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DEPARTMENT OF
MASTER OF COMPUTER APPLICATIONS

SOFTWARE ENGINEERING Assignment

18MCA21

Submitted in partial fulfillment of the requirements for the award

of degree of

MASTER OF COMPUTER APPLICATONS

By

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2019-2020

RV COLLEGE OF ENGINEERING®,

(Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi)

DEPARTMENT OF
MASTER OF COMPUTER APPLICATIONS

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CERTIFICATE

Certified that the Assignment titled **"POLLUTION ANALYSIS AND CONTROL"** carried out by **SNEHAL MAHADEV HUKKERI**, USN : **1RD19MCA09**, a bonafide student of RV College of Engineering, Bengaluru submitted in partial fulfilment for the award of Master of Computer Applications of RV College of Engineering, Bengaluru affiliated to Visvesvaraya Technological University, Belagavi during the year 2019-20. It is certified that all corrections/suggestions indicated for internal assessment have been incorporated in the report deposited in the departmental library. The report has been approved as it satisfies the partial academic requirement in respect of the course Software Engineering 18MCA21.

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POLLUTION ANALYSIS AND CONTROL

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Abstract

Pollution is a word that we all aware of these days. Pollution is an undesirable change in the physical, chemical or biological characteristics of air, water and soil that may harmfully affect the life or create potential health hazard of any living organism. Pollution is thus direct or indirect change in any component of the biosphere that is harmful to the living components and in particular undesirable for man, affecting adversely the industrial progress, cultural and natural assets or general environment of living society. The scope of existing Environmental Health Monitoring Apps is limited to provide data of extent of pollution and corresponding reasons for pollution. The scope of existing apps can be extended to analyzing and resolving pollution related problems.

Methodology of project includes requirement specification, designing implementation and testing. The main objective of the application is to analyze and resolve pollution related problems. The tools used are NETBEANS 8.1, Java programming language toolkit JDK1.8, Java Runtime Environment, MySQL connector java 5.0, MySQL Tools for Server 5.1 and used Apache Tomcat 7.0.server.

This application enables the user to be aware about environmental condition in his locality and provides required measures for improvement of polluted environment. Helps the user to take precautionary actions to prevent the pollution.

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1.Introduction

1.1 Project Description

1.1.1.Basic Introduction of the Project

This application is to analyze and resolve pollution related problem. This is two tier application. Here user will register to the application where user can be particular person or an organization, user report the problem such as air, water, noise and soil pollutions. The user can also provide innovative ideas to solve the problem. The ideas can be related to solving the problem report or to provide social awareness to the people.

The application helps to analyze the reported problem and by analyzing the reported problem appropriate event will be planned and organized by considering the ideas provided by other users to solve that particular problem. Along with this few events are conducted in order to create awareness among people regarding various types of pollution, their effect on biodiversity and ecosystem and their control measures.

The event details are provided by application which consist description of event such as problem for which the event is organized, place where the event is organized, number of volunteers, budget required to conduct that particular event.

While proceeding the event user can participate as volunteer or sponsor or both, sponsor can sponsor any material or money for the event and volunteer works for event to make an event successful.

By following these methods the application is trying to solve the pollution related problem and trying to provide social awesomeness among people.

1.1.2.Concept relevant to the project

Abstraction-
Data abstraction is the process of hiding certain details and showing only essential information to the user.

Encapsulation-
Encapsulation in Java is a mechanism of wrapping the data (variables) and code acting on the data (methods) together as a single unit.

Polymorphism-
Polymorphism in Java is a concept by which we can perform a single action in different ways. ... So polymorphism means many forms. There are two types of polymorphism in Java: compile-time polymorphism and runtime polymorphism. We can perform polymorphism in java by method overloading and method overriding.

Inheritance-
It is the mechanism in java by which one class is allow to inherit the features (fields and methods) of another class.

1.2 Existing and Proposed System

1.2.1.Problem statement and Scope of the project

The application helps to analyze the reported problem and by analyzing the reported problem appropriate event will be planned and organized by considering the ideas provided by other users to solve that particular problem. Along with this few events are conducted in order to create awareness among people regarding various types of pollution, their effect on biodiversity and ecosystem and their control measures

The application is trying to solve the pollution related problem and trying to provide social awesomeness among people. As it collects the problems regarding various pollution types such as air pollution, soil pollution, water pollution etc.in various areas, reported by user. Based on these problems Admins plan a appropriate event and organize in the area it was reported sometimes based on ideas provided by other users. These events are managed by one of the admins and by conducting events they try to solve reported problem. And conduct some other events to provide social awareness regarding prevention and controls of pollutions to people.

1.2.2.Methodologyadopted in the proposed system

Methodology of project includes requirement specification, designing implementation and testing.

The spiral model is similar to the incremental development for a system, with more emphasis placed on risk analysis. The spiral model has four phases: Planning, Design, Construct and Evaluation. A software project repeatedly passes through these phases in iterations called Spirals.

Planning: According to spiral model at first, we began with requirements collection. Requirements were gathered by visiting various websites to know the current need for user, which provides offline guidance for shopping. Later requirements were gathered by consulting various shop owners to get information about emerging trends in various places which can help user in shopping

Design: Later based on these requirements designs were developed. Design phase starts with the design in the baseline spiral and involves architectural, logical design of modules, physical product design and final design in the successive

spirals. Designs such as Activity diagrams, Usecase diagrams, ER diagrams, DFD's, Database designs.

Construct: According to designs developed coding was done. Construct phase refers to development of the final software at every spiral. A Proof of Concept (POC) is developed in this phase to get the users' feedback.

After coding Testing was conducted to test each phase in order to check the correct working of each module.

Likewise, each module is developed separately. Finally developed modules are integrated with other modules

Evaluation and Risk Analysis: Risk analysis includes identifying, estimating, and observing technical feasibility such as schedule slippage and cost overrun. After testing the build, at the end of first iteration, user evaluates the software and provides the feedback. Based on the customer assessment, development process enters into the next iteration and afterwards follows the linear approach to implement the feedback provided by the user. The process of iterations along the spiral carries on with throughout the life of the software.

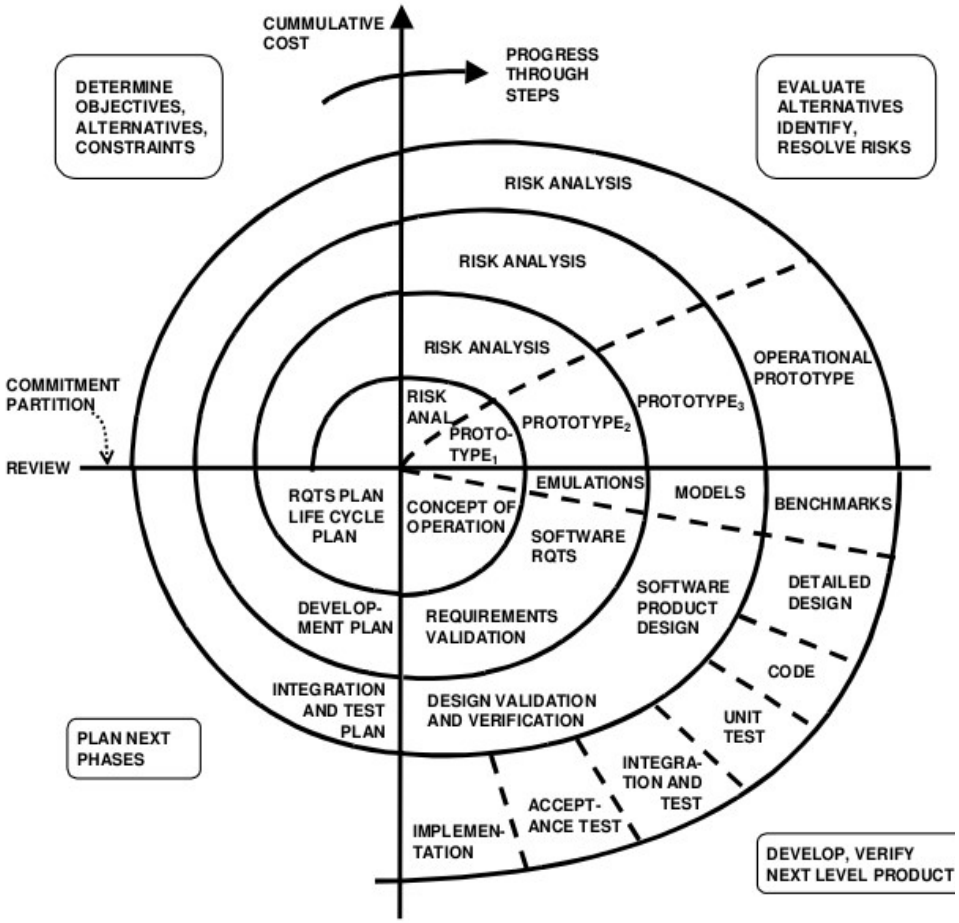


Figure 1: Spiral Model

1.2.3.Technical Features of the proposed system

The tools used are NETBEANS 8.1, Java programming language toolkit JDK1.8, Java Runtime Environment, MySQL connector java 5.0, MySQL Tools for Server 5.1 and used Apache Tomcat 7.0.server.

As have used NETBEANS, our application is platform independent you can run it on Windows, macOS, Linus and Solaris.

1.3 Tools and Technologies used

1.3.1.Platform / Tools used in implementing the project

The tools used are NETBEANS 8.1, Java programming language toolkit JDK1.8, Java Runtime Environment, MySQL connector java 5.0, MySQL Tools for Server 5.1 and used Apache Tomcat 7.0.server.We have used Windows platform.

1.4. Hardware and Software Requirements

The application requires computer system with Intel / AMD 64 bit processor, minimum 2.45 MB RAM and 2.93 MB disk space and it uses other hardware devices like mouse and keyboard as positioning devices and monitor for showing the important information and this whole system interact with the internet server for getting and changing information online from anywhere if you are accessing from personal computer.

The application needs NETBEANS 8.1, Java programming language toolkit JDK1.8, Java Runtime Environment, MySQL connector java 5.0, MySQL Tools for Server 5.1.Apache Tomcat 7.0.server.

2.Software Requirement Specifications

2.1 Introduction

The application helps to analyze the reported problem and by analyzing the reported problem appropriate event will be planned and organized by considering the ideas provided by other users to solve that particular problem. Along with this few events are conducted in order to create awareness among people regarding various types of pollution, their effect on biodiversity and ecosystem and their control measures.

2.1.1 Purpose

This application is to analyze and resolve pollution related problem. This is two tier application. Here user will register to the application where user can be particular person or an organization , user report the problem such as air, water, noise and soil pollutions. The user can also provide innovative ideas to solve the problem. The ideas can be related to solving the problem report or to provide social awareness to the people.

2.1.2 Document Conventions

The event details are provided by application which consist description of event such as problem for which the event is organized, place where the event is organized , number of volunteers ,budget required to conduct that particular event. While proceeding the event user can participate as volunteer or sponsor or both, sponsorer can sponsor any material or money for the event and volunteer works for event to make an event successful.

2.1.3 Intended Audience and Reading Suggestions

The Intended Audience to the application are users who play the various roles such as volunteer, sponsorer along with reporting problems regarding particular pollution in particular area and also provide idea to solve the problem based on particular pollution types. Speaking of the admins, they plan and organize event based on problems reported by user regarded to particular pollution type one among the admins manage the event and look after the needs of the event.

2.1.4 Project Scope

The application is trying to solve the pollution related problem and trying to provide social awesomeness among people. As it collects the problems regarding various pollution types such as air pollution, soil pollution, water pollution etc.in various areas ,reported by user. Based on these problems Admins plan a appropriate event and organize in the area it was reported sometimes based on ideas provided by other users. These events are managed by one of the admins and by conducting events they try to solve reported problem. And conduct some other events to provide social awareness regarding prevention and controls of pollutions to people.

2.2 General Description

2.2.1.Product Perspective

The main perspective of the application is to solve the pollution related problem and trying to provide social awareness among people. By collects the problems regarding various pollution types such as air pollution, soil pollution, water pollution etc.. in various areas. These problems are reported by user registered to the system. By analyzing these problems Admins plan a appropriate event and organize in the area it was reported sometimes based on ideas provided by other users to solve the particular problem. These events are managed by on of the admins and by conducting events they try to solve reported problem. And conduct some other events to provide social awareness regarding prevention and controls of pollutions to people. Here users also act as volunteer and sponsors, where volunteers participate in event to help solve the problems and sponsor sponsors money or material for event that is organized.

2.2.2.Product Functions

The important feature of the application is that it helps resolve pollution related problems, which are reported by users. Solution of the problem will in form an event which will be planned and organized by admins by analyzing the problem reported .

2.2.3.User Characteristics

There are mainly two users of this application one is users and admin . Where users is th one who report problem on various pollution types and play other roles such as volunteer, sponsor and also provide idea to solve the problem based on particular pollution types. The admins plan and organize event based on problems reported by user regarded to particular pollution type one among the admins manage the event and look after the needs of the event.

2.2.4.Operating Environment

The application requires computer system with Intel / AMD 64 bit processor, minimum 2.45 MB RAM and 2.93 MB disk space and it uses other hardware devices like mouse and keyboard as hardware. And NETBEANS 8.1, Java programming language toolkit JDK1.8, Java Runtime Environment, MySQL connector java 5.0, MySQL Tools for Server 5.1 as software specification. We have used Apache Tomcat 7.0.server.

2.2.5.User Documentation

Users are imported modules of the the application , as they play various roles such that report the problems , provide specific idea regarding specific pollution type, volunteer for the event and help in conduction of event and sponsor money or material that would be required for event. This information of various roles of user are known to him once he register to the application.

2.2.6.Assumptions and Dependencies

The application requires internet connection to collect information from users who are at different places. The application also have information dependency for collecting information of status of all the events that are conducted at different places.

2.3 Functional Requirement

2.3.1.Introduction

Once the user has registered, the application allows user to login using username and password. Application allows user to report pollution related problems and share ideas to solve them. Based on the pollution related problems, application allows admin to organize event to solve particular problem.It also allows the admin to give details about the outcome of the event. User might give feedback about the event.

2.3.2.Input,Processing and Output

The functional requirements defines functions of a system or its components. Function is described as a set of inputs,the behavior and outputs.

i. **.Registration:**The user register himself to the application. First the user will enter his/her information like name,address,contact number,email id,username and password in the registration form,the form is then validated for correctness of the data at client side and then sent to the server ,once it sent to the server and stored in the database user will get confirmation as registration successful.

ii. **Login:**After user registration ,the user who is registered clicks on the login ,fills the data like username and password in the form and click on login button. The submitted form is then validated with the database data. If the username and password is matching, then the user is allowed to go to the next page. If the user credentials are not matching, then error message is displayed.

iii. **Reporting pollution related problems:** The registered user,after login can reports pollution related problems by filling the details of the pollution like pollution type,pollution area,pollution description in the

report problem form, the details are then stored in the database and user will confirmation as Problem reported successfully.

iv. .**Sharing Idea** :Registered user after login can share ideas to solve pollution related problem by filling details like pollution type,description in the IDEA form and then these details are stored in the database and the user will get confirmation as idea submitted successfully.

v. .**Event Details:** To solve problems reported by users, admin will login ,views user reported problems and organize event by filling details like event name,pollution type,event place, event date in the EVENT FORM and then event details are stored in the database.

vi. **Requirements :** Once the event is planned by the admin to solve particular pollution related problem ,he/she will specify needs/requirements of the event to conduct it successfully ,by filling details like required money,required materials and required volunteers in the REQUIREMT FORM and then details are stored in the database.

vii. **Outcome:** Once the event is conducted successfully the outcome of the event will be updated by admin by filling details like Event status and description in the OUTCOME FORM then details are stored in the database.

viii. **Feedback:**Registered user after login can give feedback about the event by filling the details like event id,pollution type,description in FEEDBACK FORM then details are stored in the database.

2.4 External Interfaces Requirements

2.4.1 User Interfaces:

First interface includes the login option for the user and it asks the user about username and password, If not a valid user the system prompts by displaying error massage that ‘’Not a valid user". And if he/she is a valid user then the main page of the application appears where various options are provided. Where user can report problems, share ideas, see event details and give feedback.

2.4.2 Hardware Interfaces:

The application requires computer system with Intel / AMD 64 bit processor, minimum 2.45 MB RAM and 2.93 MB disk space and it uses other hardware devices like mouse and keyboard as positioning devices and monitor for showing the important information and this whole system interact with the internet server for getting and changing information online from anywhere if you are accessing from personal computer.

2.4.3 Software Interfaces:

NETBEANS 8.1, Java programming language toolkit JDK1.8, Java Runtime Environment, MySQL connector java 5.0, MySQL Tools for Server 5.1..We have used Apache Tomcat 7.0.server.

2.4.4 Communications Interfaces:

As we have used JAVA programming language, java object is a combination of data and procedures working on the available data. An object has a state and behavior. The state of an object is stored in fields (variables) while methods (functions) displays the object's behavior.

Communication between objects and classes: Passing object as parameter to a method of an object that belongs to a different class type, this way you pass attribute of an object to another object of a different class just call an methods of object of another class.so you can create an object of this class to get information of other object of different class.

This is how different components communicates in our application.

2.5 Non Functional Requirements

i. **Speed:** Our application responds quickly it will take maximum 50 sec to load each page.

2 aspects of speed are bandwidth and access latency an average 45 seconds.

Sustained bandwidth: Average data rate during a large transfer. Bytes/transfer time .i.e. bytes per second.

-Data rate when the data stream is actually flowing.

Effective Bandwidth: Average over the entire I/O time.

Access latency: Amount of time needed to locate data. Latency is the delay from the input into a system to a desired outcome.

ii. **Security**: Every user is provided with a particular fixed set of user privileges.In our application user credentials are, user can view his details,he can edit his details,he can report pollution related problems,he can sponsor,he can volunteer event and he can give feedback but he can't see admin information. Admin credentials are, Admin can view user information but he can't edit it. Admin can view all the information about problems,events,feedbacks.

iii. **Reliability:** Our application can perform a failure free operation in a netbeans environment using apache server and MYSQL database. Our application assures that it is fault free because we have handled all possible exceptions using exception handling mechanism of JAVA and is reliable for its intended purpose, i.e.solving pollution related problems effectivly.

iv. **Software Quality:** system is adaptable any file containing information of site details can be inserted to the database. It’s availability is high, it

depends only on the maximum number of internet users allowed, it's correctness is high.It also has some more quality attributes like reliability, reusability, testability, flexibility and usability.

v. **Ease of use**:Our application is user friendly,as its GUI (Graphical user interface) is not so complicated for user to use our application .All required instructions are given in the application. User with basic knowledge of accessing Internet can use our application easily. Using user feedback we are improving user experience.

vi. **Portability:**Our application is portable and can be run on Windows,MacOS and Linux platforms easily .As we have developed this application using NetBeans ,open source IDE and java programming language ,it can run across different platforms and is easy to use.

3.System Design (High level or Architectural Design)

3.1 System Perspective /Architectural Design

3.1.1.Problem Specification

This application is to analyze and resolve pollution related problem. This is two tier application. Here user will register to the application where user can be particular person or an organization, user report the problem such as air, water, noise and soil pollutions. The user can also provide innovative ideas to solve the problem. The ideas can be related to solving the problem report or to provide social awareness to the people.

The application helps to analyze the reported problem and by analyzing the reported problem appropriate event will be planned and organized by considering the ideas provided by other users to solve that particular problem. Along with this few events are conducted in order to create awareness among people regarding various types of pollution, their effect on biodiversity and ecosystem and their control measures.

3.1.2.Block Diagram

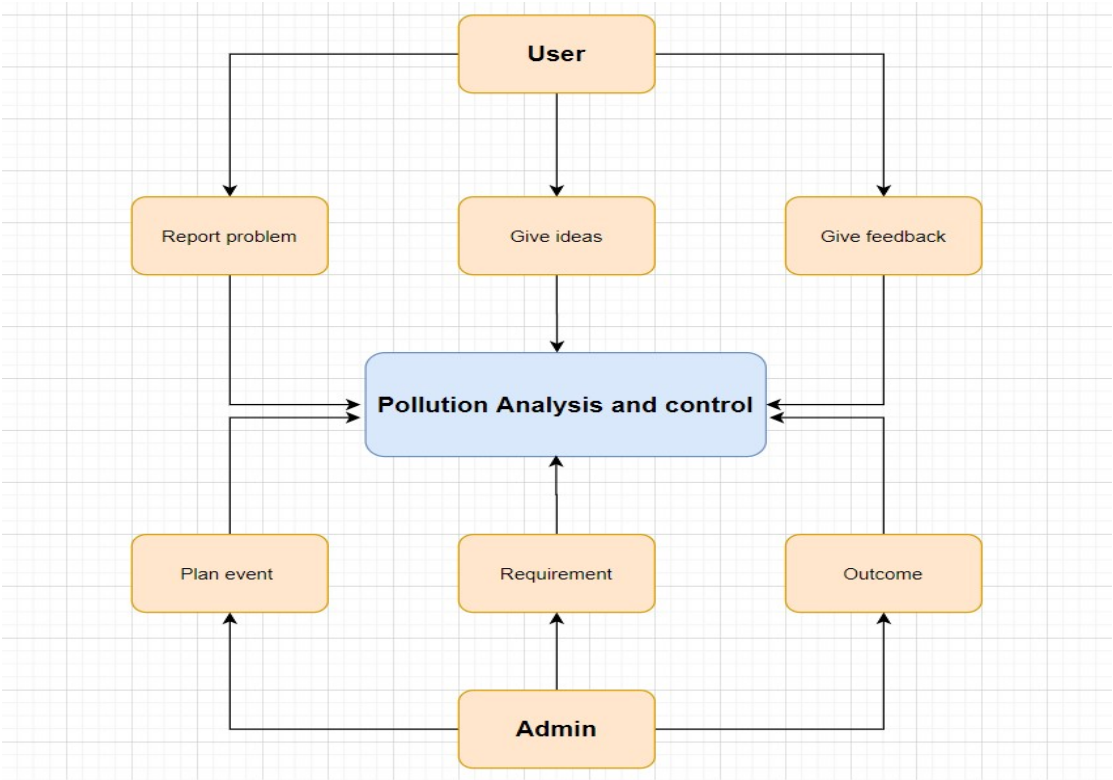
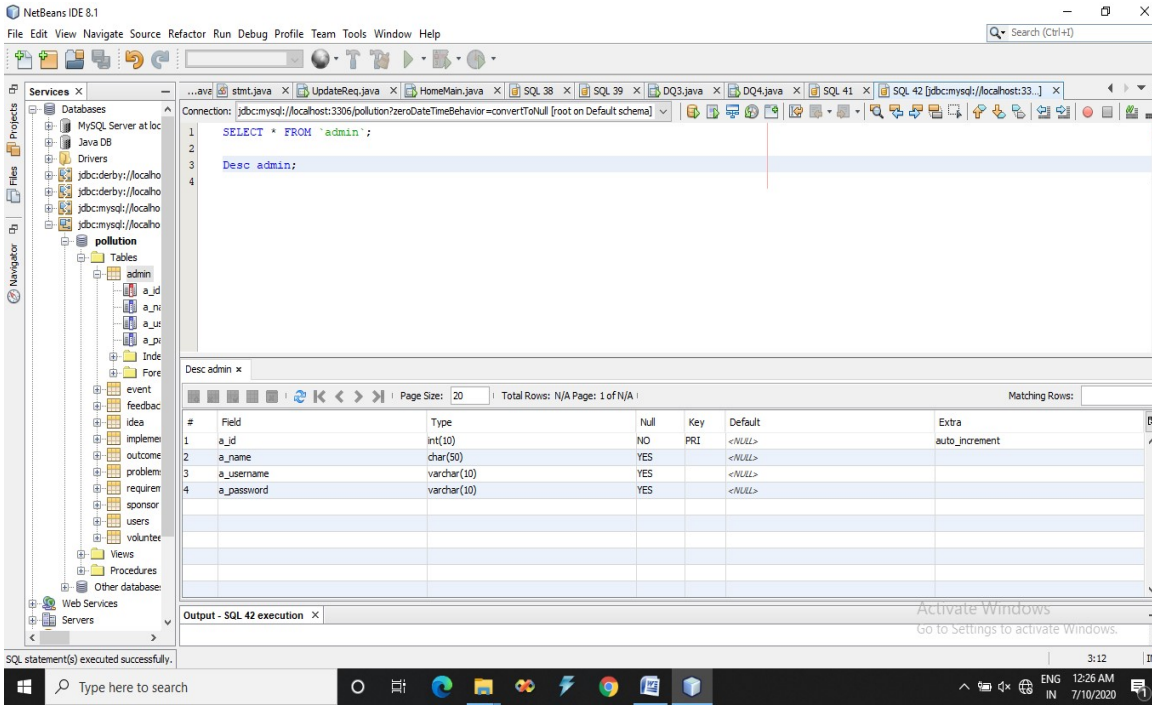


