user might lose his/her trust in the system. The system should be designed to handle time constraints efficiently and ensure that all tasks are completed on time.
- **Resource Constraints:** Developing a cybercrime management system may require a team of developers, designers, and testers. You may have resource constraints, such as limited personnel or hardware resources, that you need to consider.
- **Data Privacy Constraints:** The system may need to handle sensitive information, such as user info, case details, etc. You should ensure that the system is designed to protect the privacy and security of this data.
- **Technical Constraints:** The system may need to integrate with other software applications, such as mail service. You should ensure that the system is technically feasible and can integrate with other systems efficiently.

2.6.4 FUNCTIONAL REQUIREMENTS

| Sl no. | Module Name | Input | Expected Output | Exceptional Conditions |
|--------|----------------|---|--|---|
| 1 | Case Assign | Headquarters will assign case | Nearest police station will be assigned with the case | The station is over burden. |
| 2 | Officer Assign | Police station/SHO will assign case | Officers will be assigned to the case | Officer is on leave |
| 3 | Regular Update | Officer will provide update on case progress | Updates will be visible to the victim, SHO, officers, headquarters | Forgets to provide update |
| 4 | Complaint | Victim/ complainee will provide details | Visible to the headquarter | If validation fails, then it will not be served |
| 5 | Feedback | Victim/ complainee will provide feedback | Visible to the headquarter | - |
| 6 | Case Details | Headquarters, officers, SHO | All the details related to the case | - |

3. SYSTEM DESIGN

A cybercrime management system would typically involve multiple components and functionalities that work together to make the system more efficient and for better case processing. The system design includes user interface, authentication and authorization, and much more.

3.1 SYSTEM ARCHITECTURE

A 2-tier cybercrime management system architecture consists of two layers:

Presentation Layer: This layer is responsible for interacting with the user and providing a graphical user interface (GUI) for the system. It includes all the client-side components, such as web pages, forms, and user input controls, and handles all the user interactions with the system.

- Web Browser: The web browser is the primary client-side component that interacts with the system. It displays the GUI and handles user interactions.
- Web Server: The web server serves the web pages and other resources to the user's browser.
- Client-Side Scripts: Client-side scripts, such as JavaScript, provide additional functionality to the user interface.

Data Management Layer: This layer is responsible for managing the data and logic of the system. It includes all the server-side components, such as the application server, database server, and middleware, and handles all the data processing and storage operations.

Data Management Layer:

Application Server: The application server is responsible for handling the process logic of the system. It receives requests from the presentation layer, processes them, and sends responses back.

- Database Server: The database server is responsible for storing and managing the system data. It stores data in a relational database management system (RDBMS) and provides access to the data through a database management system (DBMS).
- Middleware: Middleware provides an interface between the application server and the
 database server. It manages the communication between the two layers and ensures that
 data is transferred securely and efficiently.

3.2 MODULE DESIGN

• Headquarters:

This module will be the admin of the website, under this module the official will be able to see all the complaint and assign police station. This module also has a feature to add police station and police details.

• Police Station:

This module will contain all information regarding police Station and it will be handled by headquarters. Under this module each police station has to appoint an officer to each case assigned to them.

• Officers:

This module will contain all information of each police of each Station and it will be handled by Headquarters. Under this module each police officer has to updated the details of cases assigned to him.

• Victim:

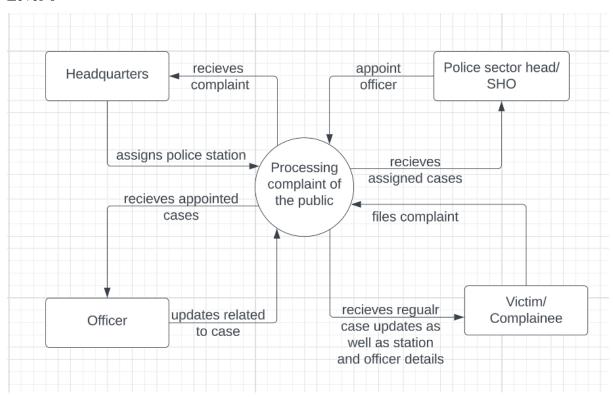
This module is related general to public who is victim in any type of cybercrime. Under this module the victim has to file a complaint and headquarters will assign nearest police station to the victim.

Feedback:

In this module victim can provide feedback/suggestions to headquarters. Based on the request necessary action can be taken.