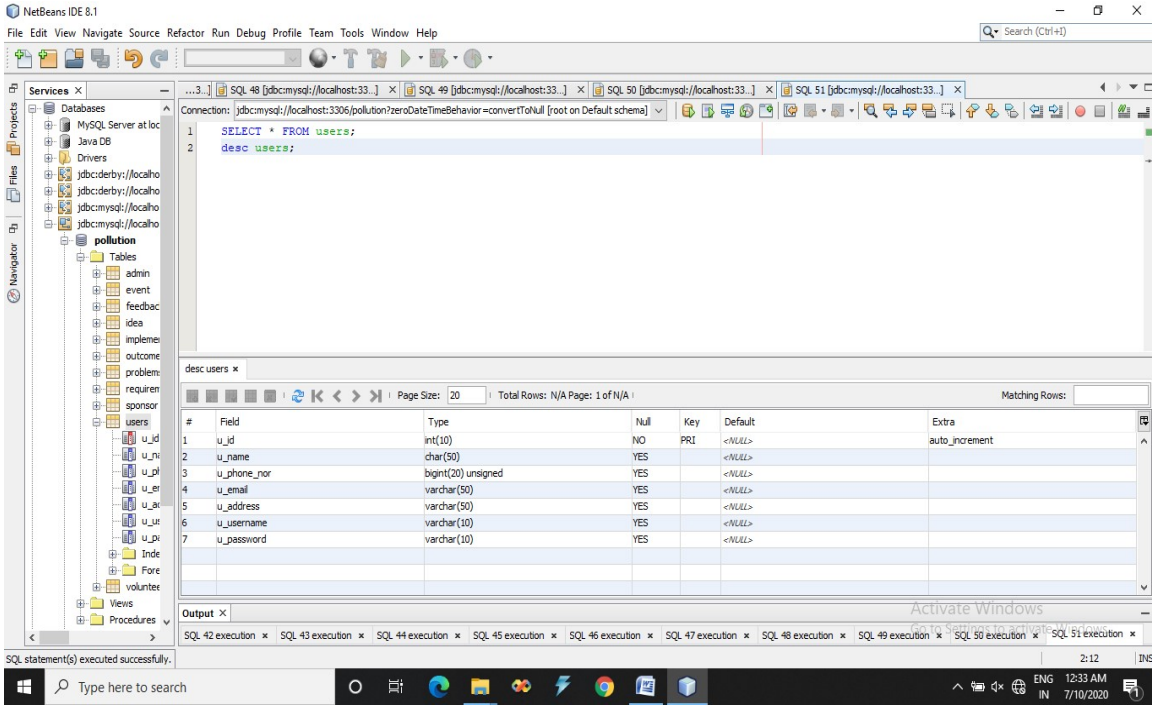
Figure 2:Block Diagram

3.1.3.Data definition/Dictionary (Data base details)

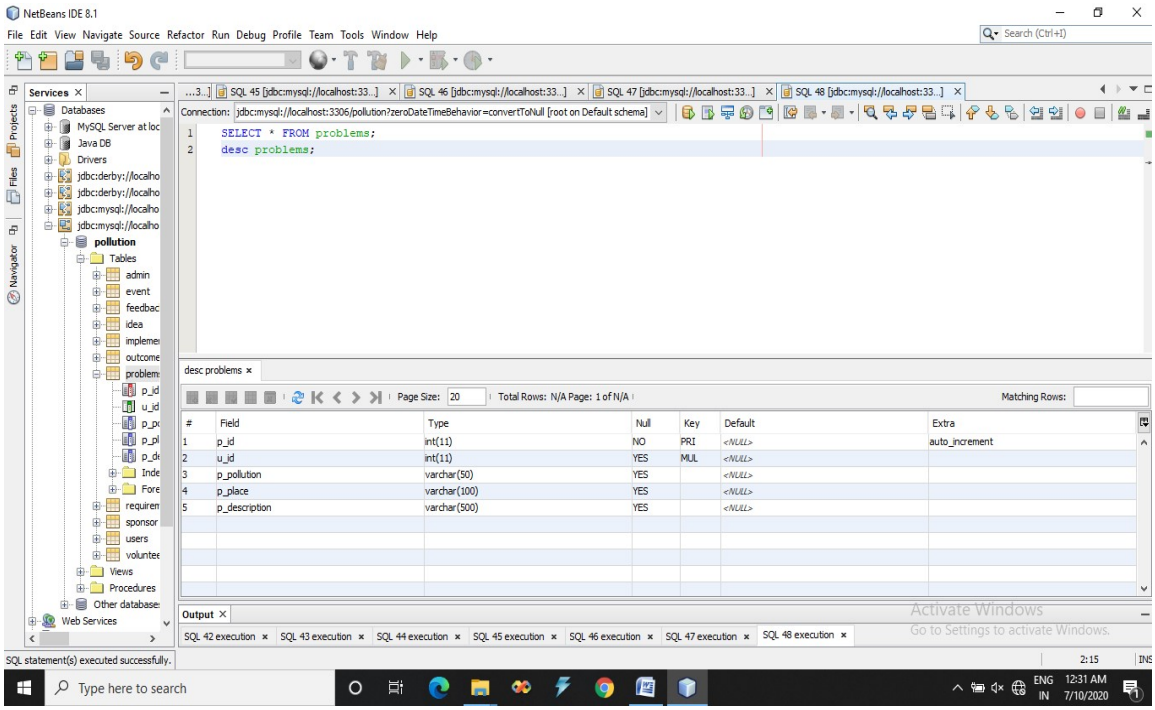
Admin table : Stored information about admin description given below.



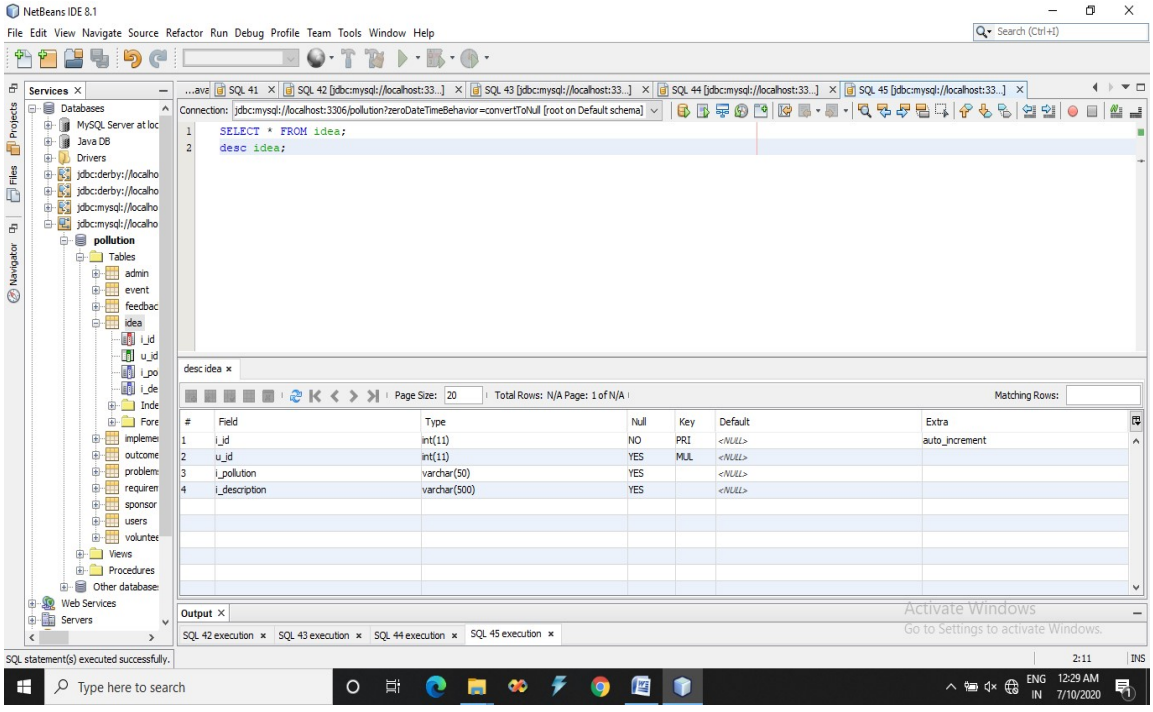
User table : Stored user information description given below



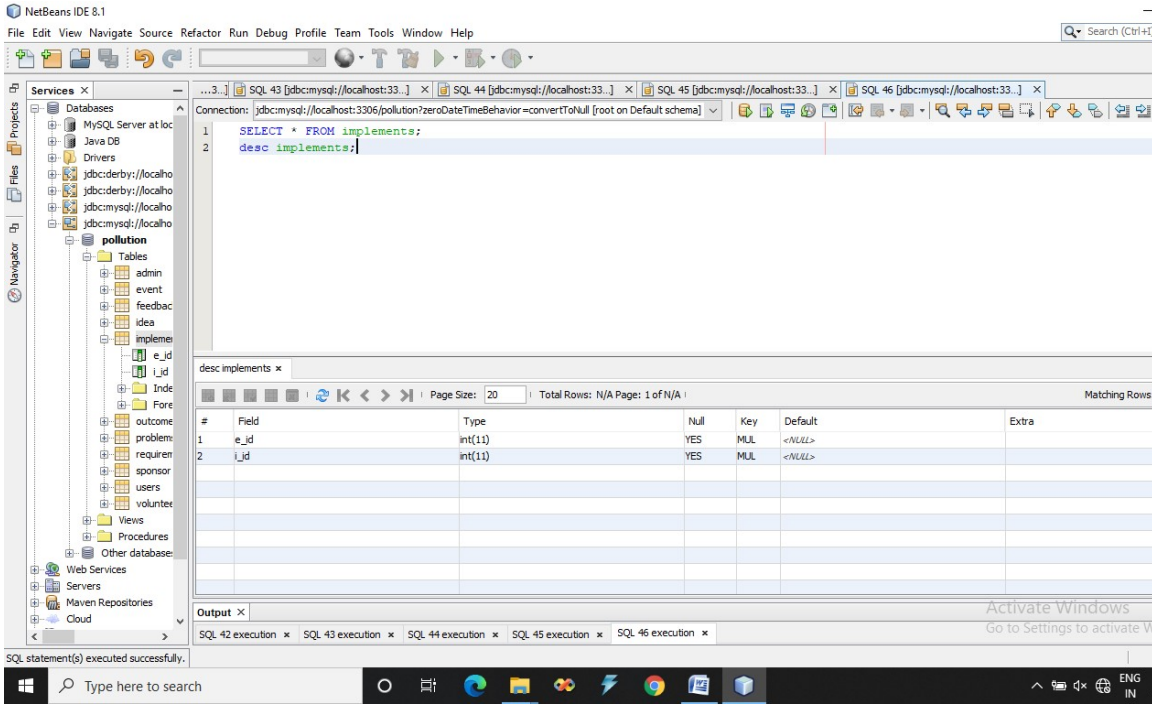
Problems table: Stores problem information reported by each user.



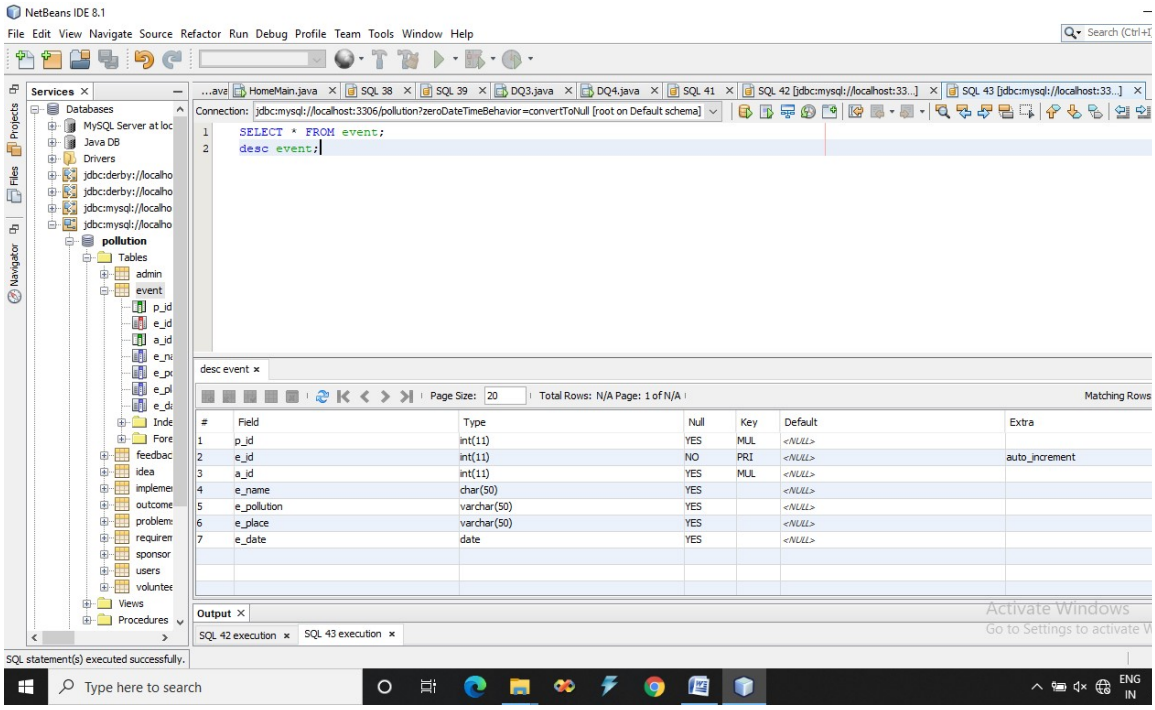
Idea table : Stores idea information given by each user.



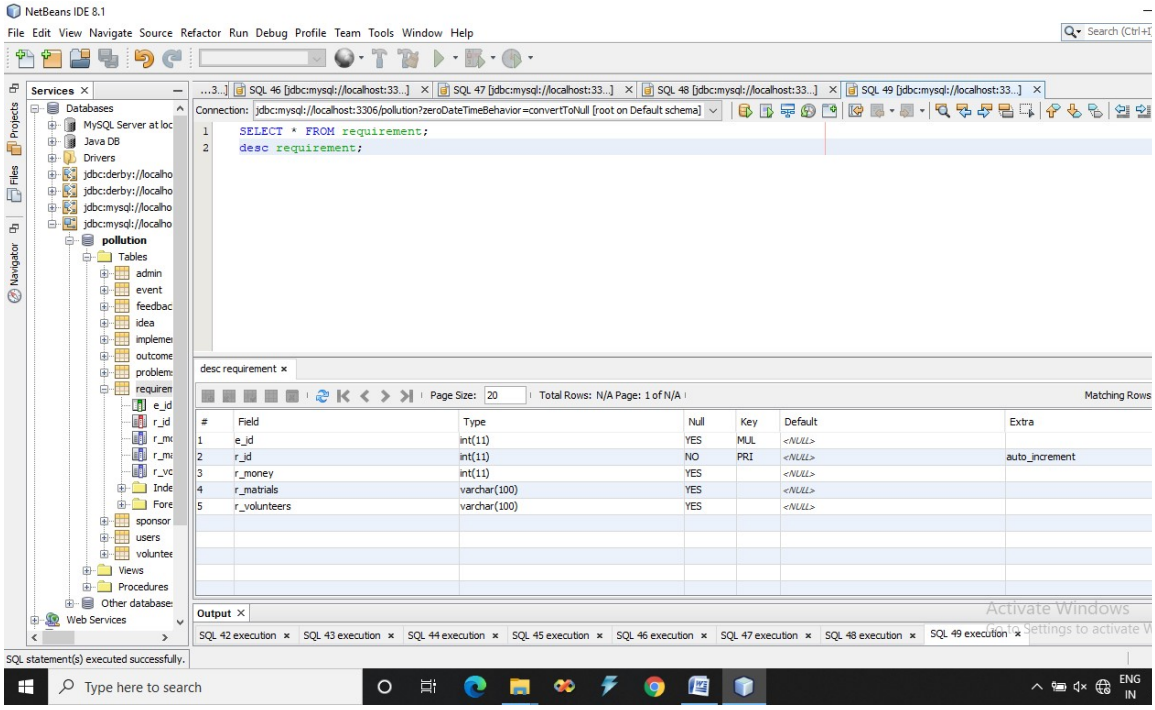
Implements : Stores information about which idea is used for which event.



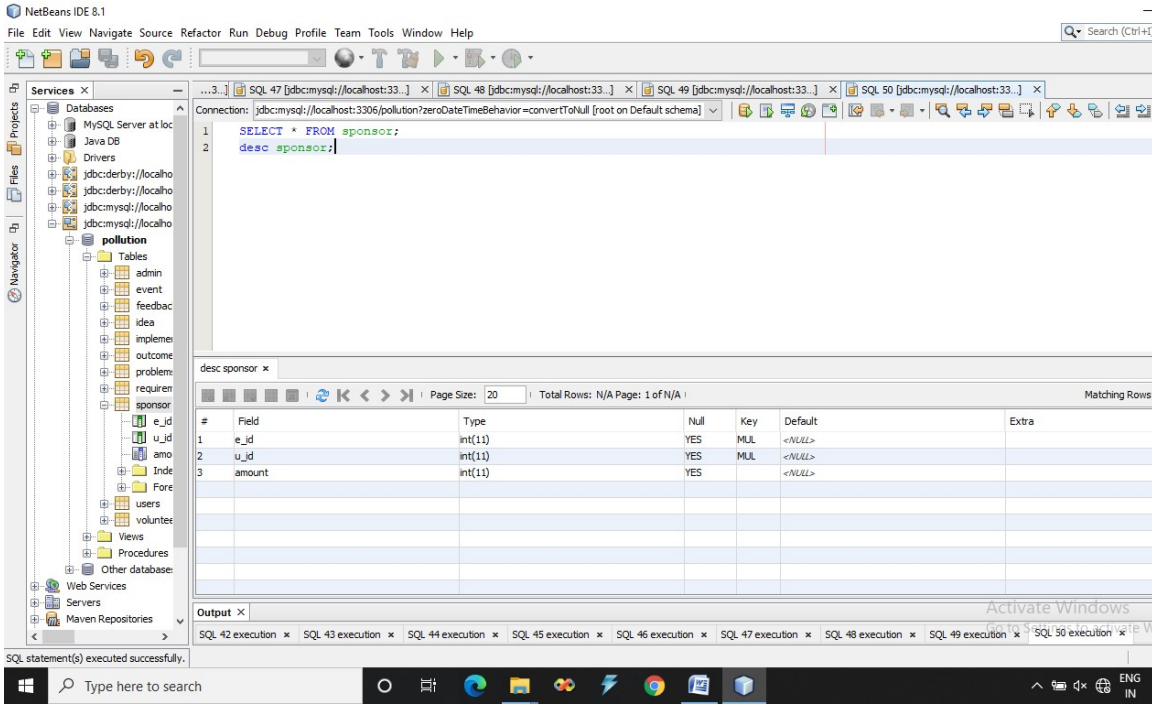
Event table: Stores event information ,description is given below**.**



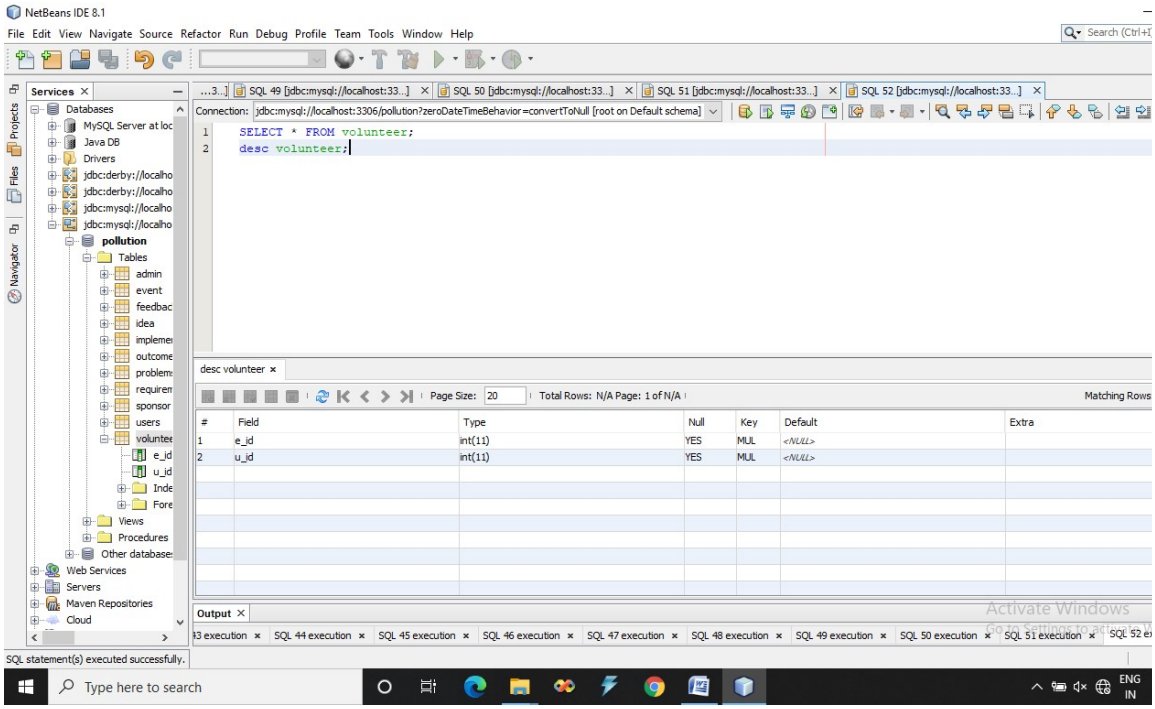
Requirements table : Stores Requirement information of each event ,description is given below.



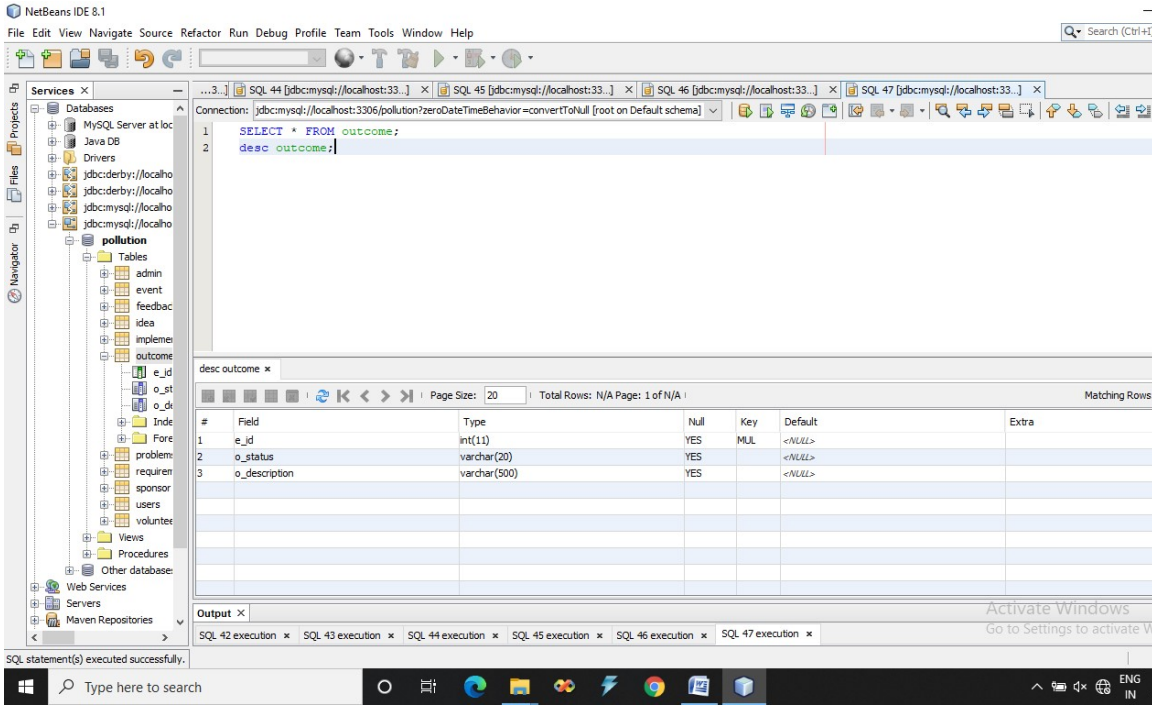
Sponsor table : Stores Sponsor's information



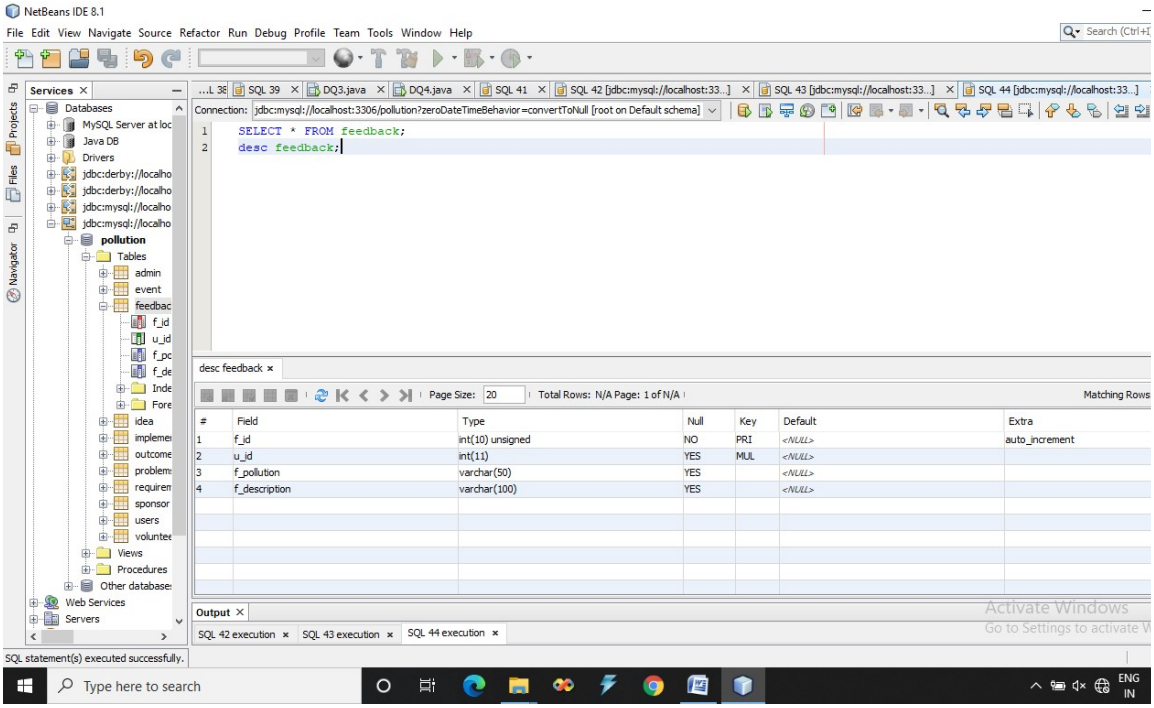
Volunteers table: Stores volunteers information.



Outcome table : Stores information about outcome of each event.



Feedback table : Stores information about feedback of each event.



3.1.4.Module specification

1.User Module:

i. **.Registration:**The user register himself to the application. First the user will enter his/her information like name,address,contact number,email id,username and password in the registration form,the form is then validated for correctness of the data at client side and then sent to the server ,once it sent to the server and stored in the database user will get confirmation as registration successful.

ii. **Login:**After user registration ,the user who is registered clicks on the login ,fills the data like username and password in the form and click on login button. The submitted form is then validated with the database data. If the username and password is matching, then the user is allowed to go to the next page. If the user credentials are not matching, then error

message is displayed.

iii. **Reporting pollution related problems:** The registered user,after login can reports pollution related problems by filling the details of the pollution like pollution type,pollution area,pollution description in the report problem form, the details are then stored in the database and user will confirmation as Problem reported successfully.

iv. .**Sharing Idea** :Registered user after login can share ideas to solve pollution related problem by filling details like pollution type,description in the IDEA form and then these details are stored in the database and the user will get confirmation as idea submitted successfully.

v. **Feedback:**Registered user after login can give feedback about the event by filling the details like event id,pollution type,description in FEEDBACK FORM then details are stored in the database.

2.Admin module:

i. .**Event Details:** To solve problems reported by users, admin will login ,views user reported problems and organize event by filling details like event name,pollution type,event place, event date in the EVENT FORM and then event details are stored in the database.

ii. **Requirements :** Once the event is planned by the admin to solve particular pollution related problem ,he/she will specify needs/requirements of the event to conduct it successfully ,by filling details like required money,required materials and required volunteers in the REQUIREMT FORM and then details are stored in the database.

iii. **Outcome:** Once the event is conducted successfully the outcome of the event will be updated by admin by filling details like Event status and description in the OUTCOME FORM then details are stored in the database.

3.2 Context Diagram –

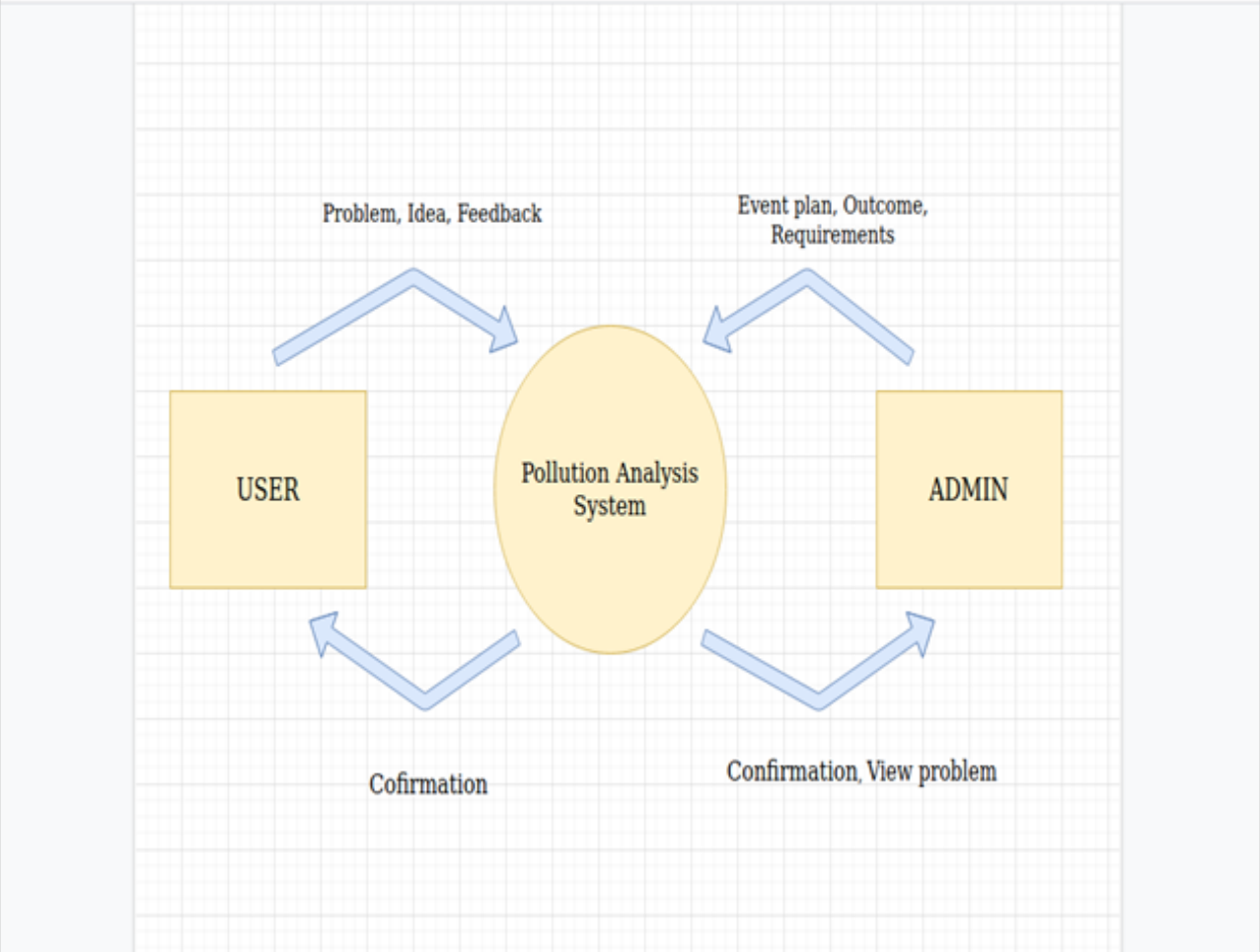


Figure 3: Context Diagram

Context diagram is also called as 0 level data flow diagram. It identifies the flows of information between the system and external entities. The entire system is shows as a single process. Here the flow of information takes place between the pollution analysis system and user, admin.

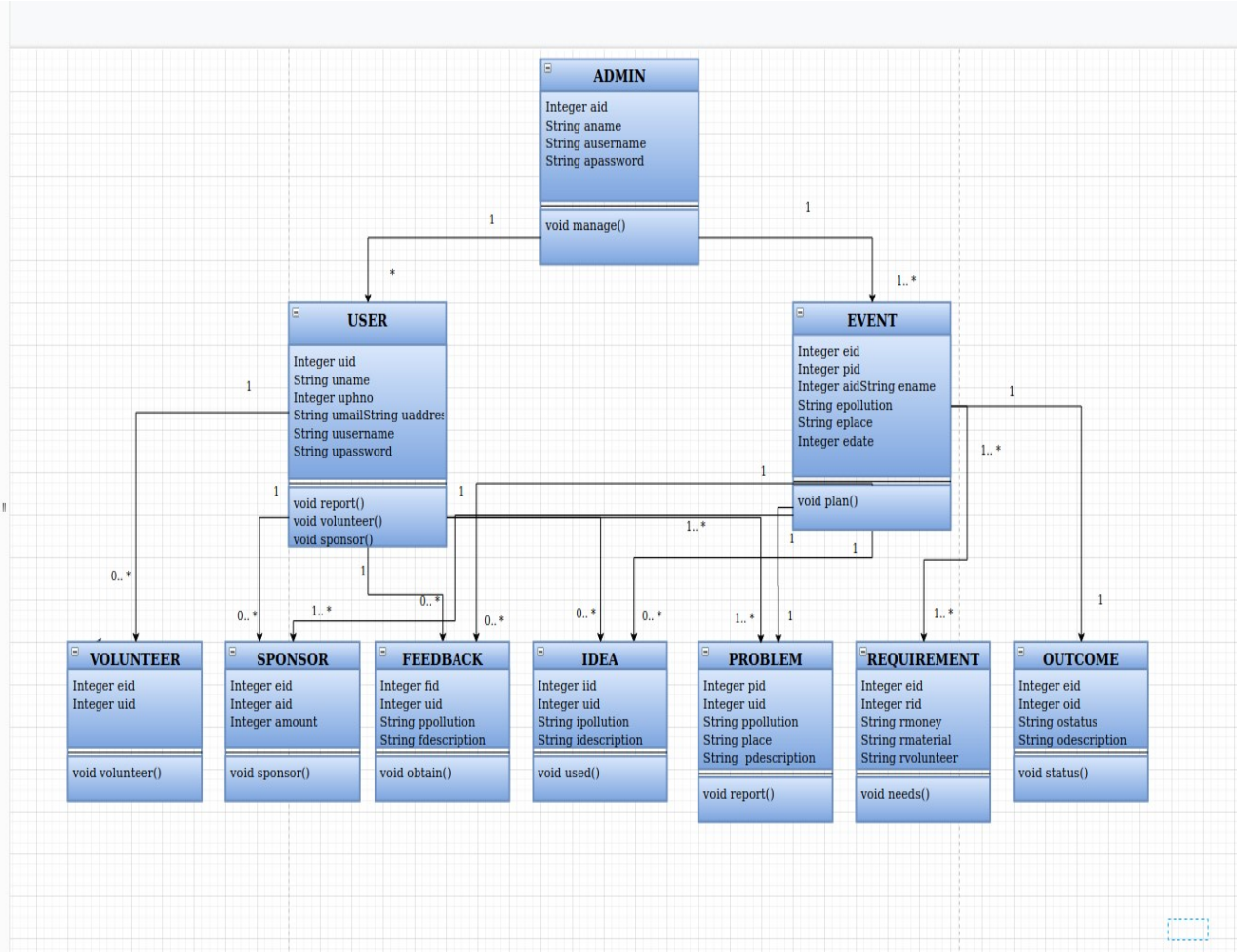
4.Detailed Design

4.1 System Design

Brief description (Give justification why you have chosen the approach . Three stages of object oriented design such as object modeling, dynamic modeling and functional modeling in the context of the project.)

4.1.1.Object Modeling

i. Class Diagram



. **Figure 4: Class Diagram**

Class diagrams are the main building block in object-oriented modeling. They are used to show the different objects in a system, their attributes, their operations and the relationships among them. In this class diagram we have different classes like user, admin, event, volunteer, sponsor, feedback, requirement, problem, idea and outcome. Admin class have different attributes like admin id, name, user id and password. And the relationship between admin and event class is admin will organize the event according to the problem reported by the user.

4.1.2.Dynamic modeling

ii. Use case Diagram

A use case diagram is a simplest representation of a user's interaction with the system that shows the relationship between the user and the different use cases in which the user is involved. In our application use case is diagram shows how user is interacting with pollution analysis system with different use cases like reporting problem, giving ideas about pollution related problems etc.

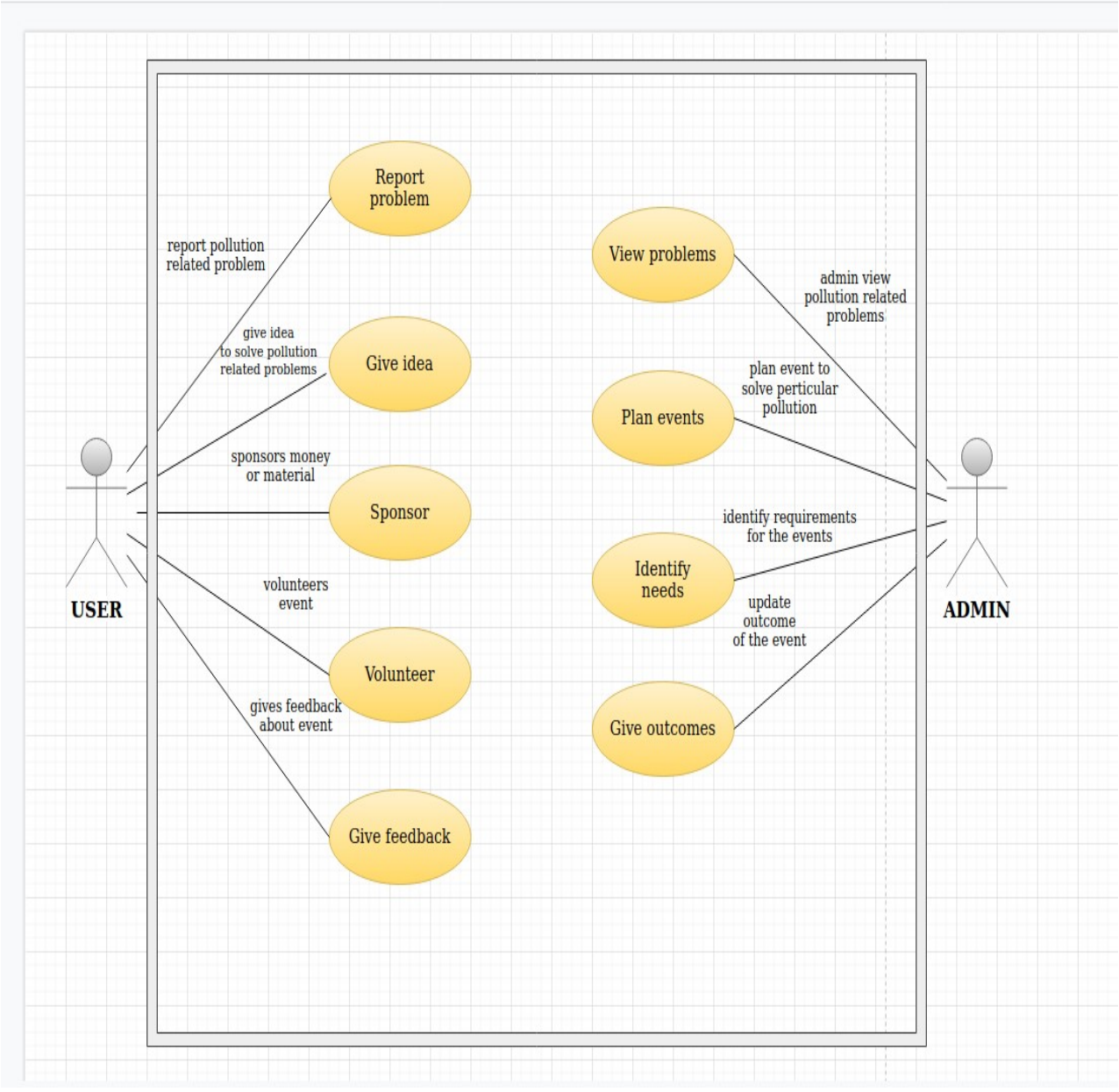


Figure 5: Use case Diagram

iii. Activity Diagram

Activity diagram is another important diagram in UML to describe the dynamic aspects of the system. Activity diagram is basically a flowchart to represent the flow from one activity to another activity. The activity can be described as an operation of the system. In our application we have two activity diagram they are User and admin activity diagram.

1.USER ACTIVITY

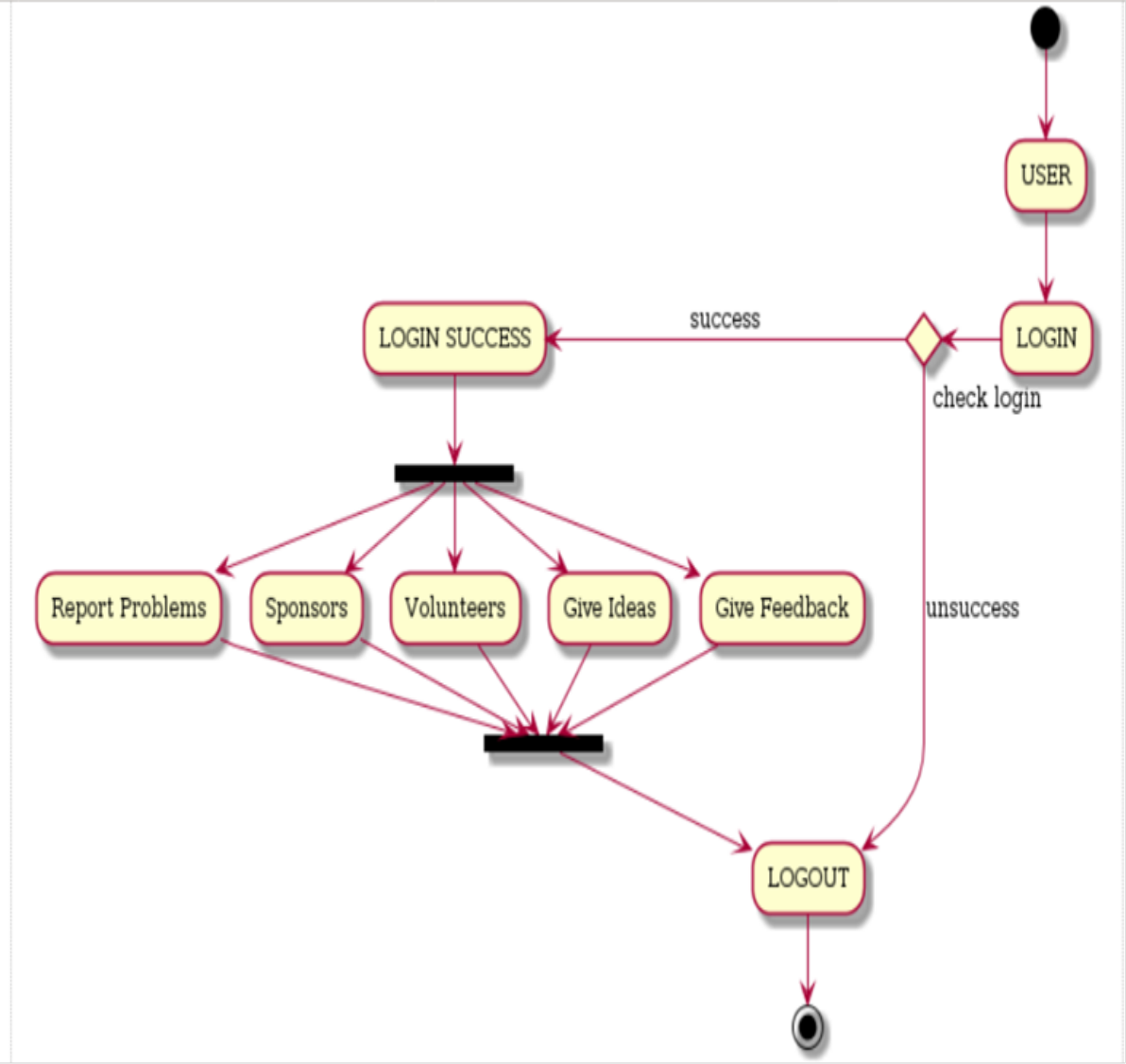


Figure 6(a): User Activity Diagram

First user will login to the application, if login is successful he moves to other activities like he can report problem, give idea, give feedback and he can also be sponsor or volunteer. If he fails to login then he moves to the logout activity. Same process takes place in admin activity diagram.

2.ADMIN ACTIVITY

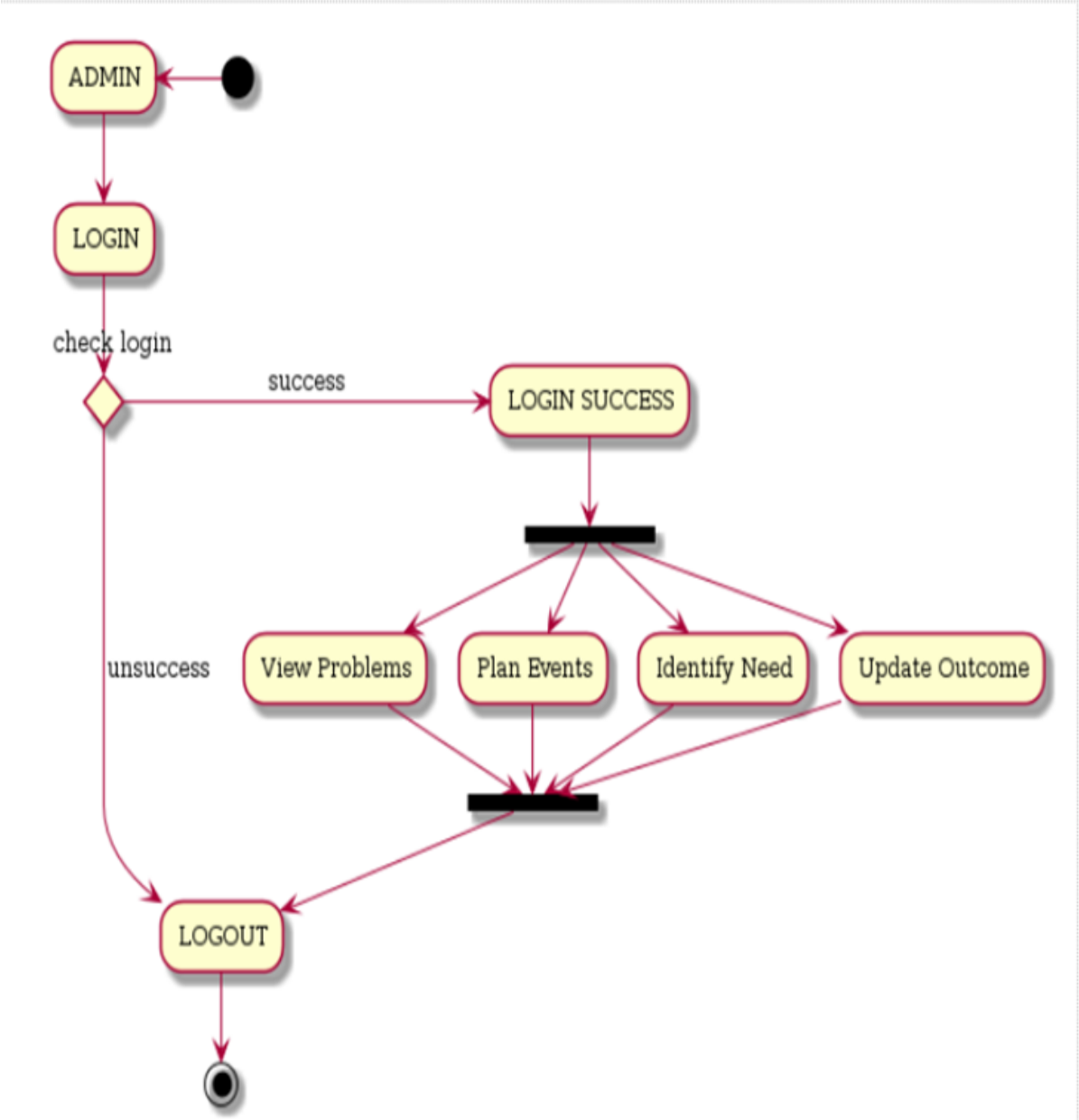


Figure 6(b): Admin Activity Diagram

First admin will login to the system if login successful he can view problems, plan events, Identify needs for the events and also he can update outcome of the event and then he can logout If he fails to login then he moves to the logout activity

iv. Sequence Diagram

The above diagram depicts the sequence diagram of pollution analysis and control system. It perform interaction between object in a single use case. It illustrates how different part of the system interact with each other.