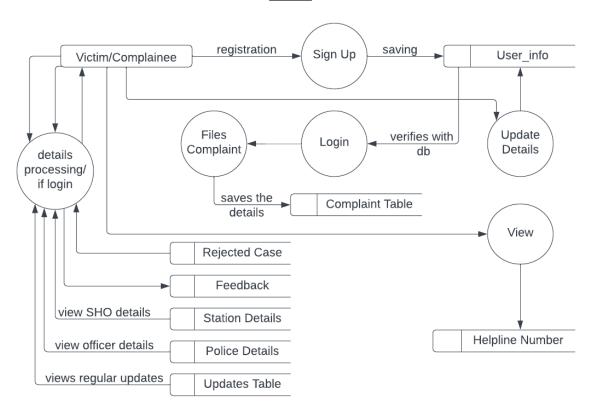
3.3 DATA FLOW DIAGRAM

Level-0

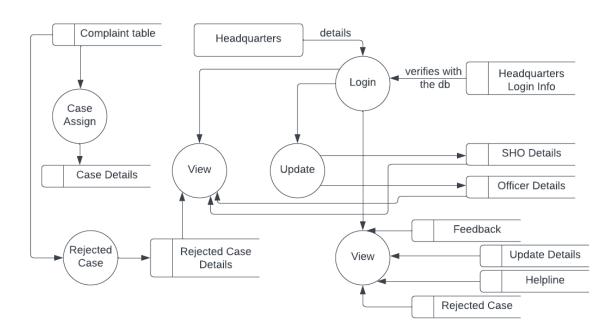


• Level-1

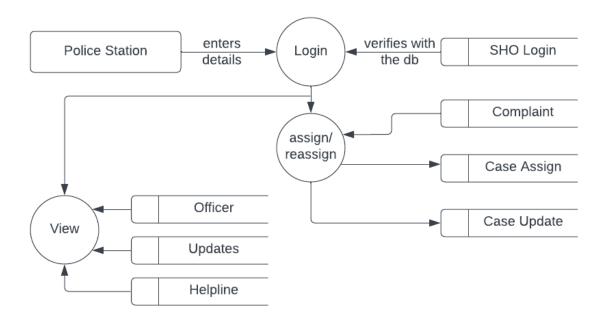
VICTIM



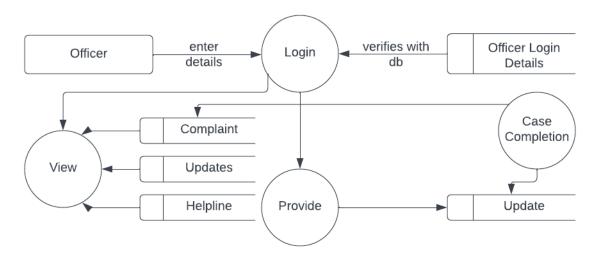
HEADQUARTERS



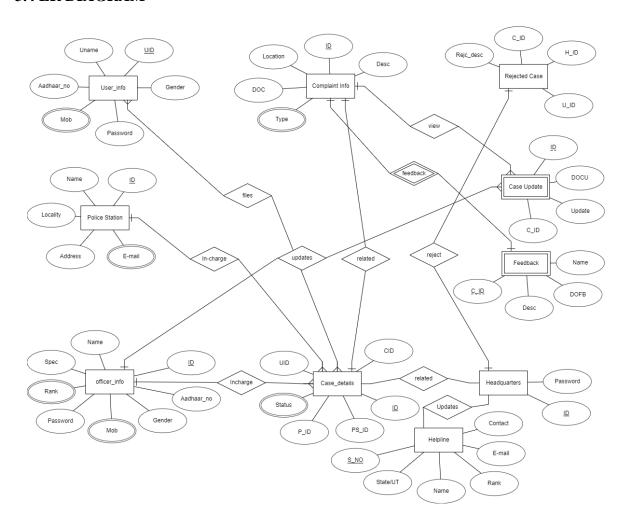
POLICE STATION



POLICE OFFICER

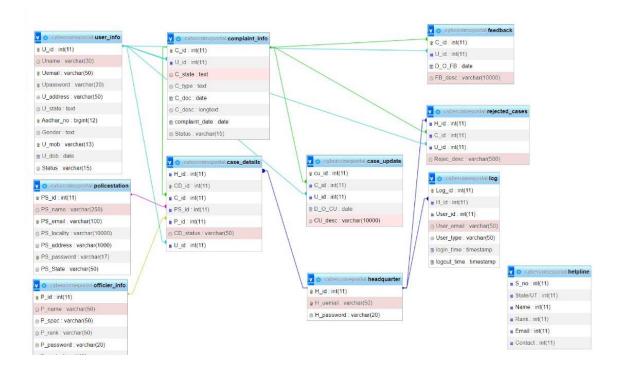


3.4 ER DIAGRAM



3.5 Schema Diagram

The database for the cybercrime management system consists of 11 tables that stores the data related to cases details, users, admin, officers, police stations and other relevant information.



3.5.1 Data Integrity and Constraints:

- 1. Data Type Validation: This validity check ensures that the data entered the system matches the expected data type. For example, validating that a date field only accepts valid dates, or that a numeric field only accepts numerical values.
- 2. Range Validation: This validity check ensures that the data entered falls within an acceptable range.
- 3. Primary Key Constraint: This constraint ensures that every table has a column which can uniquely identify a row. This helps maintain consistency and accuracy in data relationships.
- 4. Format Validation: This validity check ensures that data is entered in the correct format. For example, validating that email addresses are in a valid email format, or that phone numbers are in a valid phone number format.

- 5. Mandatory Field Validation: This validity check ensures that required fields are filled in and not left blank. For example, validating that essential information such as the name of the complainee.
- 6. Unique Constraint: This constraint ensures that data entered into certain fields, such as a unique identifier or a unique email address, is unique and not duplicated. This helps prevent data duplication and inconsistency.
- 7. Referential Integrity Constraint: This constraint ensures that data entered into fields that reference other data, such as foreign keys, are valid and correspond to existing data in the system. This helps maintain consistency and accuracy in data relationships.
- 8. Length Validation: This validity check ensures that data entered into fields, such as names or addresses, does not exceed the allowed length. This helps prevent data truncation or overflow issues.
- 9. Pattern Matching Validation: This validity check ensures that data entered matches a specific pattern or regular expression. For example, validating that a password meets certain complexity requirements.