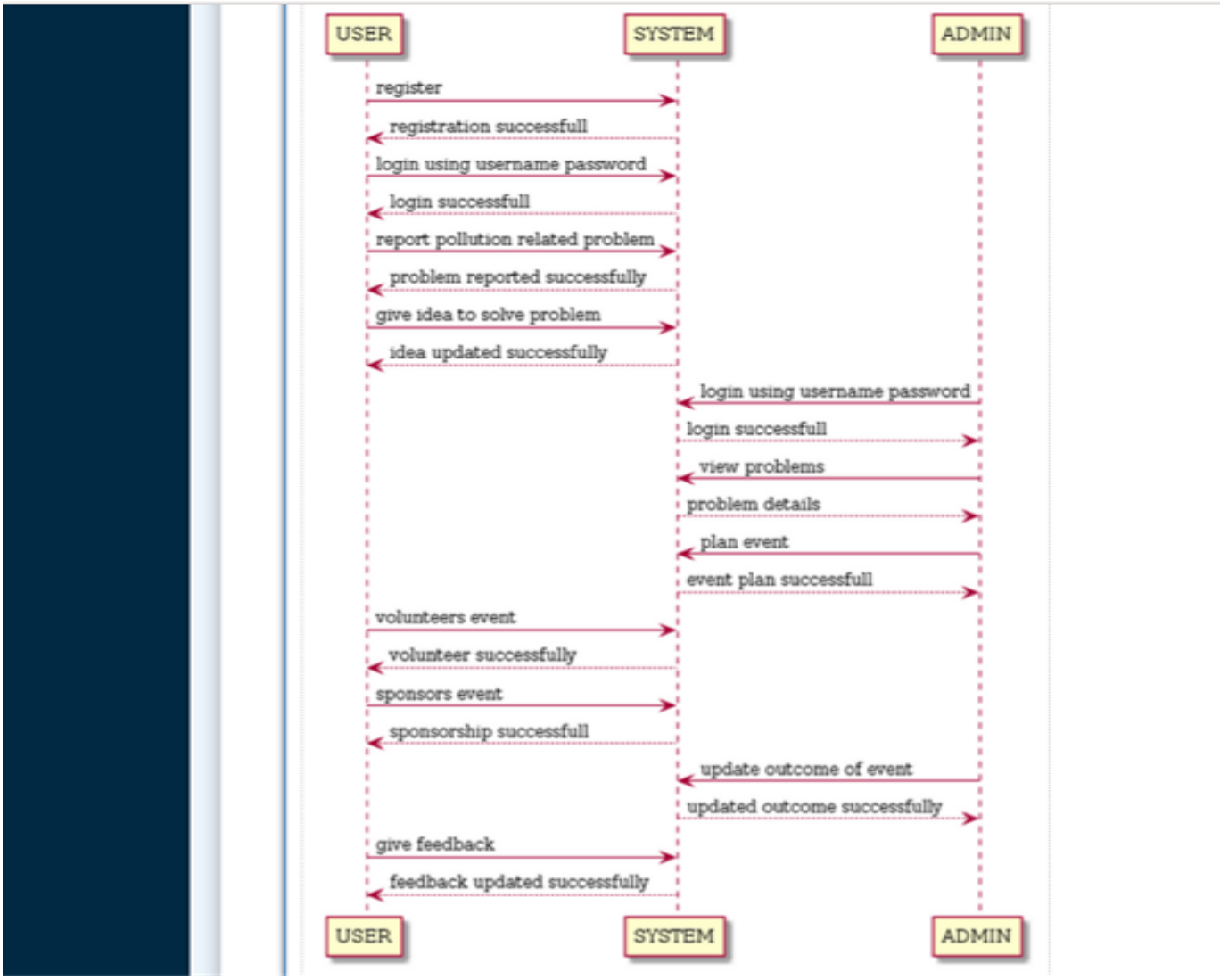


Figure 7: Sequence diagram

In the above diagram it show the interaction between user and admin model.
Firstly the application is opened by the user then he could register or login to the application. Once he is successfully login he will get confirmation message from the system.
User will report problem, give idea and give feedback once he is done he will get confirmation message from the system. Admin can also view the reported problem and plan events.

v. State Machine Diagram

State diagram are used to capture the behavior of the software system.
It provides us an efficient way to model the communication that occur within external entities.
and a system. In this application we have two state diagrams one is user and other is admin.

a. USER STATE DIAGRAM

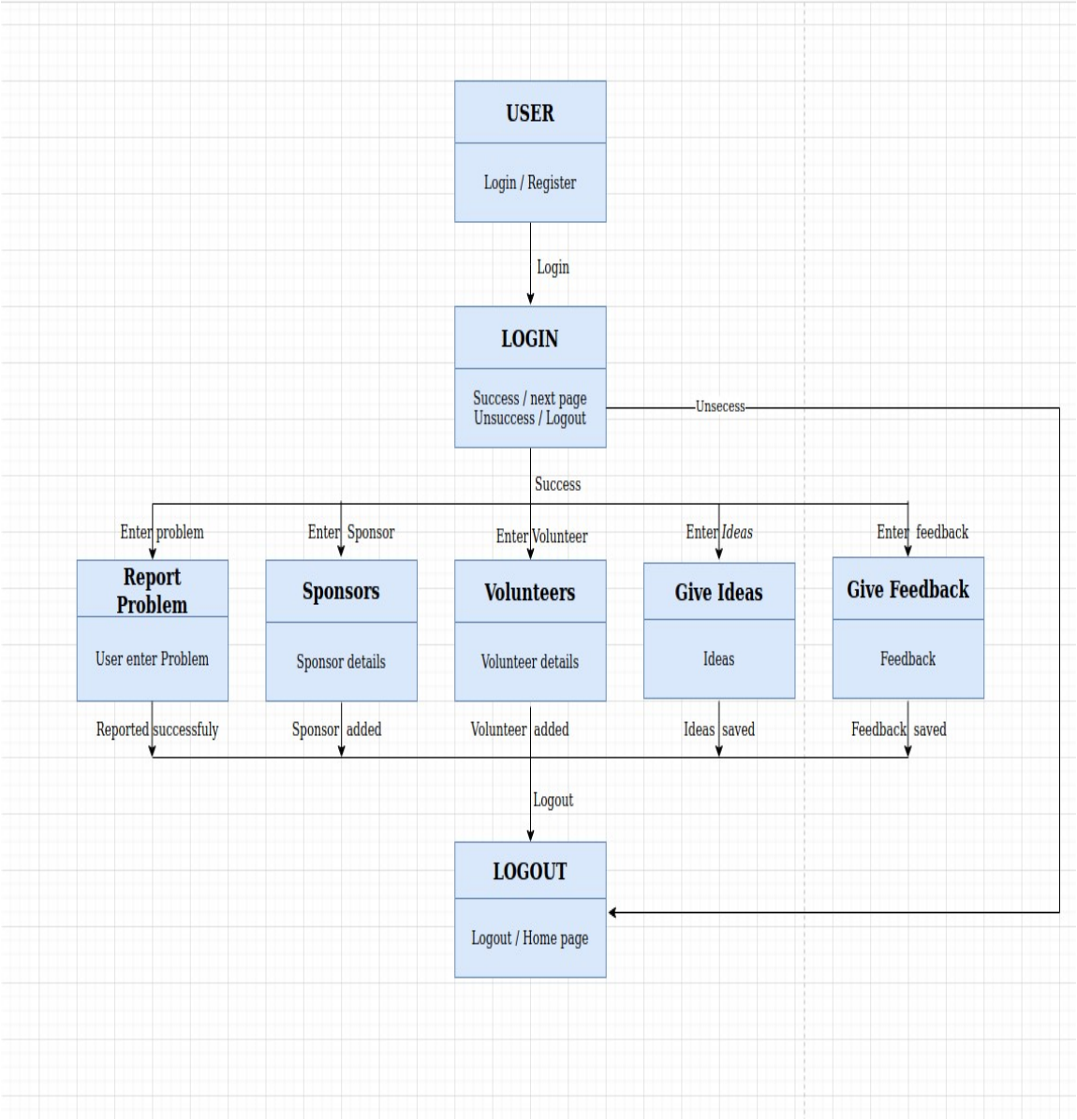


Figure 8(a): User State Diagram

It describes various state of an entity like if user got success in login then it goes to next state where he can report problem , give idea etc. If he is failed to login then he goes to the logout state. Same process is repeated in the admin state diagram.

b. ADMIN STATE DIAGRAM

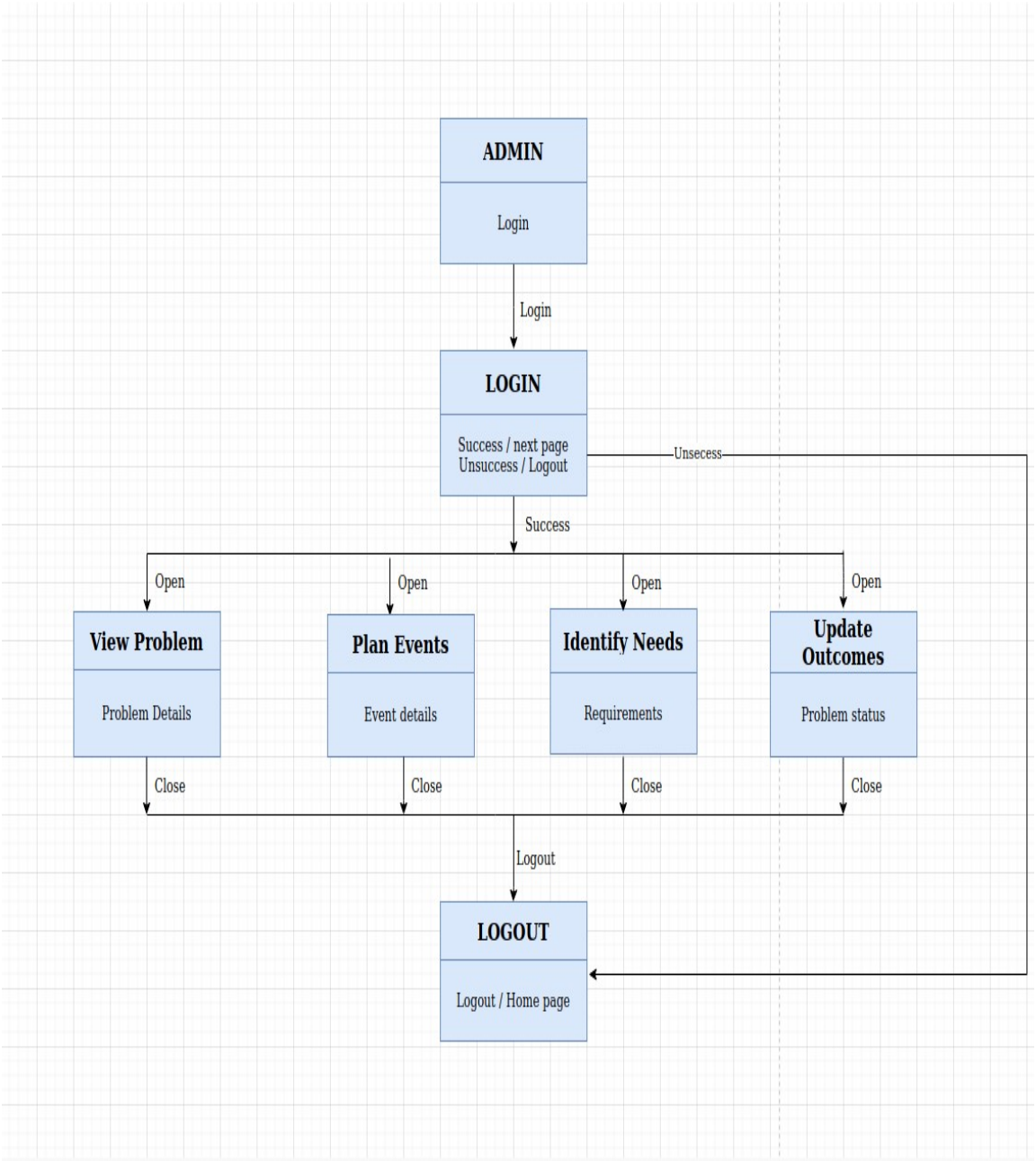


Figure 8(b): Admin state diagram

It describes various state of an entity like if Admin got success in login then it goes to next state where he can view problem, plan events, identify needs and update outcomes once it's done his state further changed to next level. If he is failed to login then he goes to the logout state. Same process is repeated in the admin state diagram.

4.1.3.Functional Modeling

i. Data Flow Diagrams

Data flow diagram is a way of representing flow of data through a system. It also provides the information about the outputs and inputs of each entity and process itself. . We have two dfd diagrams that is user and admin.

a. USER DATAFLOW DIAGRAM

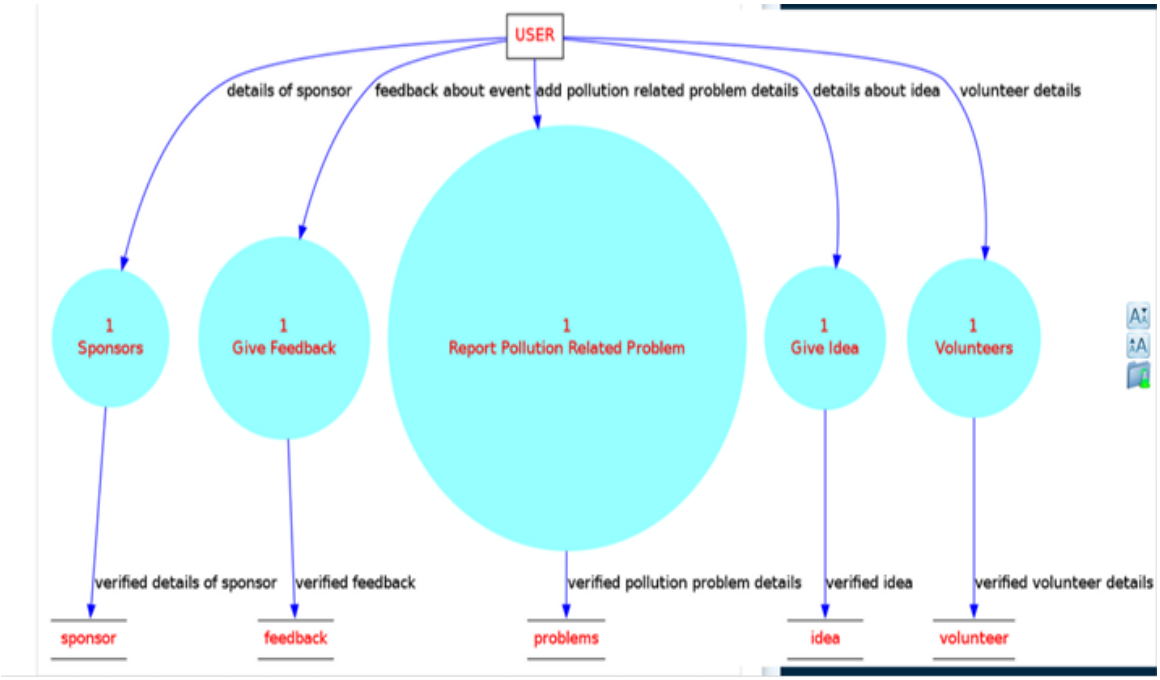


Figure 9(a): USER DATAFLOW DIAGRAM

When user will report the problem it will be verified by the system stored in the database and then viewed by the admin. In the same way every process takes place.

b. ADMIN DATAFLOW DIAGRAM

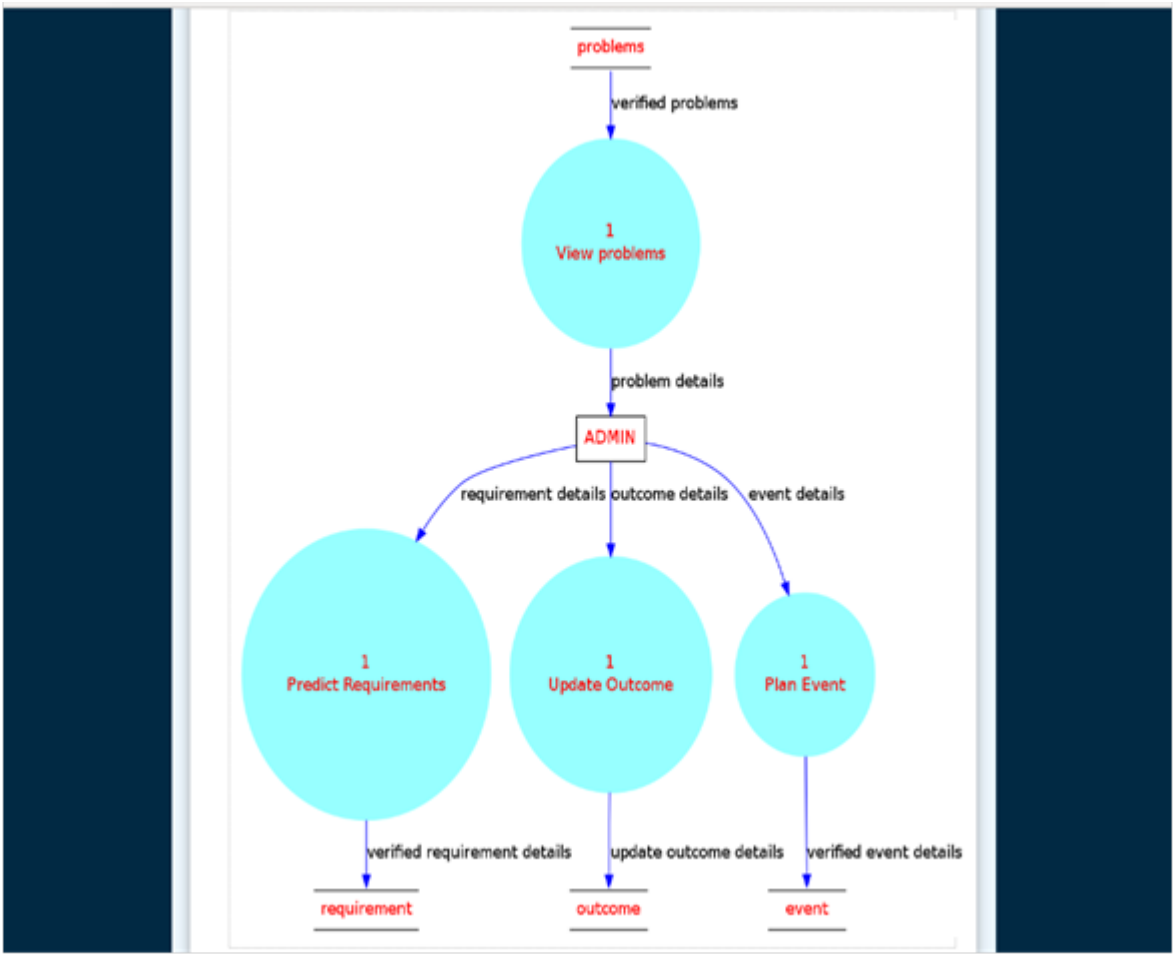


Figure 9(b): ADMIN DATAFLOW DIAGRAM

Verified pollution problem of user is stored in database these are viewed by the admin and then admin will be planning the event to solve those problems, he will be specifying the requirements for the event and finally updates the outcome of the event**.**

ii. Database Design (ER Diagram / Conceptual Scheme)

ER diagram is a representation of data that describes how data is related to each other. We disintegrate data into entities, attributes and set up relationship between entities.

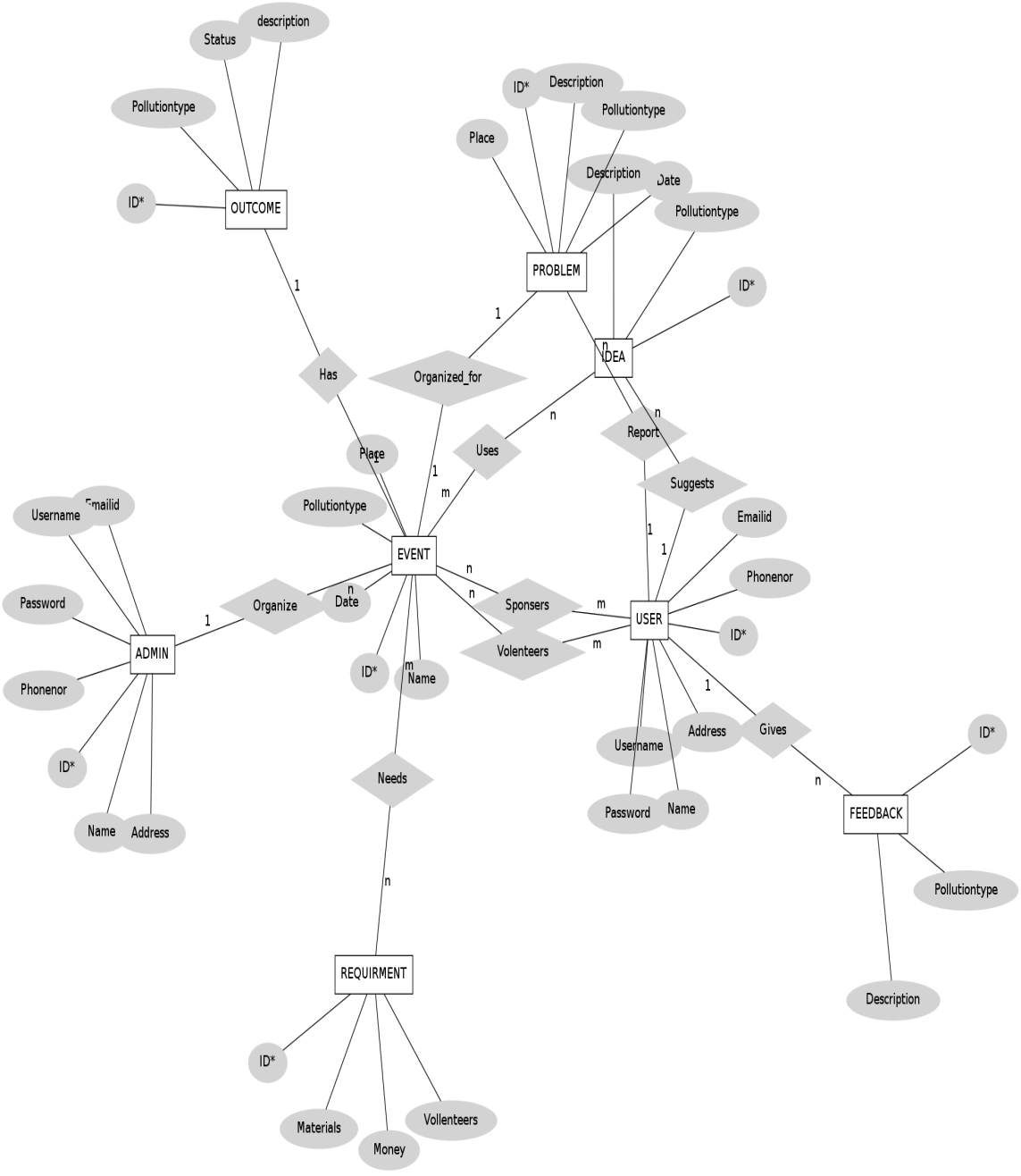


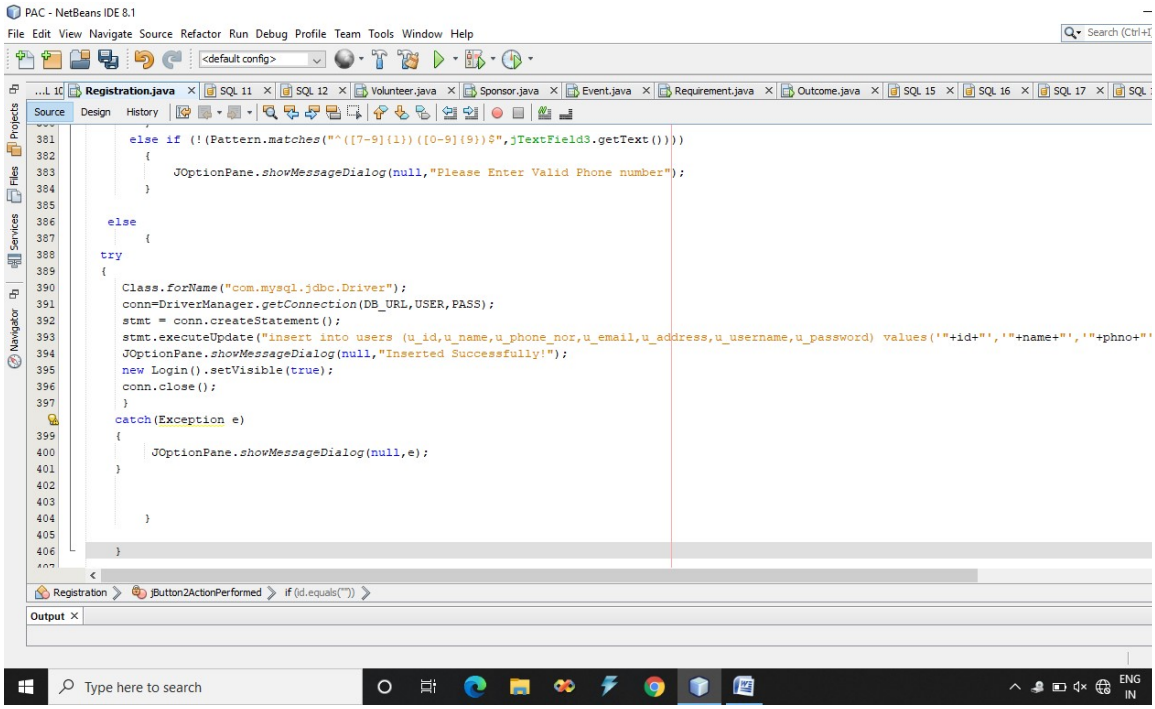
Figure 10: ER Diagram

In our application we have entities like user, admin, event, requirement, problem, idea, feedback, and outcome. Attributes of admin are id, name, address, phone number, password, user name and email id. Organize is a relationship between admin and event so that admin will organize the event to solve the problem reported by the user.

5.Implementation

5.1 Code Snippets and Implementation

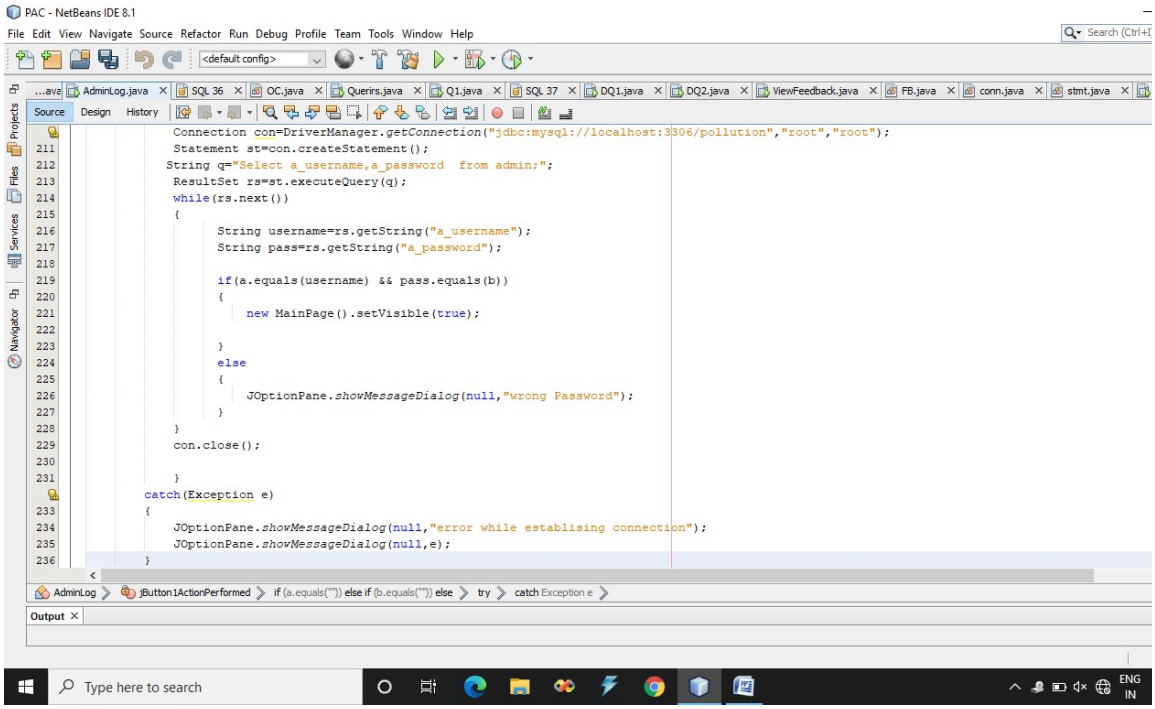
1) **.Registration:**The user register himself to the application. First the user will enter his/her information like name,address,contact number,email id,username and password in the registration form,the form is then validated for correctness of the data at client side and then sent to the server ,once it sent to the server and stored in the database user will get confirmation as registration successful.



The insertion code is used in try – catch block along with connectivity code. Insertion code is used to insert user data into database. The code/ query is given bellow

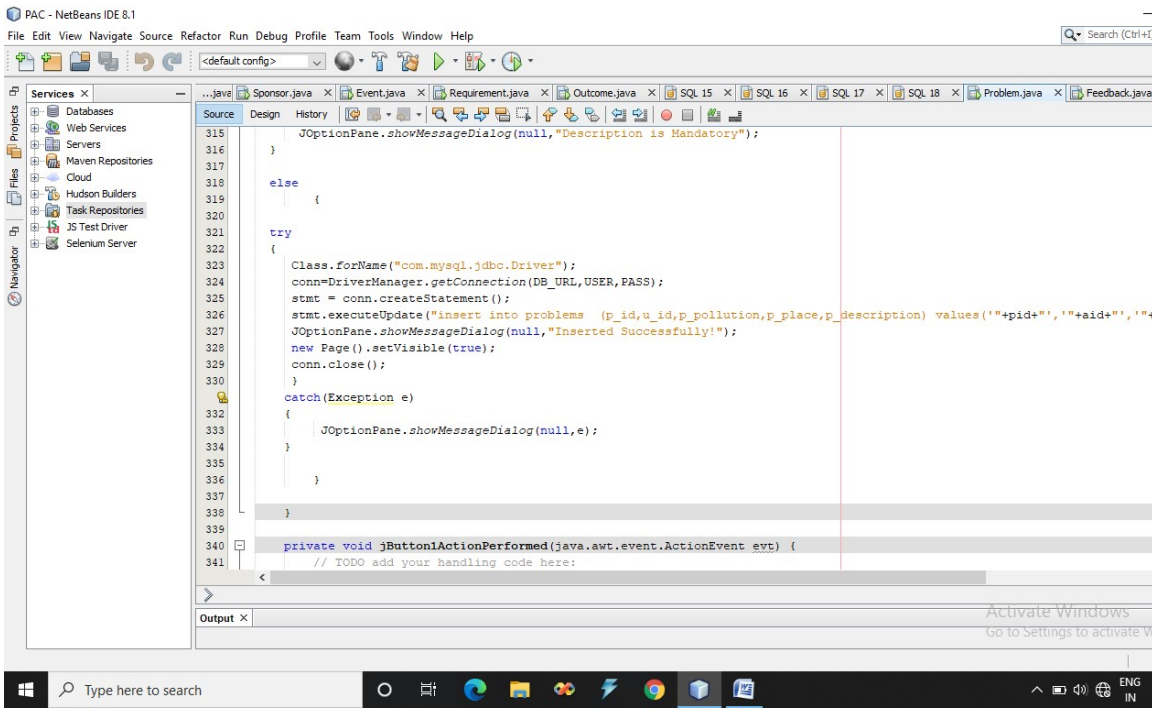
➔ stmt.executeUpdate("insert into users (u_id,u_name,u_phone_nor,u_email,u_address,u_username,u_password) values('"+id+"','"+name+"','"+phno+"','"+email+"','"+add+"','"+uname+"','"+pass+"')");

2) **Login:**After user registration ,the user who is registered clicks on the login ,fills the data like username and password in the form and click on login button. The submitted form is then validated with the database data. If the username and password is matching, then the user is allowed to go to the next page. If the user credentials are not matching, then error message is displayed.



In this code user input is stored in variable and connectivity is given. Once connectivity is successful then the user inputted data is matched from data in stored in database if the username and password matches data of an registered user then user reaches the user page otherwise an message box is displayed saying wrong password.

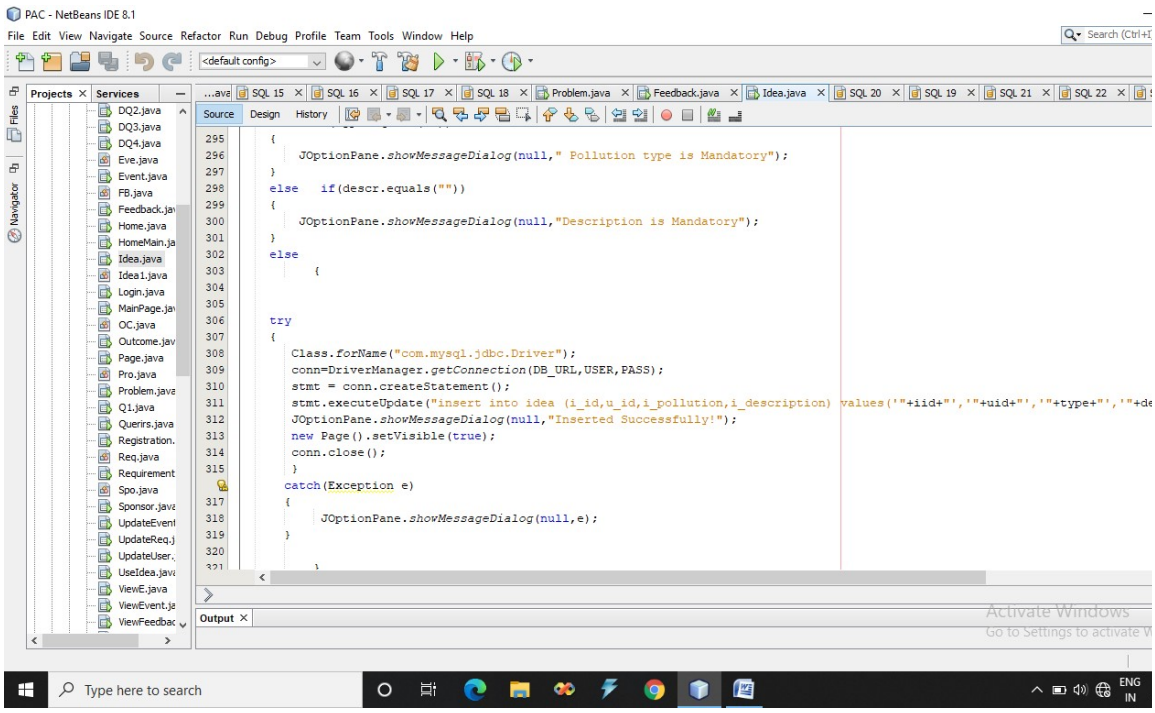
3) **Reporting pollution related problems:** The registered user,after login can reports pollution related problems by filling the details of the pollution like pollution type,pollution area,pollution description in the report problem form, the details are then stored in the database and user will confirmation as Problem reported successfully.



The insertion code is used in try – catch block along with connectivity code. Insertion code is used to insert problem data into database. The function used is given below.

➔ stmt.executeUpdate();

4) .**Sharing Idea** :Registered user after login can share ideas to solve pollution related problem by filling details like pollution type,description in the IDEA form and then these details are stored in the database and the user will get confirmation as idea submitted successfully.

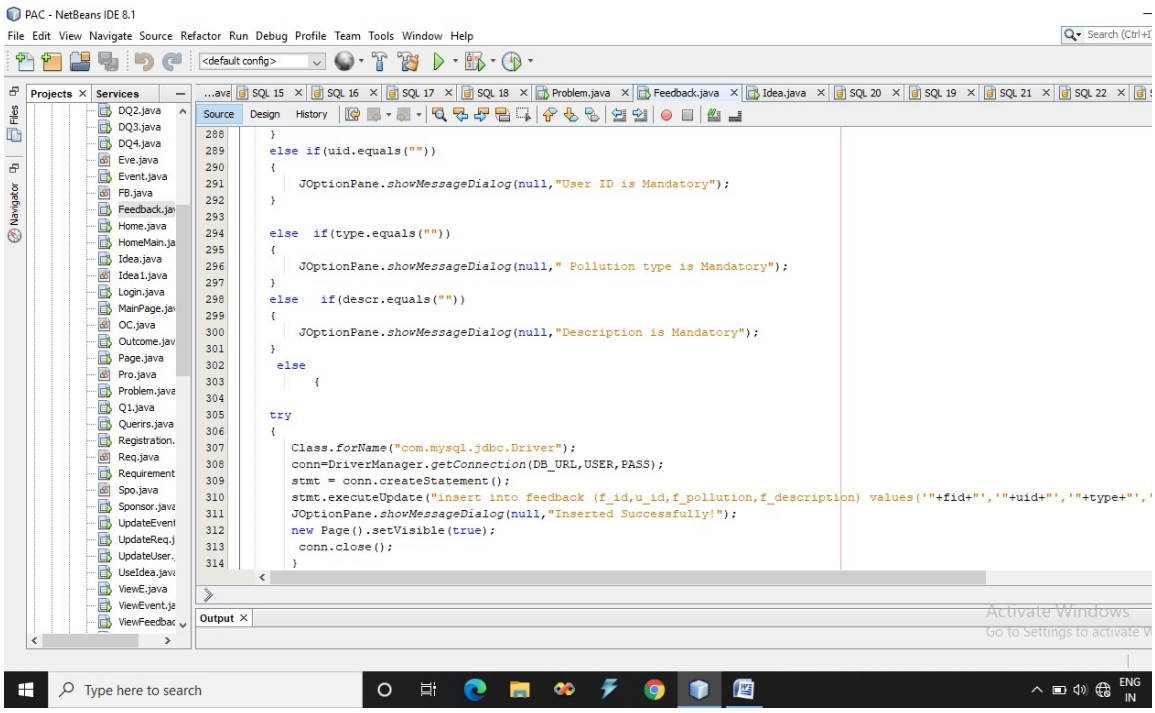



```
{
    JOptionPane.showMessageDialog(null," Pollution type is Mandatory");
}
else   if(descr.equals(""))
{
    JOptionPane.showMessageDialog(null,"Description is Mandatory");
}
else
      {


try
{
   Class.forName("com.mysql.jdbc.Driver");
   conn=DriverManager.getConnection(DB_URL,USER,PASS);
   stmt = conn.createStatement();
   stmt.executeUpdate("insert into idea (i_id,u_id,i_pollution,i_description) values('"+iid+"','"+uid+"','"+type+"','"+de
   JOptionPane.showMessageDialog(null,"Inserted Successfully!");
   new Page().setVisible(true);
   conn.close();
   }
  catch(Exception e)
  {
      JOptionPane.showMessageDialog(null,e);
  }
```

The insertion code is used in try – catch block along with connectivity code. Insertion code is used to insert idea data into database. The function used is given below.

➔ stmt.executeUpdate();

5) **Feedback:**Registered user after login can give feedback about the event by filling the details like event id,pollution type,description in FEEDBACK FORM then details are stored in the database.



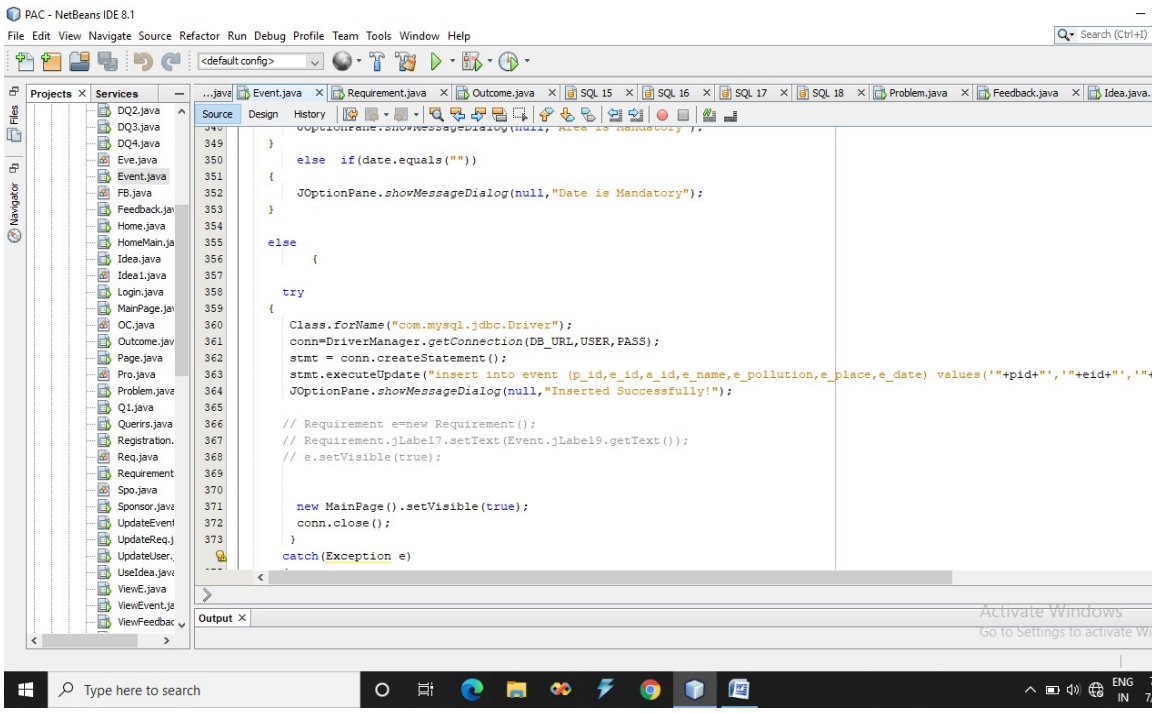

```
    }
    else if(uid.equals(""))
    {
        JOptionPane.showMessageDialog(null,"User ID is Mandatory");
    }

    else  if(type.equals(""))
    {
        JOptionPane.showMessageDialog(null," Pollution type is Mandatory");
    }
    else   if(descr.equals(""))
    {
        JOptionPane.showMessageDialog(null,"Description is Mandatory");
    }
     else
         {

    try
    {
        Class.forName("com.mysql.jdbc.Driver");
        conn=DriverManager.getConnection(DB_URL,USER,PASS);
        stmt = conn.createStatement();
        stmt.executeUpdate("insert into feedback (f_id,u_id,f_pollution,f_description) values('"+fid+"','"+uid+"','"+type+"','
        JOptionPane.showMessageDialog(null,"Inserted Successfully!");
        new Page().setVisible(true);
         conn.close();
        }
```

The insertion code is used in try – catch block along with connectivity code. Insertion code is used to insert feedback data into database. The function used is given below.

➔ stmt.executeUpdate();

2.ADMIN MODULE

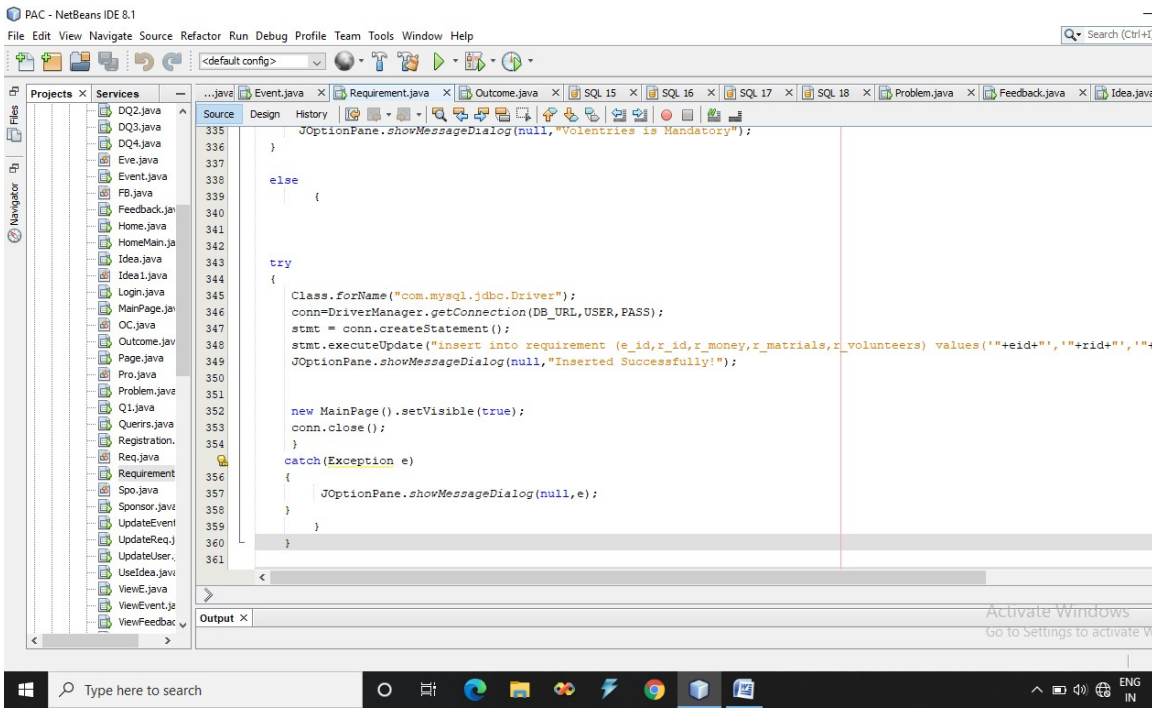
1) .**Event Details:** To solve problems reported by users, admin will login ,views user reported problems and organize event by filling details like event name,pollution type,event place, event date in the EVENT FORM and then event details are stored in the database.



The insertion code is used in try – catch block along with connectivity code. Insertion code is used to insert event data into database. The function used is given below.

➔ stmt.executeUpdate();

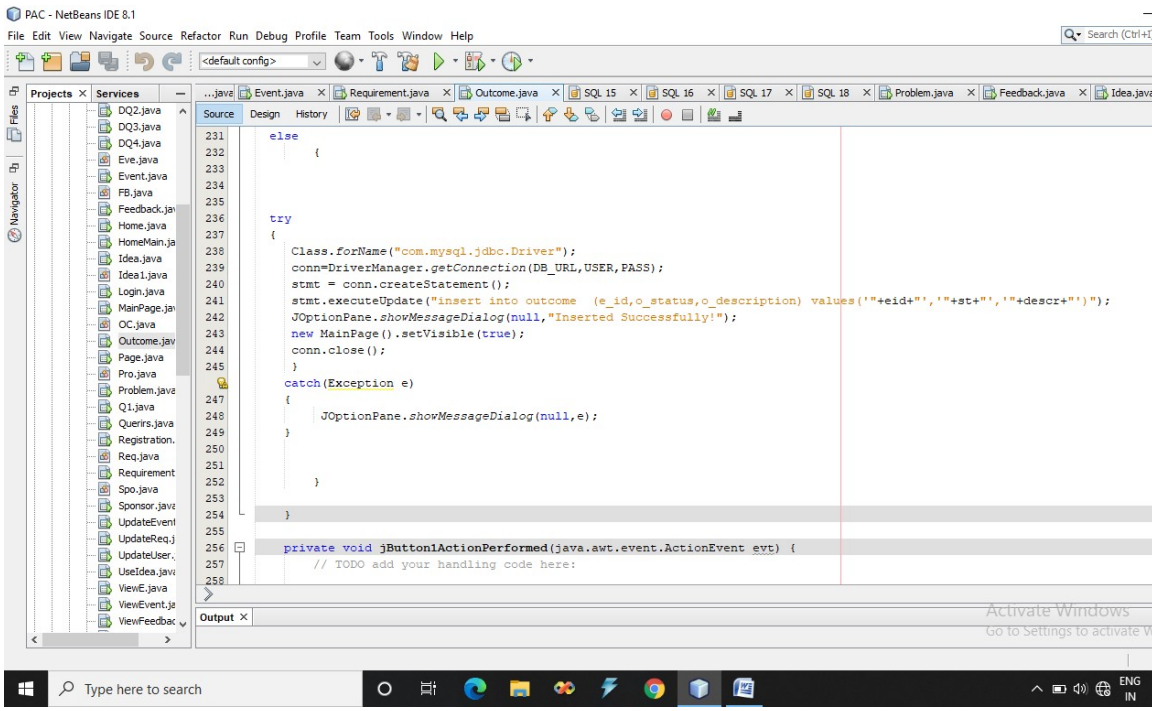
2) **Requirements :** Once the event is planned by the admin to solve particular pollution related problem ,he/she will specify needs/requirements of the event to conduct it successfully ,by filling details like required money,required materials and required volunteers in the REQUIREMT FORM and then details are stored in the database.



The insertion code is used in try – catch block along with connectivity code. Insertion code is used to insert requirement data into database. The function used is given below.

➔ stmt.executeUpdate();

3) **Outcome:** Once the event is conducted successfully the outcome of the event will be updated by admin by filling details like Event status and description.



The insertion code is used in try – catch block along with connectivity code. Insertion code is used to insert outcome data into database. The function used is given below.

➔ stmt.executeUpdate();

6.Software Testing

6.1 Test cases

6.1.1.Unit Testing

The unit testing focuses verification effort on the smallest unit of the software design module. In unit testing different modules are tested against the specifications produced during the design of module. Mainly there are 2 Modules in our application, they are USER and ADMIN all the units of these two modules are tested against the requirement specification.

6.1.2.Integration Testing

After the unit testing integration testing is carried out, the individual units are combined to form component.

In the integration testing the testing modules are combined in to subsystems, which are then tested. Integration testing refers to the retesting components/functionality of the system to ensure that they function properly even after and change has been made to parts of the system. As detects are discovered in a component, modification are made to correct them.

6.1.3. System Testing

Here all the components are integrated and tested as whole system.

In system testing the entire software system is tested. The reference document for this process is requirement document. It also tests to find the discrepancies between the system and the original objective, current specification and system documentation. The entire system is checked to correct deviation to achieve correctness.

6.1.4.Validation Testing

Software validation is achieved through the black box tests that demonstrate the conformity with the requirement. Both plan and procedures are designed to ensure that all the functional are requirements are satisfied.

Validation with respect to each form is done to stop the user filling the invalid data which leads to SQL injection.

BLACK -BOX TESTING

In black-box testing, the tester only knows the inputs that can be given to the system and what output the system should give. In other words, the basis for deciding test cases is the requirements or specifications of the system or module. This form of testing is also called functional or behavioral testing.

6.2 Testing and Validations

1.REGISTRATION PAGE

Registration id is auto generated.