3.5.2 Data Dictionary

Case Details

This table stores the details of each case police officer and station assigned to the case.

| Column | Type | Null | Default |
|-----------------|-------------|------|---------|
| Hid | int(11) | No | 1 |
| CD_id (Primary) | int(11) | No | |
| C_id | int(11) | No | |
| PS_id | int(11) | Yes | NULL |
| P_id | int(11) | Yes | NULL |
| CD_status | varchar(50) | No | |
| U_id | int(11) | No | |

Case Update

This table stores the update regarding cases.

| Column | Туре | Null | Default |
|-----------------|---------|------|---------|
| cu_id (Primary) | int(11) | No | |
| C_id | int(11) | | |
| U_id | int(11) | No | |

| D_O_CU | date | No | current_timestamp() |
|---------|----------------|----|---------------------|
| CU_desc | varchar(10000) | No | |

$Complaint_info$

This table contains details about each case

| Column | Type | Null | Default |
|----------------|-------------|------|---------------------|
| C_id (Primary) | int(11) | No | |
| U_id | int(11) | No | |
| C_state | text | No | |
| C_type | text | | |
| C_doc | date | No | |
| C_desc | longtext | | |
| complaint_date | date | No | current_timestamp() |
| Status | varchar(15) | No | Pending |

Feedback

This table contains feedback by the complainee

| Column | Type | Null | Default |
|---------|----------------|------|---------------------|
| C_id | int(11) | No | |
| U_id | int(11) | No | |
| D_O_FB | date | No | current_timestamp() |
| FB_desc | varchar(10000) | No | |

Headquarter

This table contains the details of the headquarter

| Column | Type | Null |
|---------------|-------------|------|
| Hid (Primary) | int(11) | No |
| H_email | varchar(50) | No |
| H_password | varchar(20) | No |

Helpline

This table contains all the helpline numbers state and union territory wise.

| Column | Type | Null |
|----------------|-------------|------|
| S_no (Primary) | int(11) | No |
| State/UT | varchar(35) | |
| Name | varchar(50) | No |
| Rank | varchar(25) | No |
| Email | varchar(50) | No |
| Contact | bigint(13) | |

Log

This table contains the details about the login and logout time for each user.

| Column | Type | Null | Default |
|------------------|-------------|------|---------------------|
| Log_id (Primary) | int(11) | No | |
| H_id | int(11) | | |
| User_id | int(11) | No | |
| User email | varchar(50) | No | |
| User type | varchar(50) | No | |
| login_time | timestamp | | current_timestamp() |
| logout_time | timestamp | Yes | NULL |

Officer_info

This table contains details about each officer with his login details

| Column | Type | Null |
|----------------|-------------|------|
| P_id (Primary) | int(11) | No |
| P_name | varchar(50) | No |
| P_spec | varchar(50) | No |
| Prank | varchar(50) | No |
| P_password | varchar(20) | No |
| P_mob | bigint(10) | No |
| P_aadhar | bigint(15) | No |

Police Station

This table contains details about each station and their login details

| Column | Type | Null |
|-----------------|----------------|------|
| PS_id (Primary) | int(11) | No |
| PS_name | varchar(250) | |
| PS_email | varchar(100) | No |
| PS_locality | varchar(10000) | |
| PS_address | varchar(1000) | No |
| PS_password | varchar(17) | No |
| PS_State | varchar(50) | No |

Rejected Cases

This table contains details about cases which are rejected with reason

| Column | Type | Null | Default |
|------------|--------------|------|---------|
| H_id | int(11) | No | 1 |
| C_id | int(11) | No | |
| U_id | int(11) | No | |
| Rejec_desc | varchar(500) | No | |

User_infoThis table contains details of each user with their login details

| Column | Type | Null | Default |
|----------------|-------------|------|---------|
| U_id (Primary) | int(11) | No | |
| Uname | varchar(30) | No | |
| Uemail | varchar(50) | No | |
| Upassword | varchar(20) | No | |
| U_address | varchar(50) | No | |
| U_state | | | |
| Aadhar_no | bigint(1 2) | No | |
| Gender | | | |
| U_mob | varchar(13) | No | |
| U_dob | | No | |
| Status | varchar(15) | No | Active |

3.6 INTERFACE AND PROCEDURAL DESIGN

3.6.1 USER INTERFACE DESIGN:

• Landing Page:



Crime you may have witnessed

Here are the list of crimes that people faces most of the time.

Phishing

When a user receives spam emails that contain unauthorized attachments or URLs luring them to open the same, it is called phishing. The objective of this act is to gain personal information of users or organizations by tricking them. The cyber criminal may not directly harm the device being used but may cause financial loss to the user due to credentials shared, data loss due to website access that results in identity theft, etc.

Cyberstalking

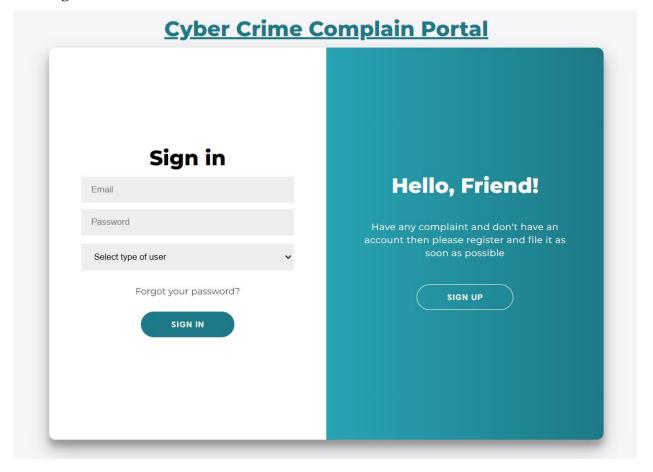
When someone follows another over social media, online websites or search engines subjecting the user to a plethora of online messages or emails threatening for his' her safety, it is cyberstalking. In serious cases, cyberstalking may lead to sextorion whereby the victim is threatened for personal pictures or videos seeking money or sexual advances from their victims.