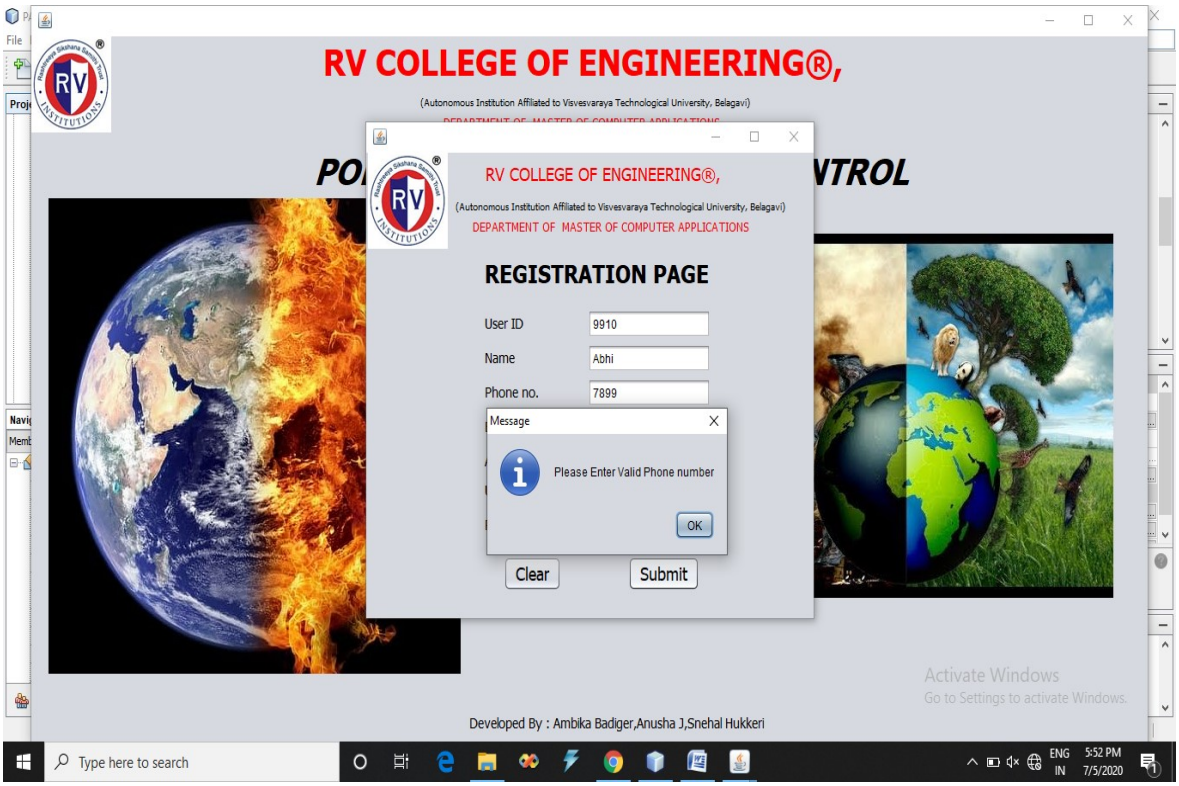
Test Case Id	**Test Cases**	**Test Case Description**	**Steps To be Executed**	**Expected Results**	**Actual results**	**Status (Pass/ Fail)**
1	Name	Test the name field with correct validation	1.Enter a valid name. 2..Click in submit button.	After entering valid name it must be accepted.	Accepted name	Pass

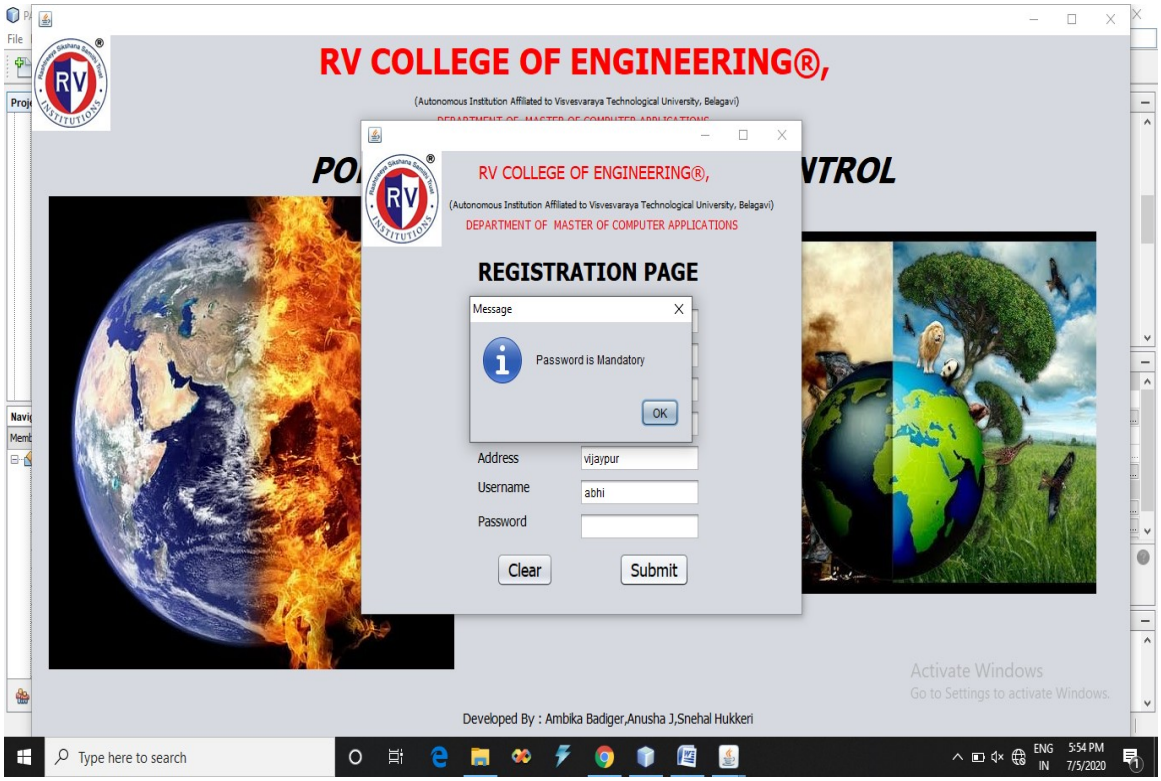
		Test the name with incorrect validation.	1.Enter a invald name like numbers. 2.Click on submit button.	After entering invalid name it must not be accepted.	Name is not accepted	Pass
		Test the name field without entering the field.	Direct click on submit button.	It should display a proper error message	Form is not submitted.	Pass
2	Email	Test the email field with correct validation.	1.Enter a valid email. 2.Click on submit button.	After entering the correct email it must be accepted.	Accepted email.	Pass
		Test the email field with incorrect	1.Enter a invalid email(with out @ or	After entering the incorrect email it must	Email is not accepted	Pass

		validation.	.com) 2.click on submit button.	not be accepted.		
		Test the email field without entering the field.	Direct click on submit button.	It should display error message.	Form is not submitted.	Pass
3	Mobile number	Test the mobile number field with correct validation	1.Enter a valid mobile no. 2.Click in submit button.	After entering valid mobile no. it must be accepted.	Accepted mobile no.	Pass
		Test the mobile no with incorrect validation.	1.Enter a invald mobile no.(entering numbers which has	After entering invalid mobile no. it must not be accepted.	Mobile no is not accepted.	Pass

			greater than 10 digits and having charaters) 2.Click on submit button.			
		Test the mobile no field without entering the field.	Direct click on submit button.	It should display error message.	Form is not submitted	Pass
4	Username	3.Test username without entering the field.	Ditect click on Submit button.	it should display a proper Error message(Plea se fill out this field).	Form is not submitted	Pass
5	Password	3.Test Password	Direct click on submit	it should display a	Form is not submitted.	Pass

		without entering the field.	button.	proper Error message(Please fill out this field).		
	Test if user is able to Register successfully.	1 .Test all fields.	1. Enter all valid Data Fields. 2. Click on Submit button	User must successfully Register.	User has Registered successfully	Pass

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RV COLLEGE OF ENGINEERING®,
(Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi)
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
REGISTRATION PAGE
Message
Password is Mandatory
OK
Address
vijaypur
Username
abhi
Password
Clear
Submit
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Type here to search


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RV COLLEGE OF ENGINEERING®,
(Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi)
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
REGISTRATION PAGE
Message
Inserted Successfully!
OK
Address
vijaypur
Username
abhi
Password
****
Clear
Submit
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Type here to search

2.LOGIN PAGE

Test Case Id	**Test Cases**	**Test Case Description**	**Steps To be Executed**	**Expected Results**	**Actual results**	**Status (Pass /Fail)**
1	usern ame	Test the username with incorrect validation.	1.Enter a invalid username. 2.Click on submit button.	After entering invaliduse rname. it must not be accepted.	username is not accepted.	Pass
		Test username without entering the field.	Direct click on Submit button.	It should display a proper Error message (username field is mandatory	Form is not submitted	Pass

				).		
		Test the username field with correct validation	1.Enter a valid username. 2.Click in submit button.	After entering valid username. it must be accepted.	Accepted username.	Pass
2	Password	Test Password without entering the field.	Direct click on submit button.	it should display a proper Error message(password field is mandatory).	Form is not submitted.	Pass
		Test the password with incorrect validation.	1.Enter a invalid password. 2.Click on submit	After entering invalid password. it must not	password is not accepted.	Pass

			button.	be accepted.		
		Test the password field with correct validation	1.Enter a valid password. 2.Click in submit button.	After entering valid password. it must be accepted.	Accepted password.	Pass
3.	Test if user/ Admin is able to login successfully.	1 .Test all fields.	1. Enter all valid Data Fields. 2. Click on Submit button	User/Admin must successfully Login.	User/Admin has login successfully	Pass


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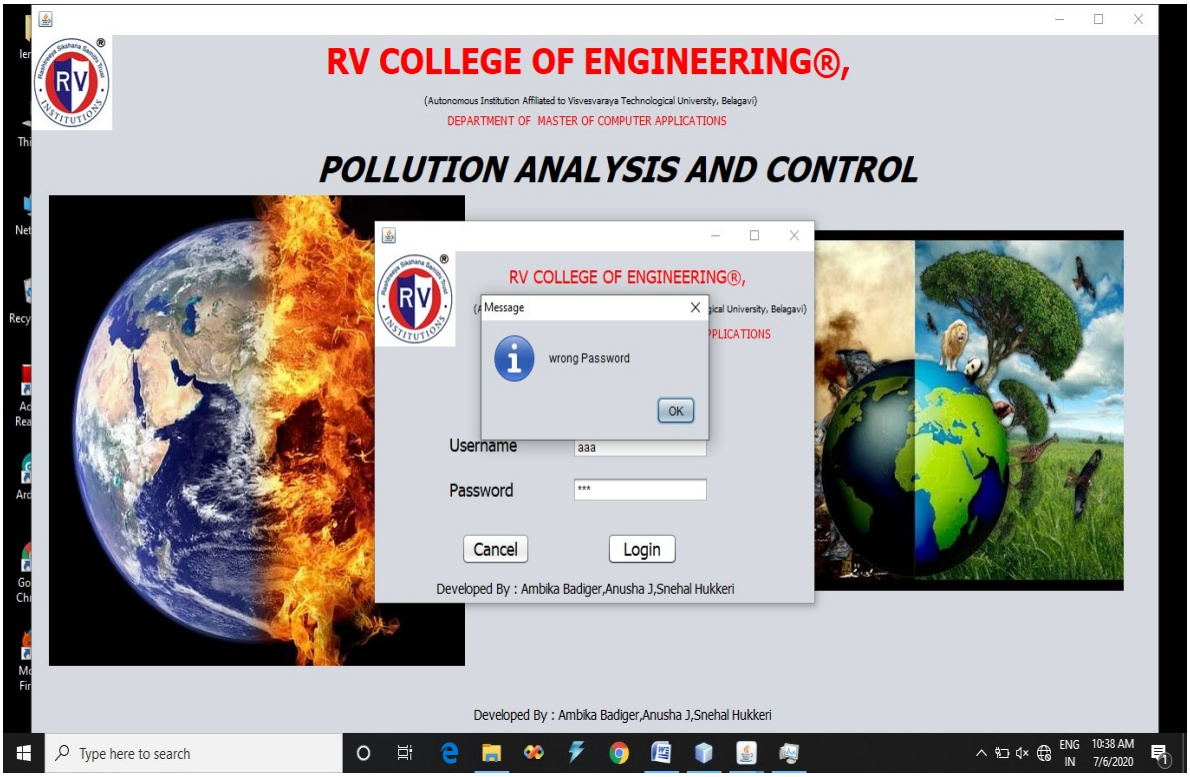
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
Username
abhi
Password
Message
Password is Mandatory
OK
Clear
Submit
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Activate Windows
Go to Settings to activate Windows.
Type here to search
ENG
IN
6:01 PM
7/5/2020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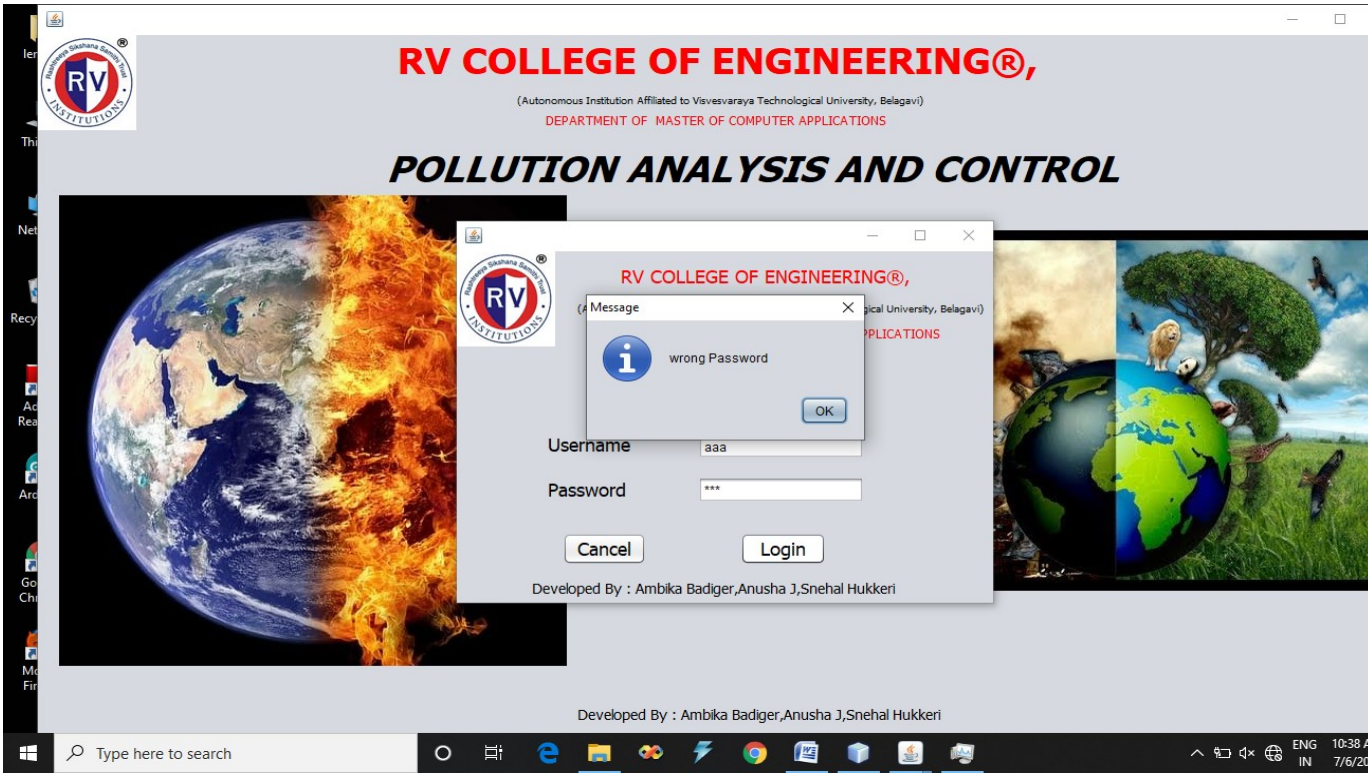
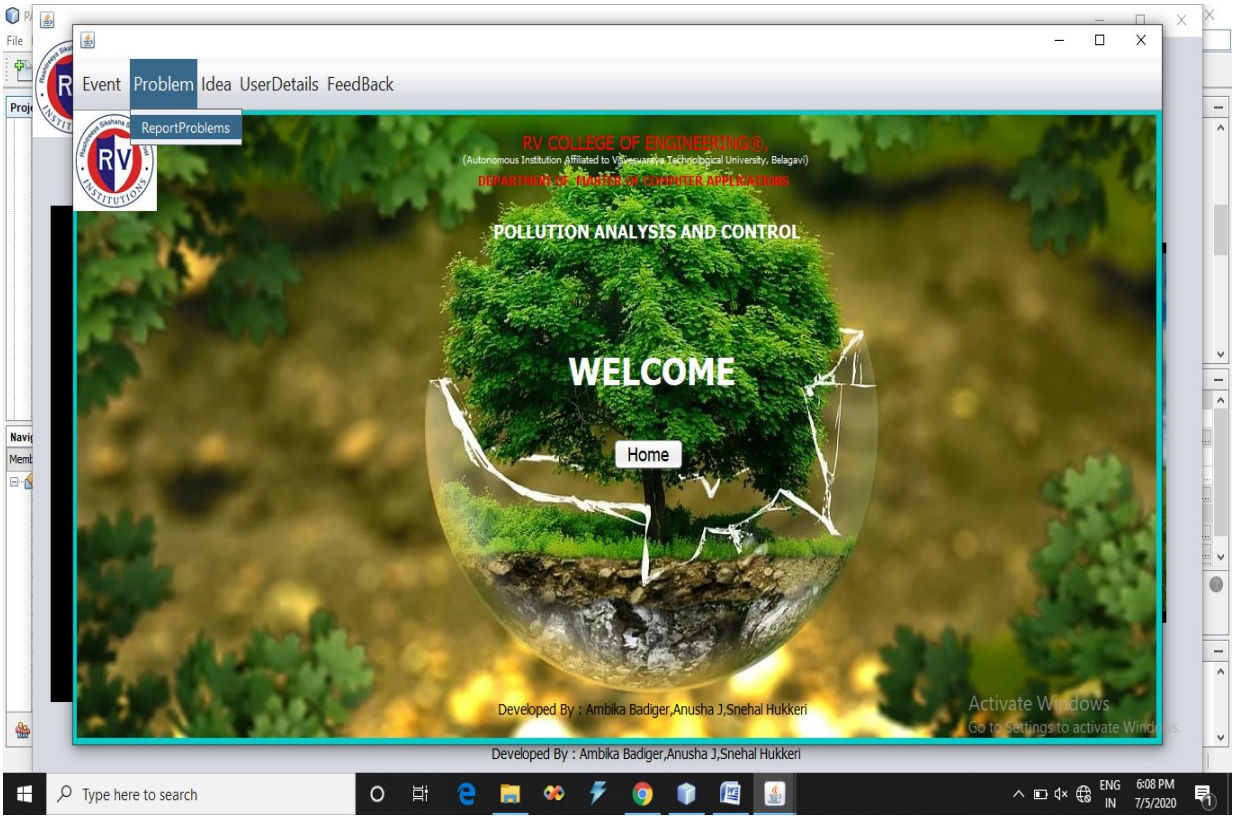
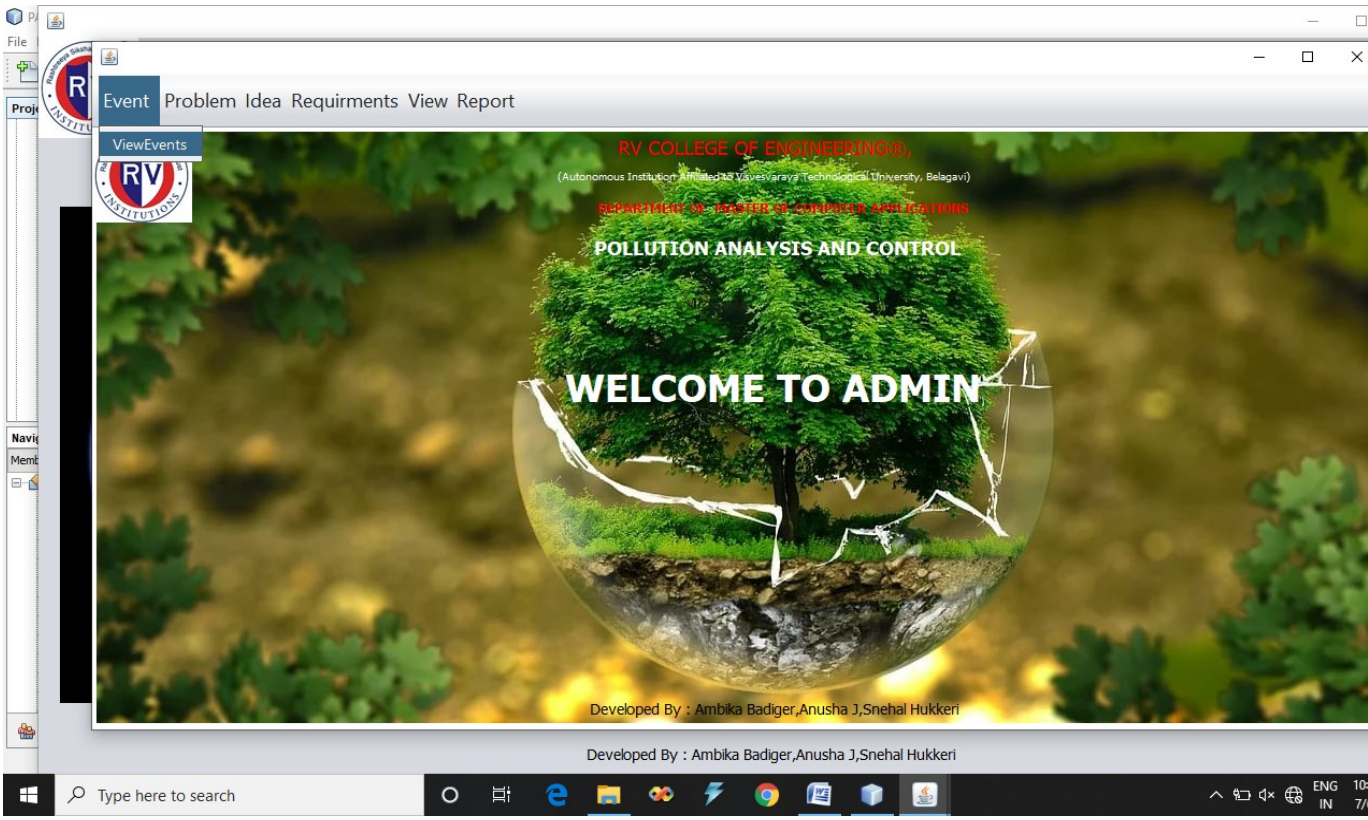
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
POLLUTION ANALYSIS AND CONTROL
RV COLLEGE OF ENGINEERING®,
Message
wrong Password
OK
Username
aaa
Password
***
Cancel
Login
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Type here to search
ENG
IN
10:38 AM
7/6/2020


RV COLLEGE OF ENGINEERING®,
(Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi)
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
POLLUTION ANALYSIS AND CONTROL
RV COLLEGE OF ENGINEERING®,
Message
wrong Password
OK
Username
aaa
Password
***
Cancel
Login
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Type here to search

USER HOME


Event
Problem
Idea
UserDetails
FeedBack
ReportProblems
RV COLLEGE OF ENGINEERING®,
(Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi)
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
POLLUTION ANALYSIS AND CONTROL
WELCOME
Home
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Type here to search

ADMIN HOME



3.Problem Report

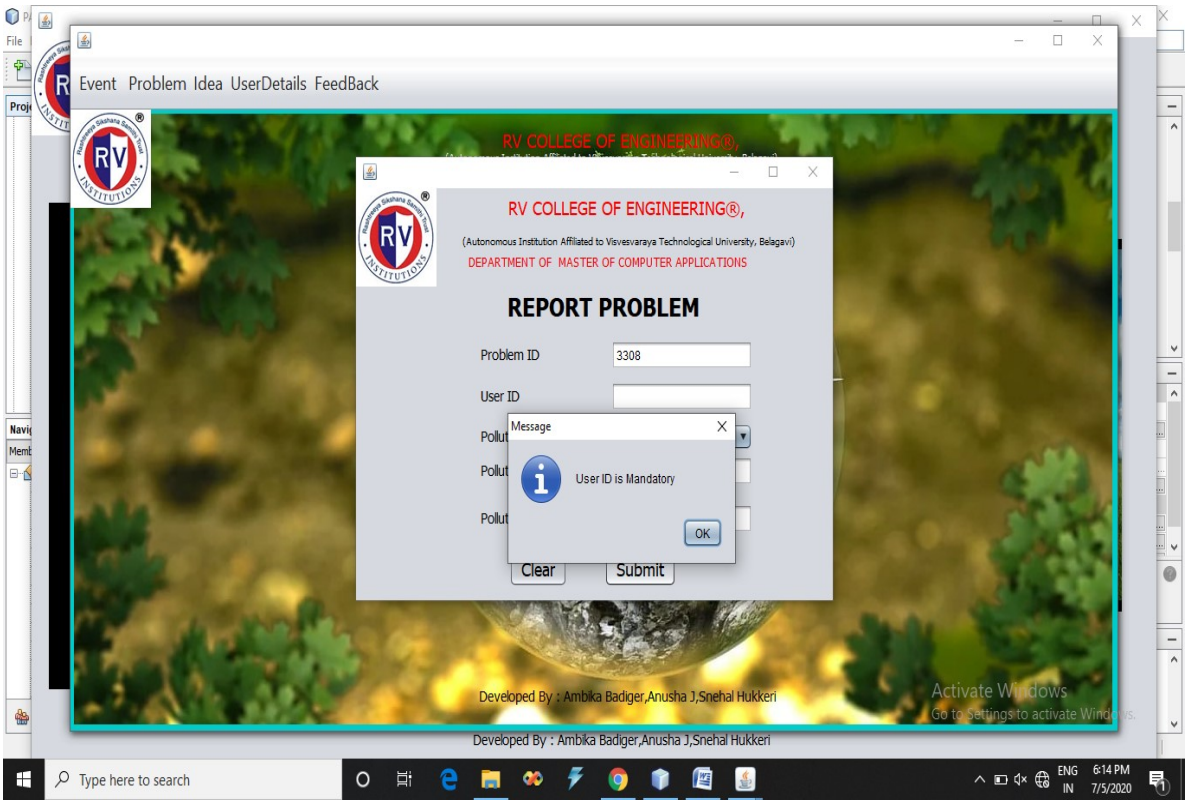
Problem id is auto generated

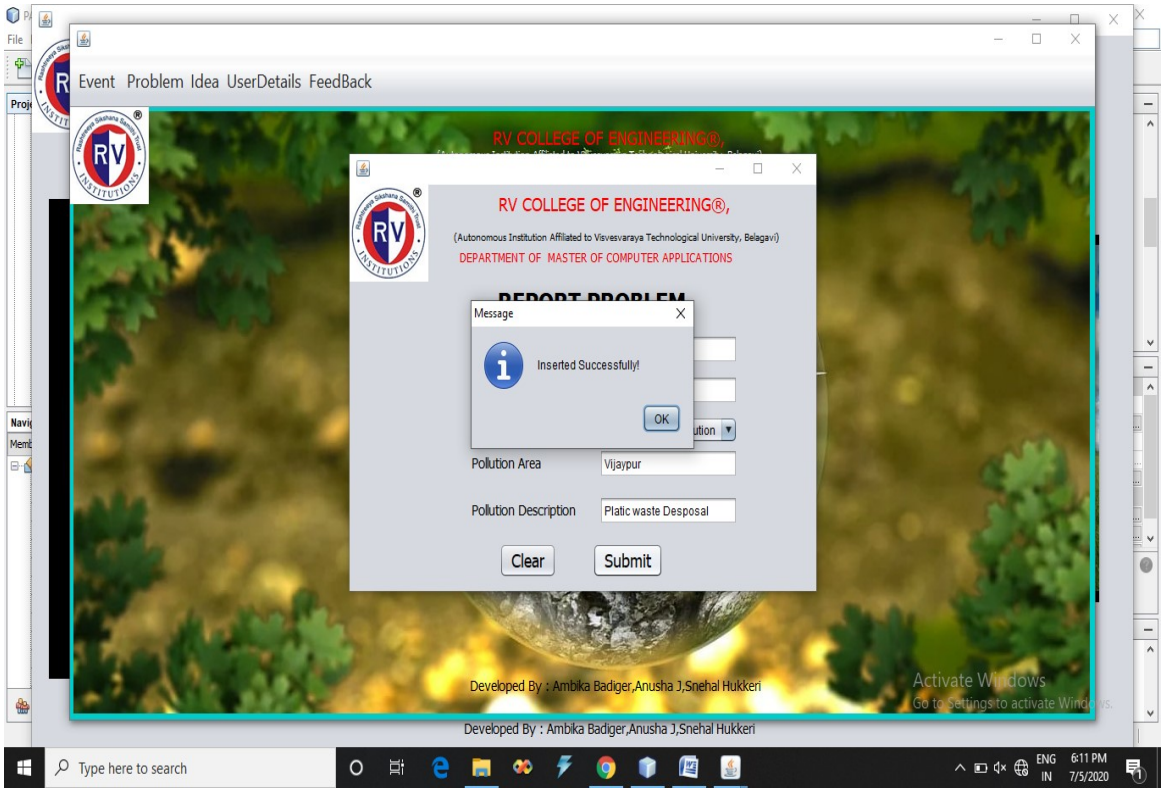
Test Case Id	Test Cases	Test Case Description	Steps To be Executed	Expected Results	Actual results	Status (Pass/Fail)

1	User Id	Test the userid with incorrect validation.	1.Enter a invalid userid. 2.Click on submit button.	After entering invalid userid. it must not be accepted.	userid is not accepted.	Pass
		Test userid without entering the field.	Direct click on Submit button.	It should display a proper Error message (userid field is mandatory).	Form is not submitted	Pass
		Test the userid field with correct validation	1.Enter a valid userid. 2.Click in submit button.	After entering valid userid. it must be accepted.	Accepted userid.	Pass

2	Polluti on Type	Test Pollution type field without selecting field from dropdown list .	Direct click on submit button.	it should display a proper Error message(pollution type field is mandator y).	Form is not submitted.	Pass
		Test the pollution type with incorrect validation.	1.Enter a invalid pollution type. 2.Click on submit button.	After entering invalid pollution type. it must not be accepted.	password is not accepted.	Pass
		Test the pollution type field with correct	1.Enter a valid password. 2.Click in	After entering valid pollution	Accepted pollution type.	Pass

		validation	submit button.	type. it must be accepted.		
3.	Test if user is able to report problem successfully.	1 .Test all fields.	1. Enter all valid Data Fields. 2. Click on Submit button	User must successfully report problem.	User has reported problem successfully	Pass


Event Problem Idea UserDetails FeedBack
RV COLLEGE OF ENGINEERING®,
(Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi)
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
REPORT PROBLEM
Problem ID
3308
User ID
Message
User ID is Mandatory
OK
Clear
Submit
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Activate Windows
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Type here to search
ENG
IN
6:14 PM
7/5/2020


Event Problem Idea UserDetails FeedBack
RV COLLEGE OF ENGINEERING®,
(Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi)
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
Message
Inserted Successfully!
OK
Pollution Area
Vijaypur
Pollution Description
Platic waste Desposal
Clear
Submit
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Activate Windows
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Type here to search
ENG
IN
6:11 PM
7/5/2020

4.Event

Event id is auto generated

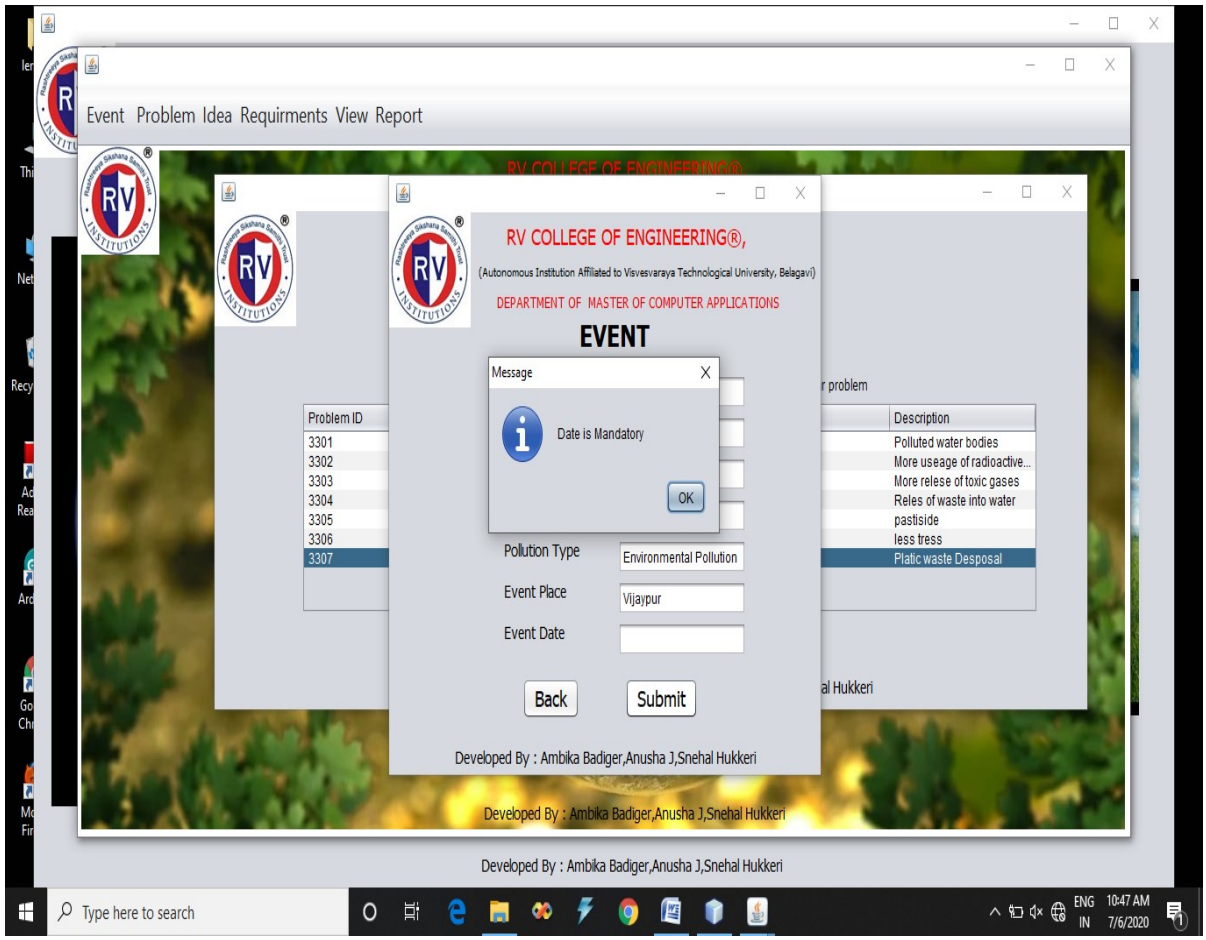
Test Case Id	**Test Cases**	**Test Case Description**	**Steps To be Executed**	**Expected Results**	**Actual results**	**Status (Pass/Fail)**
1	Admin id	Test the admin id with incorrect validation.	1.Enter a invalid admin id. 2.Click on submit button.	After entering invalid admin id. it must not be accepted.	Admin id is not accepted.	Pass
		Test admin id without entering the field.	Direct click on Submit button.	It should display a proper Error message (Admin id	Form is not submitted	Pass

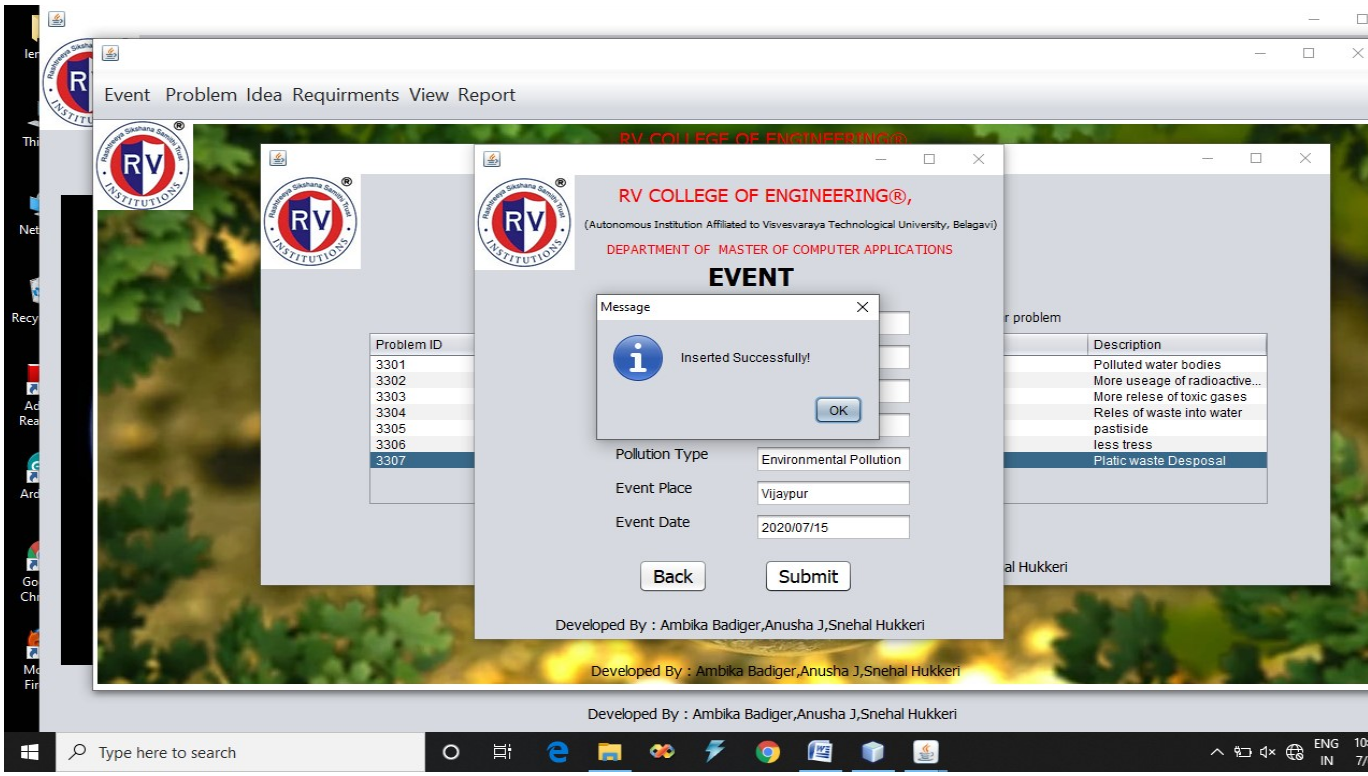
				field is mandatory) .		
		Test the admin id field with correct validation	1.Enter a valid admin id. 2.Click in submit button.	After entering valid admin id. it must be accepted.	Accepted admin id.	Pass
2	Event name	Test Event name without entering the field.	Direct click on submit button.	it should display a proper Error message(Event name field is mandatory) .	Form is not submitted.	Pass

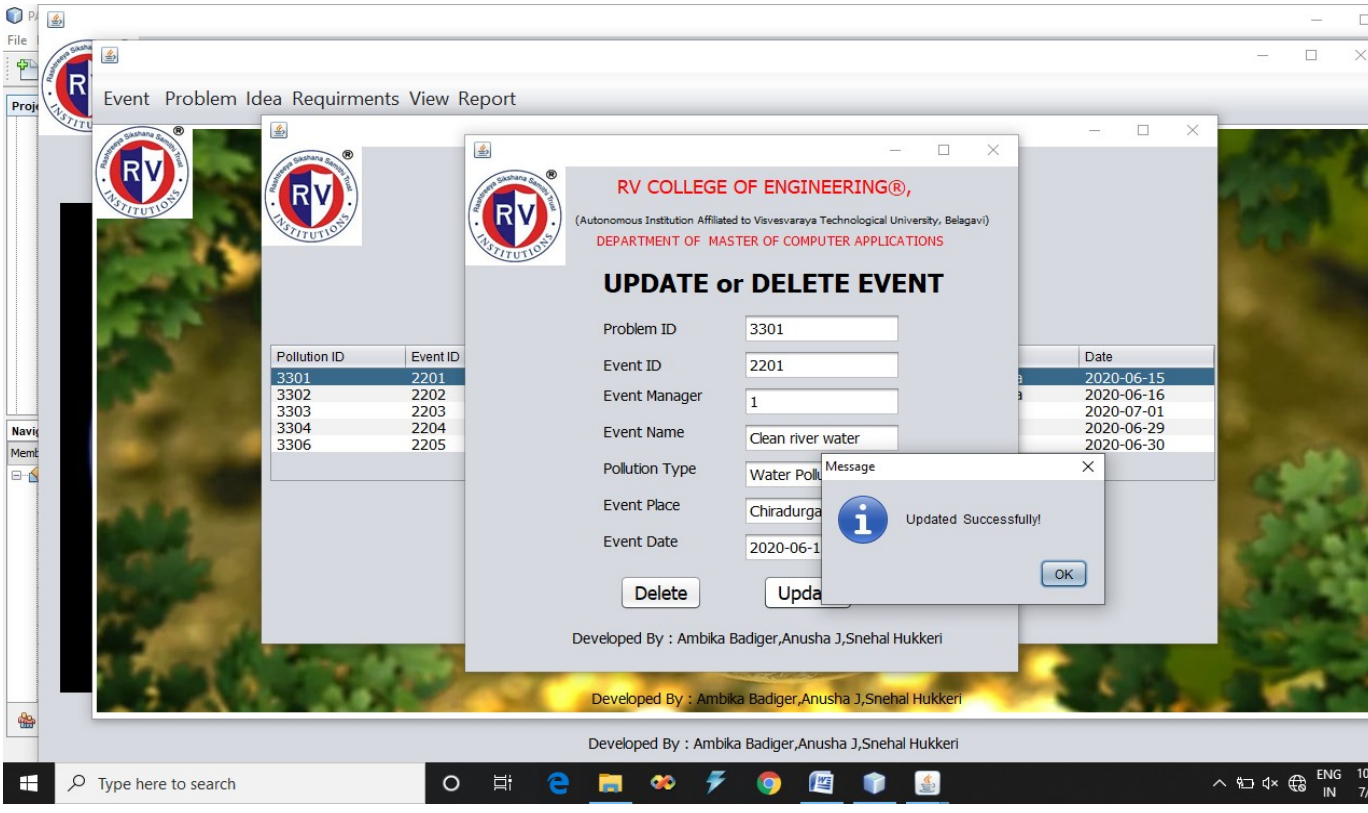
		Test the Event name field with correct validation	1.Enter a event name. 2.Click in submit button.	After entering event name. it must be accepted.	Accepted event name.	Pass
3	Event Type	Test Event type without selecting the field from dropdown list.	Direct click on submit button.	It should display a proper Error message(Event type field is mandatory).	Form is not submitted.	Pass
		Test the Event name field with correct validation.	1.Select a event type. 2.Click in submit button.	After selecting event type. it must be accepted.	Accepted event type.	Pass

4	Event place	Test Event place without entering the field.	Direct click on submit button.	it should display a proper Error message(Event place field is mandatory).	Form is not submitted.	Pass
		Test the Event place field with correct validation	1.Enter a event place. 2.Click in submit button.	After entering event place. it must be accepted.	Accepted event place.	Pass
5	Event date	Test Event date without entering the field.	Direct click on submit button.	it should display a proper Error message(Event date	Form is not submitted.	Pass

				field is mandatory) .		
		Test the Event date field with correct validation	1.Enter a event date. 2.Click in submit button.	After entering event date. it must be accepted.	Accepted event date.	Pass
6.	Test if admin is able to organize event successfully.	1 .Test all fields.	1. Enter all valid Data Fields. 2. Click on Submit button	Admin must successfully organize event.	Admin has organized event successfully	Pass


Event Problem Idea Requirments View Report
RV COLLEGE OF ENGINEERING®,
(Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi)
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
EVENT
Message
Date is Mandatory
OK
Problem ID
3301
3302
3303
3304
3305
3306
3307
Description
Polluted water bodies
More useage of radioactive...
More relese of toxic gases
Reles of waste into water
pastiside
less tress
Platic waste Desposal
Pollution Type
Environmental Pollution
Event Place
Vijaypur
Event Date
Back
Submit
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Type here to search
ENG
IN
10:47 AM
7/6/2020


Event Problem Idea Requirments View Report
RV COLLEGE OF ENGINEERING®,
(Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi)
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
EVENT
Message
Inserted Successfully!
OK
Problem ID
3301
3302
3303
3304
3305
3306
3307
Description
Polluted water bodies
More useage of radioactive...
More relese of toxic gases
Reles of waste into water
pastiside
less tress
Platic waste Desposal
Pollution Type
Environmental Pollution
Event Place
Vijaypur
Event Date
2020/07/15
Back
Submit
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Type here to search


Event Problem Idea Requirments View Report
RV COLLEGE OF ENGINEERING®,
(Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi)
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
UPDATE or DELETE EVENT
Problem ID
3301
Event ID
2201
Event Manager
1
Event Name
Clean river water
Pollution Type
Event Place
Event Date
Message
Updated Successfully!
OK
Pollution ID
Event ID
3301
2201
3302
2202
3303
2203
3304
2204
3306
2205
Date
2020-06-15
2020-06-16
2020-07-01
2020-06-29
2020-06-30
Delete
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Type here to search

5.REQUIREMENT

Requirement id is auto generated.

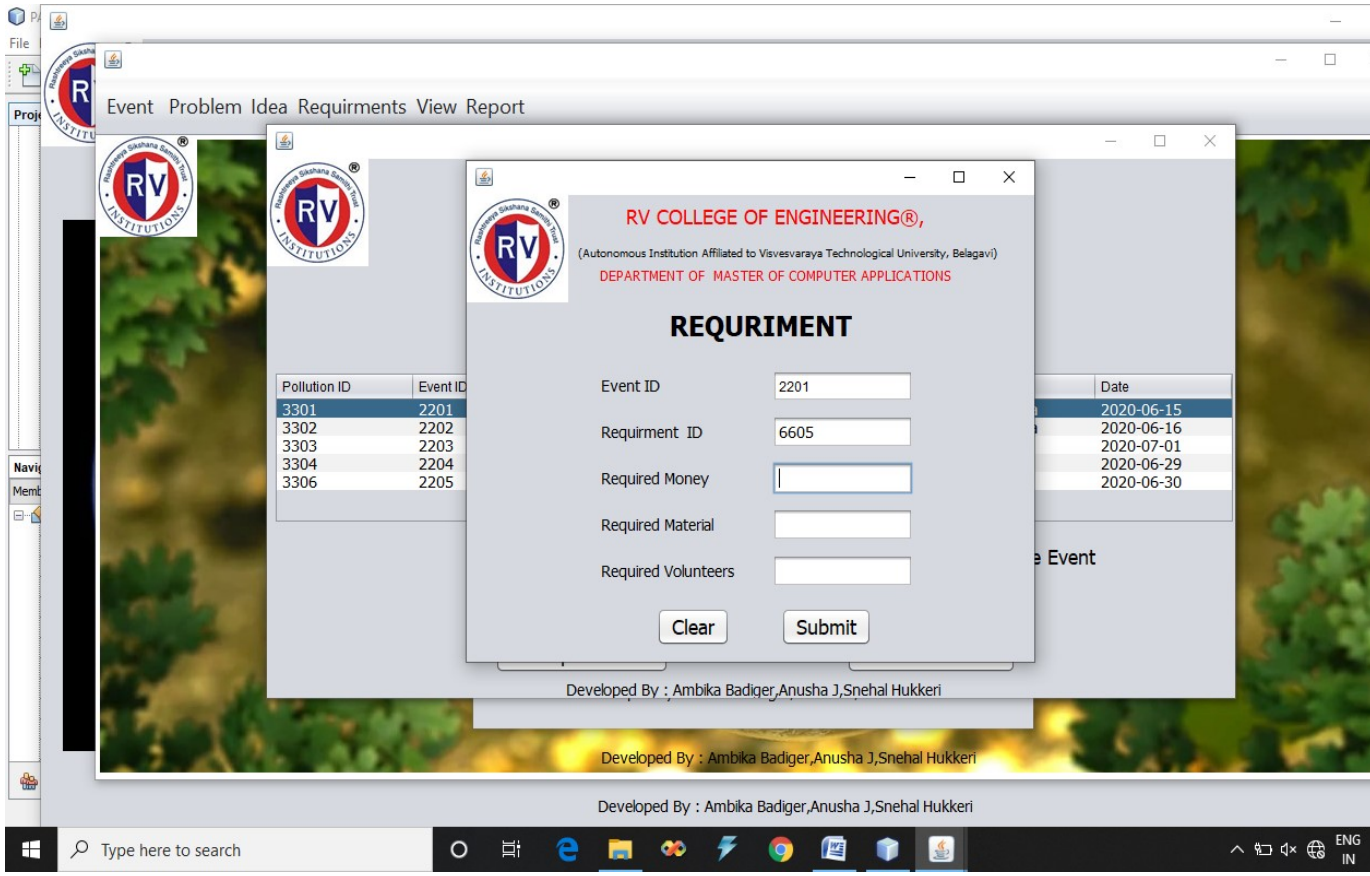
Event id fetched from database.

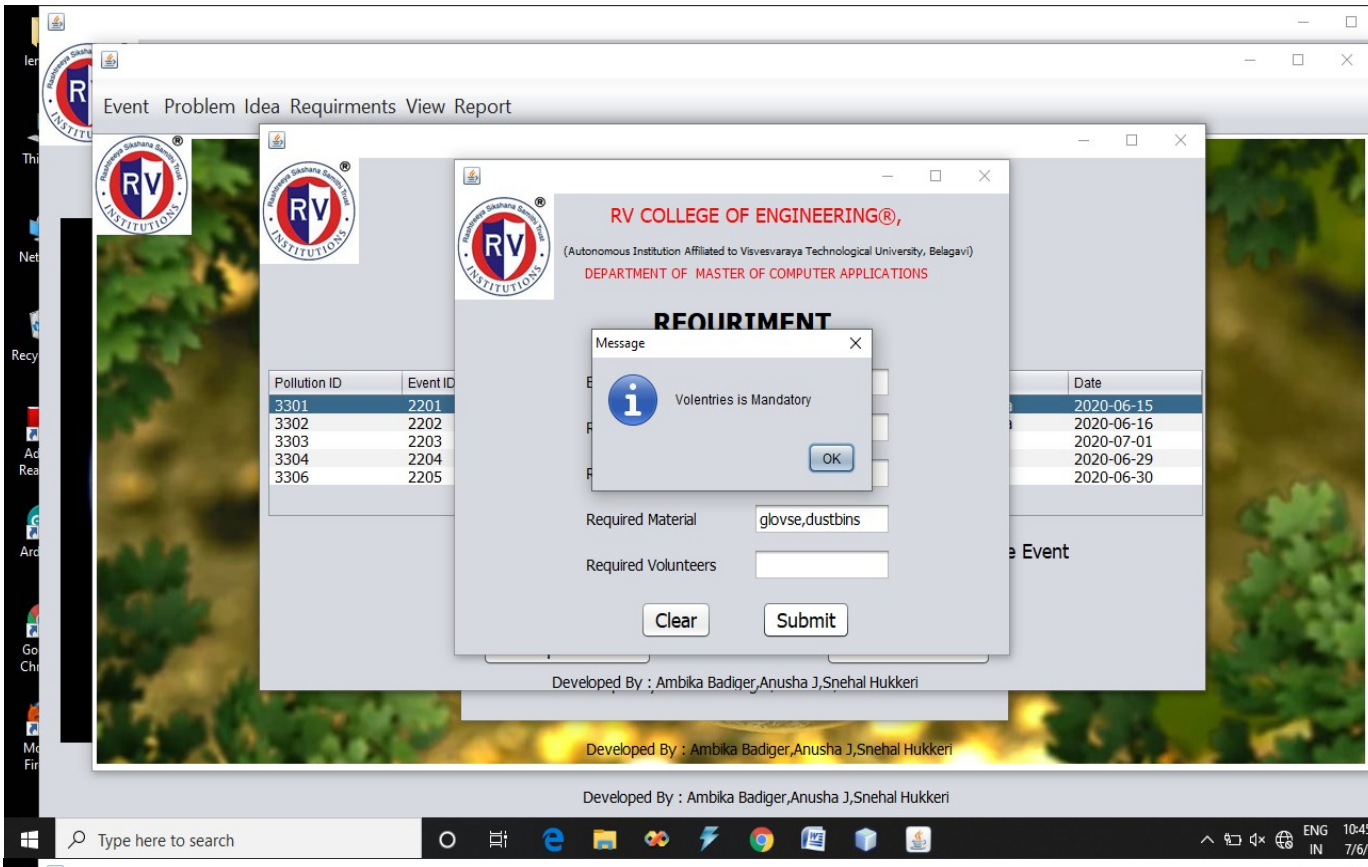
Test Case Id	**Test Cases**	**Test Case Description**	**Steps To be Executed**	**Expected Results**	**Actual results**	**Status (Pass/ Fail)**
1	Required money	Test required money without entering the field.	Direct click on Submit button.	It should display a proper Error message (Required money field is mandatory).	Form is not submitted	Pass
		Test the Required money field with correct validation	1.Enter a valid required money. 2.Click in	After entering valid required money it	Accepted Required money.	Pass