Cyberstalking could result in cyberbullying which may be a permanent threat to mental and physical health

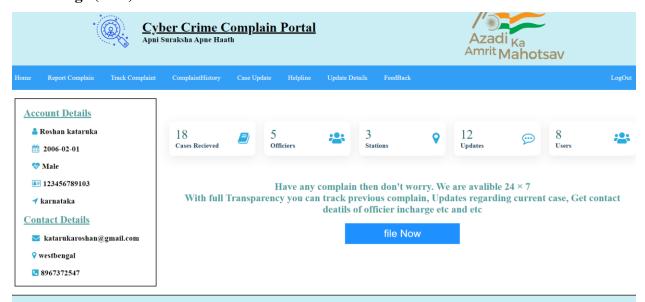
Malware Attacks

People using smartphones with internet connection are sometimes tracked for location, for their internet searches, the usernames and password typed on their device, through web cameras, etc.. At times, it could be legal and informed due to app permissions, but at other times, it may not be brought in the user's knowledge and become a serious threat to confidential data. Such an uninformed activity on devices which may sneak personal information resulting in bigger financial frauds or other threatening acts are called malware attacks.

• User login:



• Home Page (user):



• Complaint Tracking:



Complaint Details Show 10 ∨ entries Search: Complain State Complain type Complain Date Complain Description Complain Status No data available in table Showing 0 to 0 of 0 entries Previous Case Update Search: Update Date Update Description No data available in table Showing 0 to 0 of 0 entries Previous Next

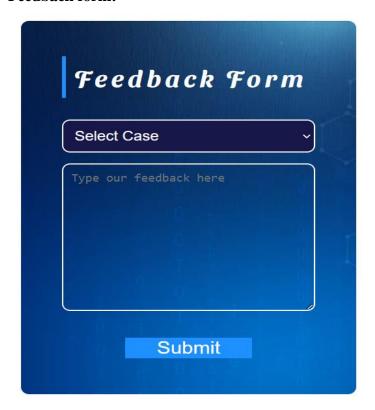
• Complaint History:

| Show 10 v entries | | | | | |
|-------------------|----------------|---------------------------------------|---------------|--|-----------------|
| Complain ID 🕴 | Complain State | Complain type | Complain Date | Complain Description | Complain Status |
| 1 | Karnataka | Stolen credit card information | 2023-01-12 | Details Taken Through call | Complete |
| 2 | Karnataka | Loss of control and access to content | 2023-02-16 | My insta Id is hacked and someone else is using it | Rejected |
| 6 | Karnataka | Stolen credit card information | 2023-04-14 | I have witnessed a crime | Pending |

• Complaint registration form:



Feedback form:



• View Case Updates:

| how 10 v entries | | | |
|------------------|-------------|--------------------|--|
| Complain ID | Update Date | Update Description | |
| 1 | 2023-04-14 | Complaint Filled | |
| 1 | 2023-04-14 | Station Assigned | |
| 1 | 2023-04-14 | Police Assigned | |
| 1 | 2023-04-15 | abcdef | |
| 1 | 2023-04-15 | Case Completed | |
| 2 | 2023-04-14 | Complaint Filled | |
| 2 | 2023-04-14 | Case Rejected | |

• User Details Update Form:



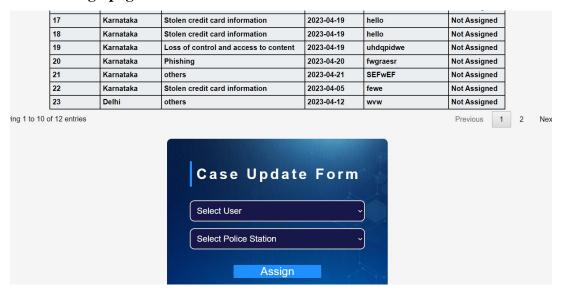
• User Registration Page:



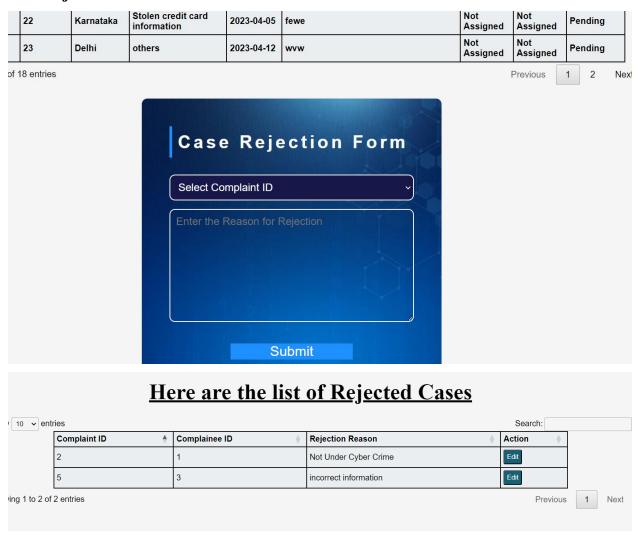
• Home Page (other user):



Station assign page:



• Case Rejection form:



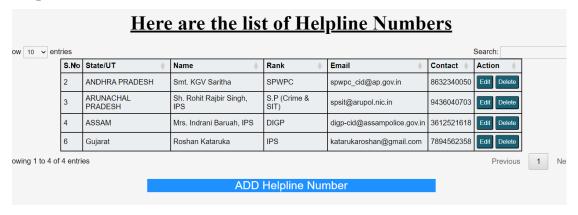
Log Details:



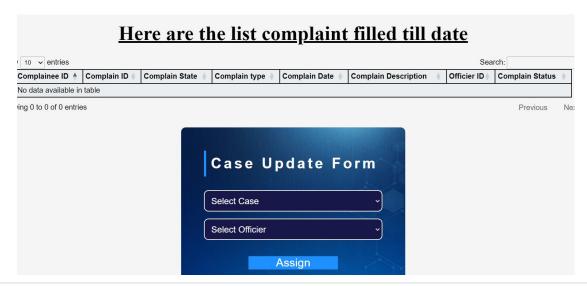
• Report Generation:



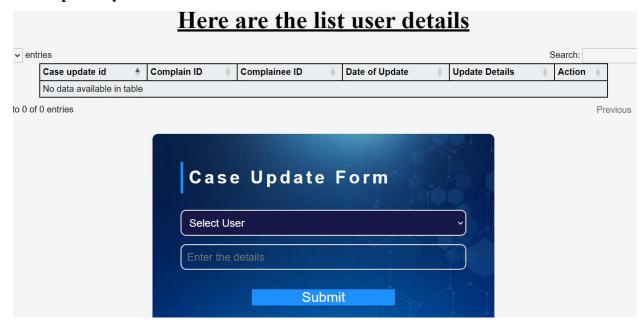
• Helpline desk:



• Officer Assign:



• Case Update by officer



3.6.2 PROCEDURAL DESIGN:

• Database connection:

```
session_start();
if(isset($_SESSION['hname']))
{
    $servername = 'localhost:3307';
    $username = 'root';
    $password = '';
    $database_name = 'cybercrimeportal';
    $conn = mysqli_connect($servername,$username,$password,$database_name);
}
else{
    echo "<script> location.href='form.php'</script>";
}
```

• User login:

```
if(isset($_REQUEST['login']))
   $user_type = $_REQUEST['type'];
$user_mail = $_REQUEST['logemail'];
$user_pass = $_REQUEST['logpass'];
   if($user_type=="Normal User"){
           $servername = 'localhost:3307';
$username = 'root';
           $password = '';
           $database_name = 'cybercrimeportal';
           $conn = mysqli_connect($servername,$username,$password,$database_name);
           $sql = "SELECT 'Uname', 'U_id' FROM 'user_info' where 'Uemail' = '$user_mail' AND 'Upassword' = '$user_pass' AND 'Status' = 'Active'; '; $sql_status = "SELECT 'Uname', 'U_id' FROM 'user_info' where 'Uemail' = '$user_mail' AND 'Upassword' = '$user_pass'; ';
           $result_status = mysqli_query($conn,$sql_status);
           $count_status = mysqli_num_rows($result_status);
           $result = mysqli_query($conn,$sql);
           $count = mysqli_num_rows($result);
           if($count==1)
               echo "found";
               while($row = mysqli_fetch_array($result))
                   $user_name = $row['Uname'];
                   $user_id = $row['U_id'];
               $_SESSION['username']= $user_name;
               $_SESSION['userid']= $user_id;
               $sql_log = "INSERT INTO `log` (`User_id`,`User_email`,`User_type`) VALUES ('$user_id','$user_mail','$user_type');";
               $result_log = mysqli_query($conn,$sql_log);
               if(!$result log)
                   echo "error";
               echo "<script> location.href='user_login.php'</script>";
                        else if($count_status==1 && $count==0)
                      echo "<script>
                      swal({
                            title: 'Profile Locked',
                            text: 'Your Profile is locked due to misleading info',
                            icon: 'error',
                            button: 'ohh noo!',
                      });
                      </script>";
                else{
                      // echo "Password or username incorrect";
                      echo "<script>
                      swal({
                             title: 'Invalid Username or Password',
                            text: 'You have not entered Incorrect details',
                            icon: 'error',
                            button: 'ohh noo!',
                      });
                      </script>";
                      }
```

• CRUD operations:

Update

DELETE

SELECT

```
<!php

$sql = "SELECT `complaint_info`.`C_id` FROM `complaint_info` WHERE `U_id`='$userid';";
$result = mysqli_query($conn,$sql);
if(!$result)
{
    echo " error";
}
else
{
    while($row = mysqli_fetch_array($result))
    {
        echo "<option value='".$row['C_id']."'>".$row['C_id']."</option>";
    }
}

}
```

INSERT

Case registration:

```
if($_SESSION['userid'])
{
    if(isset($_REQUEST['cstate']);
    $cstate = $_REQUEST['cstate'];
    $cdate = $_REQUEST['cstate'];
    $servername = 'localhost:3307';
    $username = 'localhost:3307';
    $username = 'root';
    $password = '';
    $fatabase_name = 'cybercrimeportal';
    $conn = mysqli_connect($servername,$password,$database_name);
    $sql = "INSERT INTO complaint_info' ('C_id', 'U_id', 'C_state', 'C_type', 'C_doc', 'C_desc') VALUES (NULL, '$userid', '$cstate', '$ctype', '$cdate', '$cdesc');";
    $result = mysqli_query($conn,$sql);
    if(i$result)
    {
        echo " error";
    }
    else{
        $sql1= "SELECT 'complaint_info' .'C_id' FROM 'complaint_info' WHERE 'C_id' NOT IN (SELECT 'C_id' FROM 'case_details' WHERE 'U_id'='$userid') AND 'U_id'='$userid';";
        $result1 = mysqli_query($conn,$sql1);
        $count = mysq
```

Officer selection (case assign):

```
if(isset($_REQUEST['submitassign']))
   $CUID = $_POST['cid'];
$officierid = $_POST['pid'];
   $check;
$sql3= "SELECT `P_id` FROM `case_details` WHERE `C_id`='$CUID';";
    $result3 = mysqli_query($conn,$sql3);
   if(!$result3)
        echo " error";
   while($row = mysqli_fetch_array($result3))
        $check=$row['P_id'];
   if($check==$officierid)
        echo "Error";
    else
       $sql= "UPDATE `case_details` SET `P_id`='$officierid' WHERE `C_id`='$CUID';";
$result = mysqli_query($conn,$sql);
        if(!$result)
            echo " error";
        else
            $sql1= "SELECT `U_id` FROM `complaint_info` WHERE `C_id`='$CUID';";
            $result1 = mysqli_query($conn,$sql1);
            if(!$result1)
                echo " error";
            while($row = mysqli_fetch_array($result1))
                         $uid=$row['U_id'];
                         if($check==NULL)
                         $$q12 = "INSERT INTO `case_update` (`C_id`,`U_id`,`CU_desc`) VALUES ('$CUID','$uid','Police Assigned');";
                         $$q12 = "INSERT INTO `case_update` (`C_id`,`U_id`,`CU_desc`) VALUES ('$CUID','$uid','Assigned Police Changed');";
                         $result2 = mysqli_query($conn,$sql2);
                         if(!$result2)
```

Police Station Assignment

```
<?php
if(isset($_REQUEST['submitassign']))
    $CUID = $_POST['cid'];
    $PSstation = $_POST['psid'];
$sql_station = "SELECT `PS_id` FROM `case_details` WHERE `C_id`='$CUID'";
    $result_station = mysqli_query($conn,$sql_station);
    $row_station = mysqli_fetch_assoc($result_station);
   if($row_station==NULL)
    $sql= "UPDATE `case_details` SET `PS_id`='$PSstation' , `CD_status`='Assigned' WHERE `C_id`='$CUID';";
    $result = mysqli_query($conn,$sql);
    if(!$result)
        echo " error";
        $sql= "SELECT `U_id` FROM `complaint_info` WHERE `C_id`='$CUID';";
       $result = mysqli_query($conn,$sql);
        if(!$result)
            echo " error";
        while($row = mysqli_fetch_array($result))
                    $uid=$row['U_id'];
                    $sq11 = "INSERT INTO `case_update` (`C_id`,`U_id`,`CU_desc`) VALUES ('$CUID','$uid','Station Assigned');";
                    $result1 = mysqli_query($conn,$sql1);
                    if(!$result1)
                        echo " error";
       echo "<script> location.href='HCdetails.php'</script>";
    else if($row_station==$PSstation){
           echo"error";
    else{
       $sql= "UPDATE `case_details` SET `PS_id`='$PSstation' , `CD_status`='Assigned' WHERE `C_id`='$CUID';";
    $result = mysqli_query($conn,$sql);
    if(!$result)
        echo " error";
```

Officer giving updates on the case:

```
if(isset($_REQUEST['submitupdate']))
{
    $CUID = $_POST['cid'];
    $array_id = explode(" ", $CUID );
    $cid1= $array_id[0];
    $uid1 = $array_id[1];
    $cupdate = $_POST['cupdate'];
    $sql= "INSERT INTO `case_update` (`C_id`,`U_id`,`CU_desc`) VALUES ('$cid1','$uid1','$cupdate');";
    $result = mysqli_query($conn,$sql);
    if(!$result)
    {
        echo " error";
    }
    else{
        echo "<script> location.href='OCupdate.php'</script>";
}
```

3.7 REPORTS DESIGN:

Case Rejection

Log DATA

```
<?php
       $sql = "SELECT * FROM `log`;";
       $result = mysqli_query($conn,$sql);
       $count = mysqli_num_rows($result);
       if($count>0)
          while($row = mysqli_fetch_array($result))
              $logout_del = $row['logout_time'];
              $value_log= $logout_del;
              if($logout_del==NULL)
                 $value_log="Still There";
              echo "
              " . $row['Log_id'] . "
              " . $row['User_id'] . "
              " . $row['User_email'] . "
              " . $row['User type'] . "
              " . $row['login_time'] . "
              " . $value_log . "
              ";
   Logout
else if(isset($_SESSION['stationname']))
   $station_id=$_SESSION['stationid'];
   $sql_log = "UPDATE `log` SET `logout_time`=now() WHERE `User_id`='$station_id';";
   $result_log = mysqli_query($conn,$sql_log);
   if(!$result log)
        echo "error";
   session_unset();
   session_destroy();
   echo "<script> location.href='form.php'</script>";
else{
echo "<script> location.href='form.php'</script>";
```

Track Complaint

```
<div class="center">
       <h1>Complaint Tracking</h1>
       <form action="<?php echo $ SERVER['PHP SELF']; ?>" method="post">
       <select name="cid" id="cid" required class='Drops'>
           <option value="">Select Case</option>
           <?php
              $sql = "SELECT `complaint_info`.`C_id` FROM `complaint_info` WHERE `U_id`='$userid';";
              $result = mysqli_query($conn,$sql);
              if(!$result)
                  echo " error";
              else
                  while($row = mysqli_fetch_array($result))
                      echo "<option value='".$row['C_id']."'>".$row['C_id']."</option>";
           ?>
       </select>
           <button name="Search">Search</putton>
       </form>
</div>
<?php
if(isset($_REQUEST['Search'])){
   $GLOBALS['Cid'] = $_REQUEST['cid'];
   $sql = "SELECT * FROM `complaint_info` WHERE `U_id` = '$userid' AND `C_id`='$Cid';";
   $result = mysqli query($conn,$sql);
   $count = mysqli_num_rows($result);
   if($count>0)
       while($row = mysqli fetch array($result))
           echo "
            " . $row['C_state'] . "
            " . $row['C_type'] . "
           " . $row['C_doc'] . "
           " . $row['C desc'] . "
            " . $row['Status'] . "
            ";
?>
```

User Registration

```
<?php
use PHPMailer\PHPMailer\PHPMailer;</pre>
$servername = 'localhost:3307';
$username = 'root';
$password = '';
$database_name = 'cybercrimeportal';
$conn = mysqli_connect($servername,$username,$password,$database_name);
if(isset($_POST['signup_nu']))
      $new_user_name = $_POST['nuname'];
      $new_user_gender = $_POST['nugender'];
$new_user_nupass = $_POST['nupass'];
      >new_user_nupass = $_POST['numpass'];
>new_user_numbb = $_POST['numbo'];
>new_user_nAadhar_no = $_POST['nAadhar_no'];
>new_user_nustate = $_POST['nustate'];
>new_user_enail = $_POST['numail'];
>new_user_dob = $_POST['num008'];
>new_user_add = $_POST['nuaddress'];
      $sql = "INSERT INTO `user_info' ('U_id', 'Uname','Uemail', 'Upassword', 'U_address', 'U_state', 'Aadhar_no','Gender','U_mob', 'U_dob') VALUES (NULL, '$new_user_name', '$new_user_email','$new_user_nupass', '$new_user_add', '$new_user_nustate', '$new_user_nAadhar_no','$new_user_gender','$new_user_numob', '$new_user_dob');";
      $result = mysqli_query($conn,$sql);
      if(!$result)
             echo " error";
            echo "<script>
             swal({
                  title: 'Successfully Registered',
                  icon: 'success',
button: 'Yess!',
            });
            </script>";
// echo "Successfully Registered";
require 'vendor/autoload.php';
                                    //Create an instance; passing `true` enables exceptions
$mail = new PHPMailer(true);
                            //Server settings
// $mail->SMTPDebug = SMTP::DEBUG_SERVER;
                                                                                                                          //Enable verbose debug output
                           // Smail->SMTPDebug = SMTP::DEBUG_SERVER;
$mail->isSMTP();
$mail->Host = 'smtp.gmail.com';
$mail->SMTPAuth = true;
$mail->Username = 'hiralalhero94@gmail.com';
$mail->Possword = 'miglprxmxdzympzvx';
$mail->SMTPSecure = PHPMailer::ENCRYPTION_SMTPS;
$mail->Port = 465;
                                                                                                                   //Send using SMTP
//Set the SMTP server to send through
                                                                                                                      //Enable SMTP authentication
                                                                                                                               //SMTP username
                                                                                                                                    //SMTP password
                                                                                                                      //Enable implicit TLS encryption
                                                                                                                      //TCP port to connect to; use 587 if you have set `SMTPSecure = PHPMailer::ENCRYPTION_STARTTLS`
                            //Recipients
                            //Optional name
                            //Content
                            $mail->isHTML(true);
                                                                                                            //Set email format to HTML
                            #mail->Body = 'Hope You are doing Great <br/>bYour Apna Cyber Dost!</br>
                            Dost';
// $mail->AltBody = 'This is the body in plain text for non-HTML mail clients';
                            if($mail->send()) {
                            } else {
    echo 'Message could not be sent.';
    echo 'Mailer Error: ' . $mail->ErrorInfo;
```

Chart Code

```
< ₹?php
     $servername = 'localhost:3307';
     $username = 'root';
$password = '';
     $database_name = 'cybercrimeportal';
     $conn = mysqli_connect($servername,$username,$password,$database_name);
 ?>
 var ctx = document.getElementById('lineChart').getContext('2d');
var myChart = new Chart(ctx, {
     type: 'line',
     data: {
         labels: ['Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun', 'Jul', 'Aug', 'Sep', 'Oct', 'Nov', 'Dec'],
         datasets: [{
             label: 'Cases ',
             data: [<?php
                 $sql = "SELECT * FROM `complaint_info` WHERE MONTH(`C_doc`)=1;";
                 $result = mysqli_query($conn,$sql);
                 $count = mysqli_num_rows($result);
                 echo $count;
              ?>
              <?php
               $sql = "SELECT * FROM `complaint_info` WHERE MONTH(`C_doc`)=2;";
               $result = mysqli_query($conn,$sql);
               $count = mysqli_num_rows($result);
               echo $count;
                $sql = "SELECT * FROM `complaint_info` WHERE MONTH(`C_doc`)=3;";
                 $result = mysqli_query($conn,$sql);
                 $count = mysqli_num_rows($result);
                 echo $count;
                <?php
                 $sql = "SELECT * FROM `complaint_info` WHERE MONTH(`C_doc`)=4;";
                 $result = mysqli_query($conn,$sql);
                 $count = mysqli_num_rows($result);
                 echo $count;
               $sql = "SELECT * FROM `complaint_info` WHERE MONTH(`C_doc`)=5;";
               $result = mysqli_query($conn,$sql);
               $count = mysqli_num_rows($result);
               echo $count;
```

```
var ctx2 = document.getElementById('doughnut').getContext('2d');
var myChart2 = new Chart(ctx2, {
    type: 'doughnut',
    data: {
        labels: ['Victim', 'Station', 'Officier'],
        datasets: [{
            label: 'WorkForce',
            data: [<?php
                $sql = "SELECT * FROM `complaint_info`;";
                $result = mysqli_query($conn,$sql);
                $count = mysqli_num_rows($result);
                echo $count;
             ?>
             <?php
             $sql = "SELECT * FROM `policestation`;";
             $result = mysqli_query($conn,$sql);
             $count = mysqli_num_rows($result);
             echo $count;
             ?>
             <?php
                $sql = "SELECT * FROM `officier_info`;";
                $result = mysqli_query($conn,$sql);
                $count = mysqli num rows($result);
                echo $count;
               ?>],
            backgroundColor: [
                'rgba(41, 155, 99, 1)',
                'rgba(54, 162, 235, 1)',
                'rgba(255, 206, 86, 1)',
                'rgba(120, 46, 139,1)'
            ],
            borderColor: [
                'rgba(41, 155, 99, 1)',
                'rgba(54, 162, 235, 1)',
                'rgba(255, 206, 86, 1)',
                'rgba(120, 46, 139,1)'
            ],
            borderWidth: 1
        }]
```

Feedback

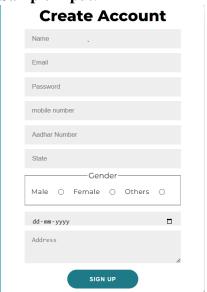
```
<section class="my_form">
<div class="center"
      <h1>Feedback Form</h1>
      $sql = "SELECT `C_id' FROM `complaint_info` WHERE `C_id' NOT IN (SELECT `C_id' FROM `feedback') AND `U_id'='$userid' AND `Status'='Complete';";
               $result = mysqli_query($conn,$sql);
if(!$result)
                  echo " error";
                  while($row = mysqli_fetch_array($result))
                     echo "<option value='".\c C_id']."'>".\c C_id']."</option>";
         </select>
         <textarea name="fdesc" id="fdesc" name="fdesc" cols="30" rows="10" placeholder="Type our feedback here"></textarea>
         <button name="submit">Submit</button>
</div>
</section>
if(isset($_REQUEST['submit']))
    $cid = $_REQUEST['cid'];
    $fdesc = $_REQUEST['fdesc'];
    $sql1= "INSERT INTO `feedback` (`C_id`,`U_id`,`FB_desc`) VALUES('$cid','$userid','$fdesc');";
    $result1 = mysqli_query($conn,$sql1);
    if(!$result1)
         echo "error";
}
'>
```

4. Testing

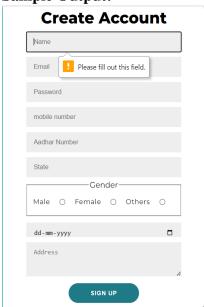
Signup/Login:

• For checking empty values

Sample Input:



Sample Output:



• For Name field validation

Sample Input: 5

Sample Output:



Invalid key press

You cannot enter numbers!

OOH NOO!

• Aadhar card Validation

Sample Input:

745896

Sample Output:



Invalid Aadhar card number

You have Entered wrong Aadhar card number!

OOH NOO!

• Password Validation

Sample Input: Roshan@123



Invalid Password

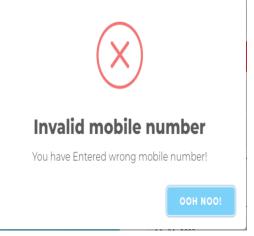
You have Entered wrong password sequence all small caps with special characters, numbers and 7 to 15 length

OOH NOO!

• Mobile Number Validation

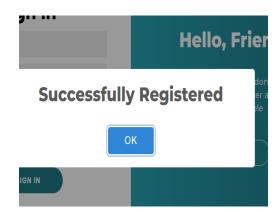
Sample Input:8

Sample Output:



• Successful Login

Sample output:

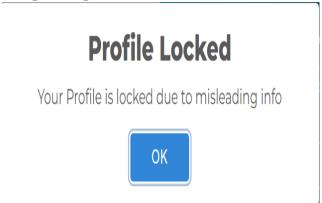




For Login Page.

• When User is locked by the headquarter

Sample Output:



• When incorrect user email and password

Sample Input: roshankataruka@gmail.com roshan(pass)

Sample Output:

Invalid Username or Password

You have not entered Incorrect details



For Report Generation Validation

Sample Input: Start date 01-01-2023 End Date 01-01-2022

Sample Output:



Incorrect

start date cannot exceed end date

6. Conclusion

Designing and implementing a cybercrime management system requires careful consideration of a wide range of factors, from user requirements to data management and security. With careful planning and attention to detail, however, it is possible to create a system that streamlines the case solving process and ensures quality service.

6.1 Design and Implementation Issues

- **User requirements**: Before starting the design process, it is important to identify the needs of the users of the system. This may include the complainee, officer in-charge, SHO, etc. Understanding the specific requirements of each group is essential in order to create a system that is useful and effective.
- **Functionality**: The cybercrime management system should have a range of features to support the planning and coordination of various aspects regarding the case. This may include tools for analyzing the case, police station management, officer management, scheduling, and communication.
- **Data management**: The system should be designed to efficiently manage large amounts of data related to the case, such as complainee lists, officer contacts, and schedules. This may involve the use of a database or other data management tools.
- **Usability**: The system should be easy to use and navigate, with a clear and intuitive interface. This is particularly important for users who may not be technically savvy or familiar with the system.

6.1.1 Design Issues:

- **Usability**: The system should be easy to use and navigate, with a clear and intuitive interface. This is particularly important for users who may not be technically savvy or familiar with the system.
- **Database design**: The database should be designed to store all relevant data in a structured and organized manner. The design should support efficient querying and retrieval of data to facilitate easy management of the wedding.
- **System architecture design**: The system architecture should be designed to ensure that the system is scalable and can handle large volumes of data. The architecture should also ensure that the system is reliable and resilient in case of failure or downtime.

6.1.2 Implementation Issues:

• **Hardware and software requirements**: The system may require specific hardware and software to function effectively, such as servers, databases, and web development tools. Ensuring that the appropriate hardware and software are in place can be a critical part of the implementation process.

- Quality assurance and testing: Before deploying the system, it is important to conduct thorough quality assurance testing to ensure that the system is functioning correctly and meets user requirements.
- **Performance optimization:** The system should be optimized for performance to ensure that it can handle the demands of peak usage periods and provide fast response times.

6.2 Advantages and Limitations

Advantages:

- Transparent system as each and every update made by the assigned officer are visible to the users, till the case is completed.
- Reporting and analytics: The system should provide reporting and analytics features, such as case reports, workforce reports, and number of cases received and solved reports.
- Feedback processing: the feedback given by the user is reviewed by the headquarters.
- Case rejection: the cases that does not come under cybercrimes are rejected directly by the headquarters.
- User can be blocked by the admin, if at all fake profiles are found.

Limitations

- Auto-assignment: the case is not automatically assigned to the nearest police station, it's manually done.
- Limitations in Testing: During testing, some limitations were identified that could not be modified due to technical limitations or budget constraints. For example, the scalability of the system was not tested on a large scale due to budget constraints.

6.3 Future Scope of the Project:

- Communication: multiple communication methods like SMS, calls, e-mails, etc. can be added to make communication part efficient.
- Auto-assignment: the cases can be auto-assigned to the nearest station and based on the case profile, officers can also be shortlisted

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