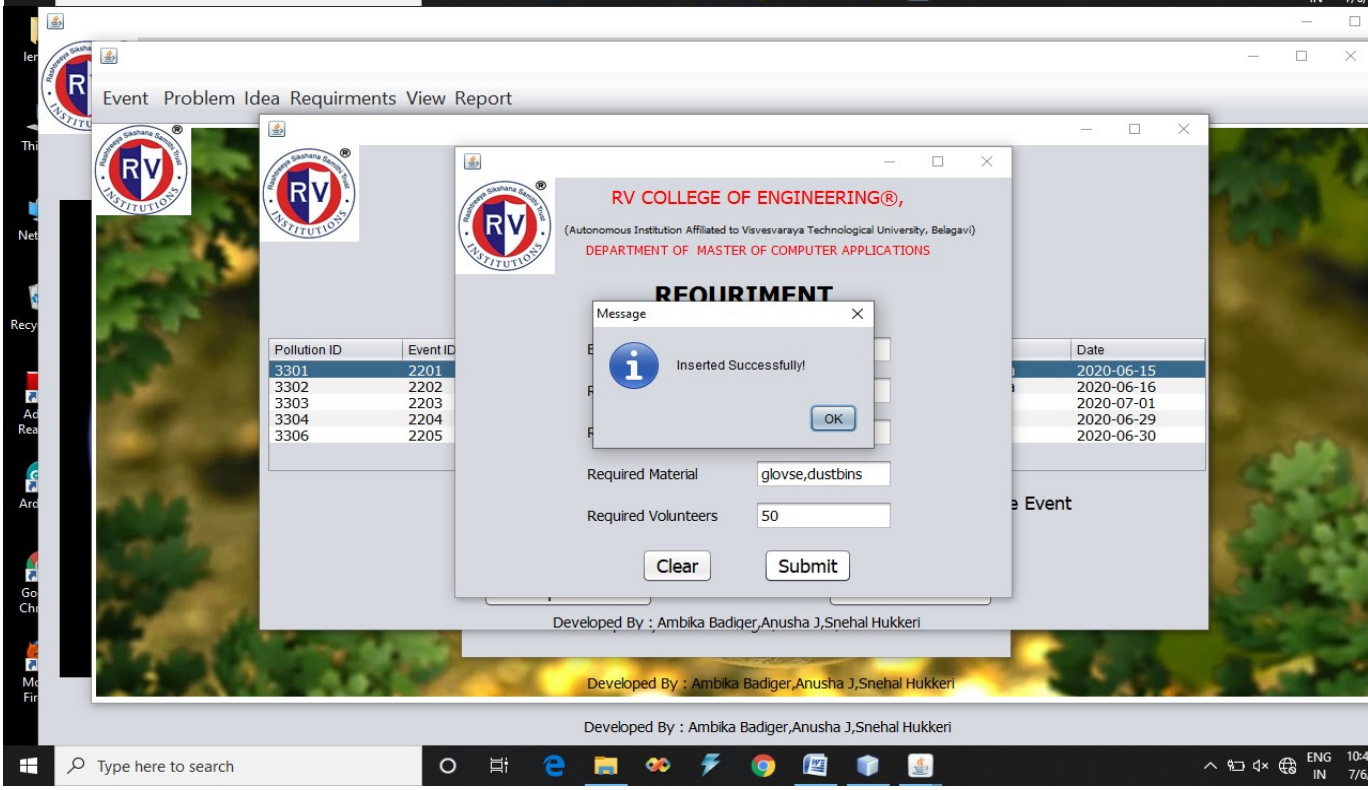
			submit button.	must be accepted.		
2	Required material	Test required material without entering the field.	Direct click on submit button.	it should display a proper Error message(Required material field is mandatory).	Form is not submitted.	Pass
		Test the Required material field with correct validation	1.Enter a required material. 2.Click in submit button.	After entering required material. it must be accepted.	Accepted required material.	Pass
3	Required volunteers	Test required volunteers without entering the	Direct click on submit button.	it should display a proper Error message(Required	Form is not submitted.	Pass

		field.		volunteer field is mandatory).		
		Test the Required volunteers field with correct validation	1.Enter a required volunteer. 2.Click in submit button.	After entering required volunteer. it must be accepted.	Accepted required volunteers .	Pass
4	Test if admin is able to specify requirement	1 .Test all fields.	1. Enter all valid Data Fields. 2. Click on Submit button	Admin must successfully specify requirements.	Admin has specified requirements successfully	Pass

	of event succes sfully.					




Event Problem Idea Requirments View Report
RV COLLEGE OF ENGINEERING®,
(Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi)
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
REQUIRMENT
Message
Volentries is Mandatory
OK
Pollution ID
Event ID
Date
3301 2201 2020-06-15
3302 2202 2020-06-16
3303 2203 2020-07-01
3304 2204 2020-06-29
3306 2205 2020-06-30
Required Material
glovse,dustbins
Required Volunteers
Clear
Submit
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Type here to search


Event Problem Idea Requirments View Report
RV COLLEGE OF ENGINEERING®,
(Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi)
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
REQUIRMENT
Message
Inserted Successfully!
OK
Pollution ID
Event ID
Date
3301 2201 2020-06-15
3302 2202 2020-06-16
3303 2203 2020-07-01
3304 2204 2020-06-29
3306 2205 2020-06-30
Required Material
glovse,dustbins
Required Volunteers
50
Clear
Submit
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Type here to search

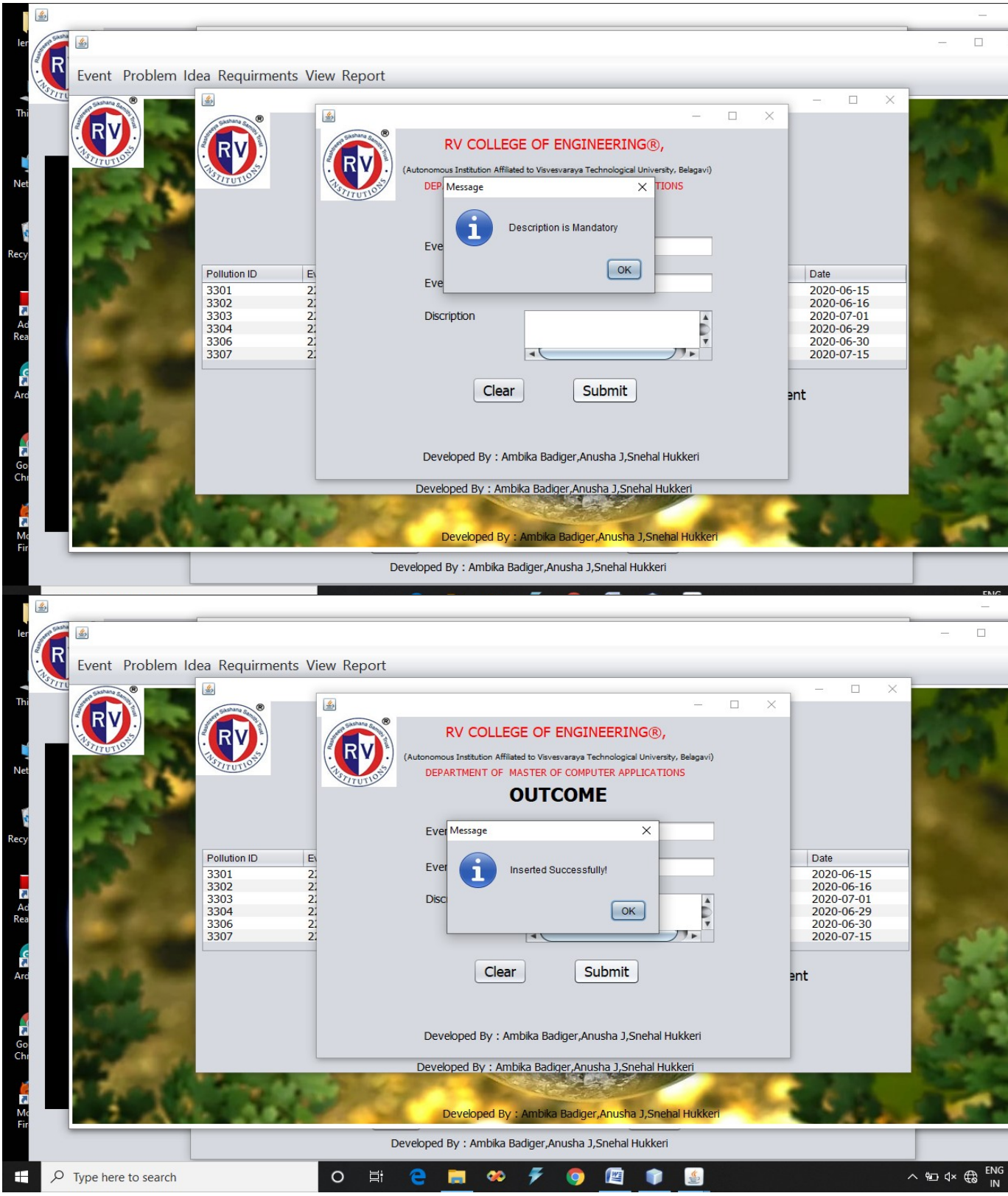
6.OUTCOME

Test Case Id	**Test Cases**	**Test Case Description**	**Steps To be Executed**	**Expected Results**	**Actual results**	**Status (Pass/ Fail)**
1	Event id	Test the Event id with incorrect validation.	1.Enter a invalid Event id. 2.Click on submit button.	After entering invalid Event id. it must not be accepted.	Event id is not accepted.	Pass
		Test event id without entering the field.	Direct click on Submit button.	It should display a proper Error message (Event id field is mandatory).	Form is not submitted	Pass

		Test the Event id field with correct validation	1.Enter a valid event id. 2.Click in submit button.	After entering valid event id. it must be accepted.	Accepted event id.	Pass
2	Status	Test Status without entering the field.	Direct click on Submit button.	It should display a proper Error message (Status field is mandatory).	Form is not submitted	Pass
		Test the Status field with correct validation	1.Enter a valid Status. 2.Click in submit button.	After entering Status it must be accepted.	Accepted Status.	Pass
3	Description	Test description	Direct click on	It should display a	Form is not	Pass

		without entering the field.	Submit button.	proper Error message (Description field is mandatory).	submitted	
		Test the Description field with correct validation	1.Enter a valid Description. 2.Click in submit button.	After entering Description it must be accepted.	Accepted Description.	Pass
	Test if admin is able to update outcome of	1 .Test all fields.	1. Enter all valid Data Fields. 2. Click on Submit button	Admin must successfully update outcome.	Admin has updated stsus successfully	Pass

	the event succes sfully.					


Event Problem Idea Requirments View Report
RV COLLEGE OF ENGINEERING®,
(Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi)
Message
Description is Mandatory
OK
Discription
Clear
Submit
Pollution ID
Date
3301 2020-06-15
3302 2020-06-16
3303 2020-07-01
3304 2020-06-29
3306 2020-06-30
3307 2020-07-15
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Event Problem Idea Requirments View Report
RV COLLEGE OF ENGINEERING®,
(Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi)
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
OUTCOME
Message
Inserted Successfully!
OK
Clear
Submit
Pollution ID
Date
3301 2020-06-15
3302 2020-06-16
3303 2020-07-01
3304 2020-06-29
3306 2020-06-30
3307 2020-07-15
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Type here to search
ENG
IN

7.IDEA

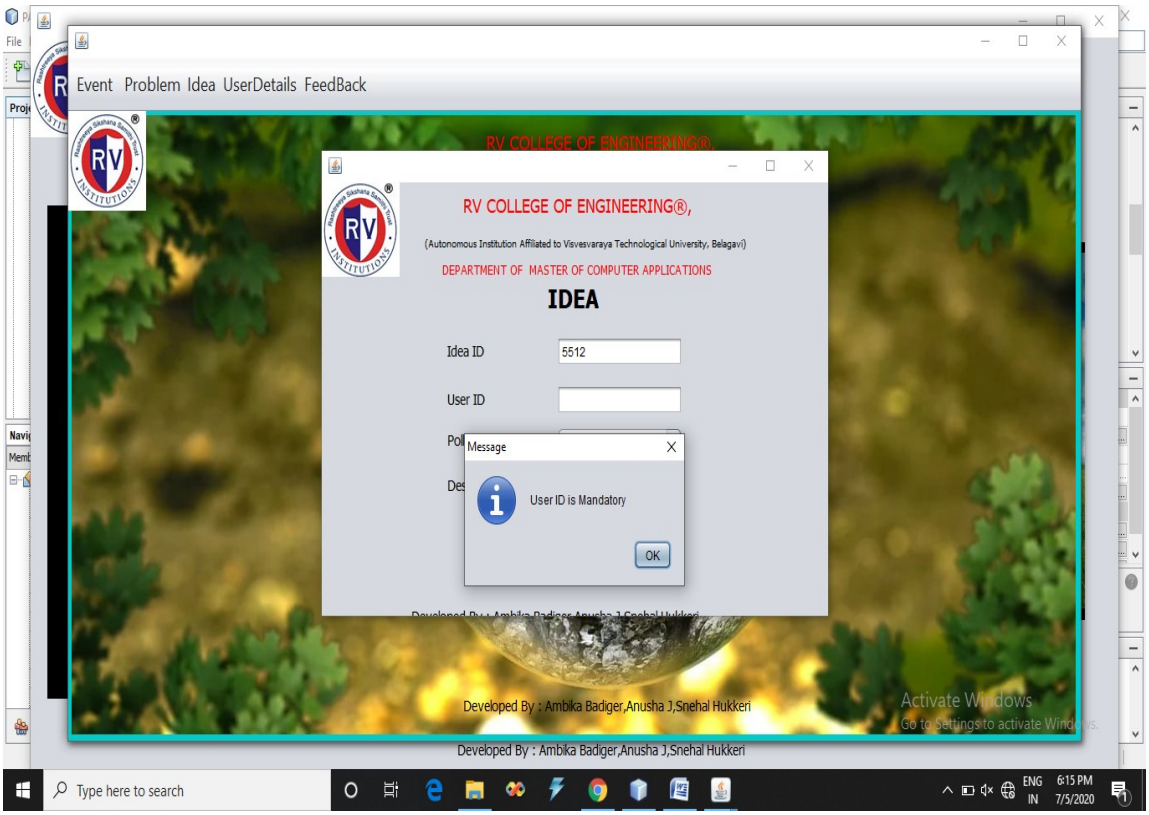
Idea id is auto generated.

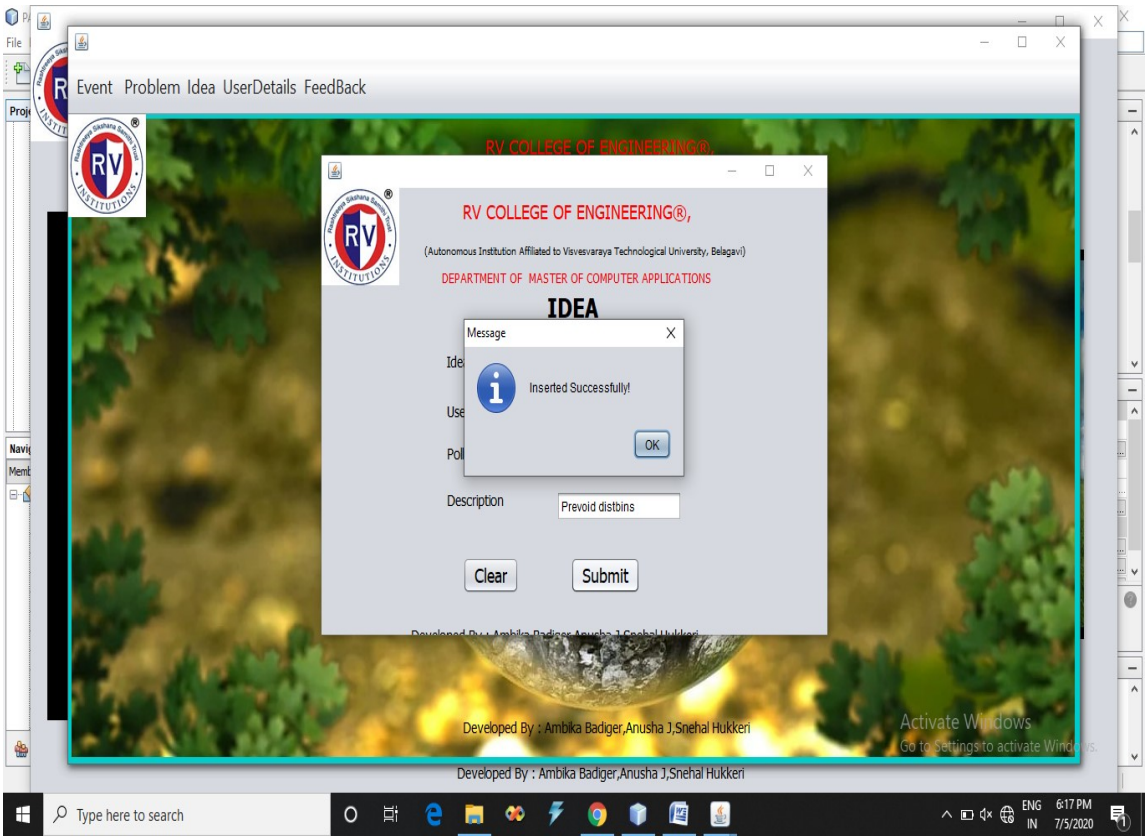
Test Case Id	**Test Cases**	**Test Case Description**	**Steps To be Executed**	**Expected Results**	**Actual results**	**Status (Pass/ Fail)**
1	User Id	Test the User id with incorrect validation.	1. Enter invalid User id. 2. Click on submit button.	After entering invalid user id. it must not be accepted.	User id is not accepte d.	Pass
		Test user id without entering the field.	Direct click on Submit button.	It should display a proper Error message (user id field is mandatory).	Form is not submitt ed	Pass
		Test the user id field	1.Enter a valid user	After entering	Accept ed user	Pass

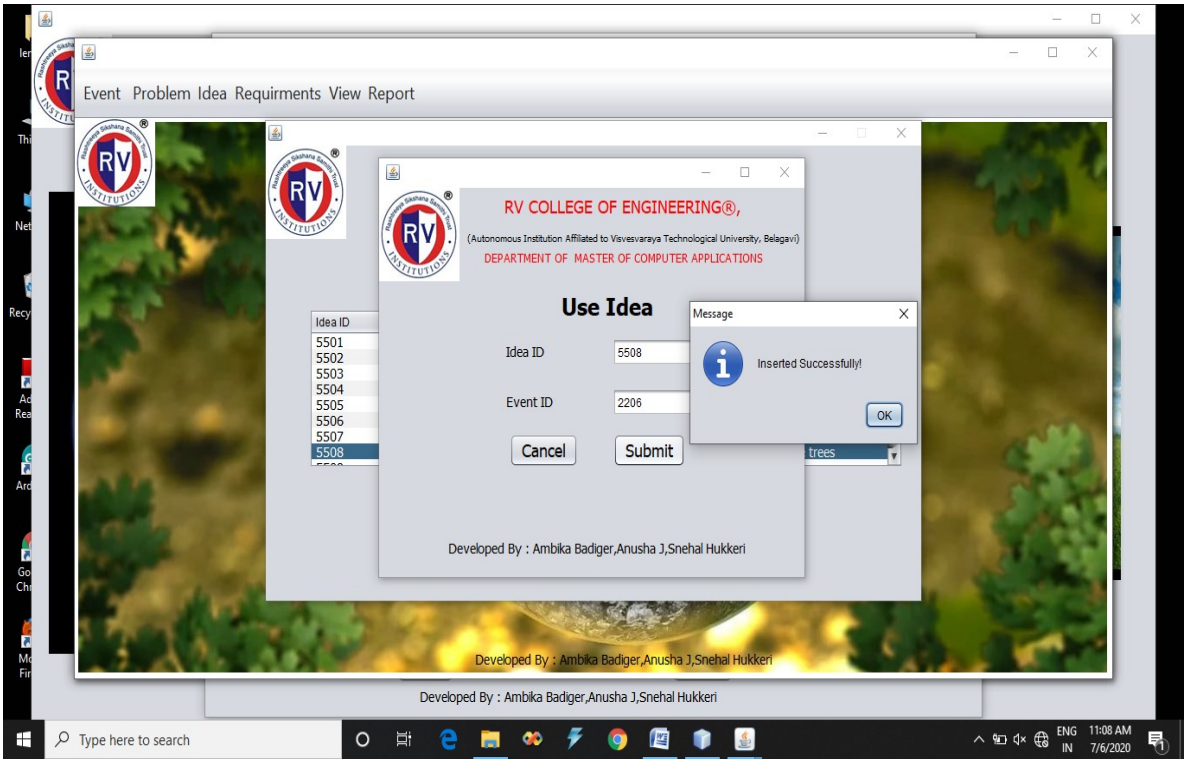
		with correct validation	id. 2.Click in submit button.	valid user id. it must be accepted.	id.	
2	Pollution type	Test Pollution type field without selecting field from dropdown list .	Direct click on submit button.	it should display a proper Error message(pollution type field is mandatory).	Form is not submitted.	Pass
		Test the pollution type with incorrect validation.	1.Enter a invalid pollution type. 2.Click on submit button.	After entering invalid pollution type. it must not be accepted.	password is not accepted.	Pass
		Test the pollution	1.Enter a valid	After entering	Accepted	Pass

		type field with correct validation	password. 2.Click in submit button.	valid pollution type. it must be accepted.	pollution type.	
3.	Description	Test description without entering the field.	Direct click on Submit button.	It should display a proper Error message (Description field is mandatory).	Form is not submitted	Pass
		Test the Description field with correct validation	1.Enter a valid Description. 2.Click in submit button.	After entering Description it must be accepted.	Accepted Description.	Pass
4	Test if user is	1 .Test all fields.	1. Enter all valid Data	User must successfully	User has	Pass

	able to upload idea succes sfully.		Fields. 2. Click on Submit button	give idea.	given idea success fully	




Event Problem Idea UserDetails FeedBack
RV COLLEGE OF ENGINEERING®,
(Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi)
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
IDEA
Message
Inserted Successfully!
OK
Description
Prevoid distbins
Clear
Submit
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Activate Windows
Type here to search
ENG IN 6:17 PM 7/5/2020


Event Problem Idea Requirments View Report
RV COLLEGE OF ENGINEERING®,
(Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi)
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
Use Idea
Idea ID
5501
5502
5503
5504
5505
5506
5507
5508
Idea ID 5508
Event ID 2206
Cancel
Submit
Message
Inserted Successfully!
OK
trees
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Type here to search
ENG IN 11:08 AM 7/6/2020

8.FEEDBACK

Feedback id is auto generated.

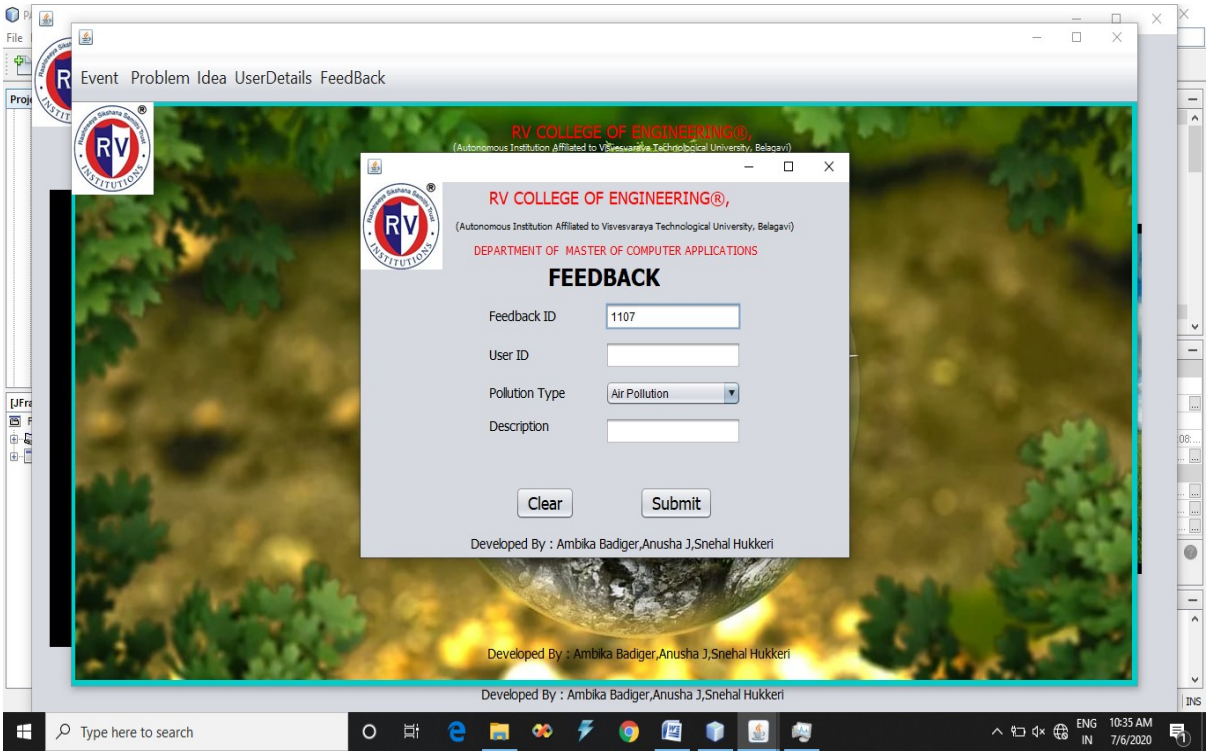
Test Case Id	**Test Cases**	**Test Case Description**	**Steps To be Executed**	**Expected Results**	**Actual results**	**Status (Pass/ Fail)**
1	User Id	Test the User id with incorrect validation.	1. Enter invalid User id. 2. Click on submit button.	After entering invalid user id. it must not be accepted.	User id is not accepted.	Pass
		Test user id without entering the field.	Direct click on Submit button.	It should display a proper Error message	Form is not submitted	Pass

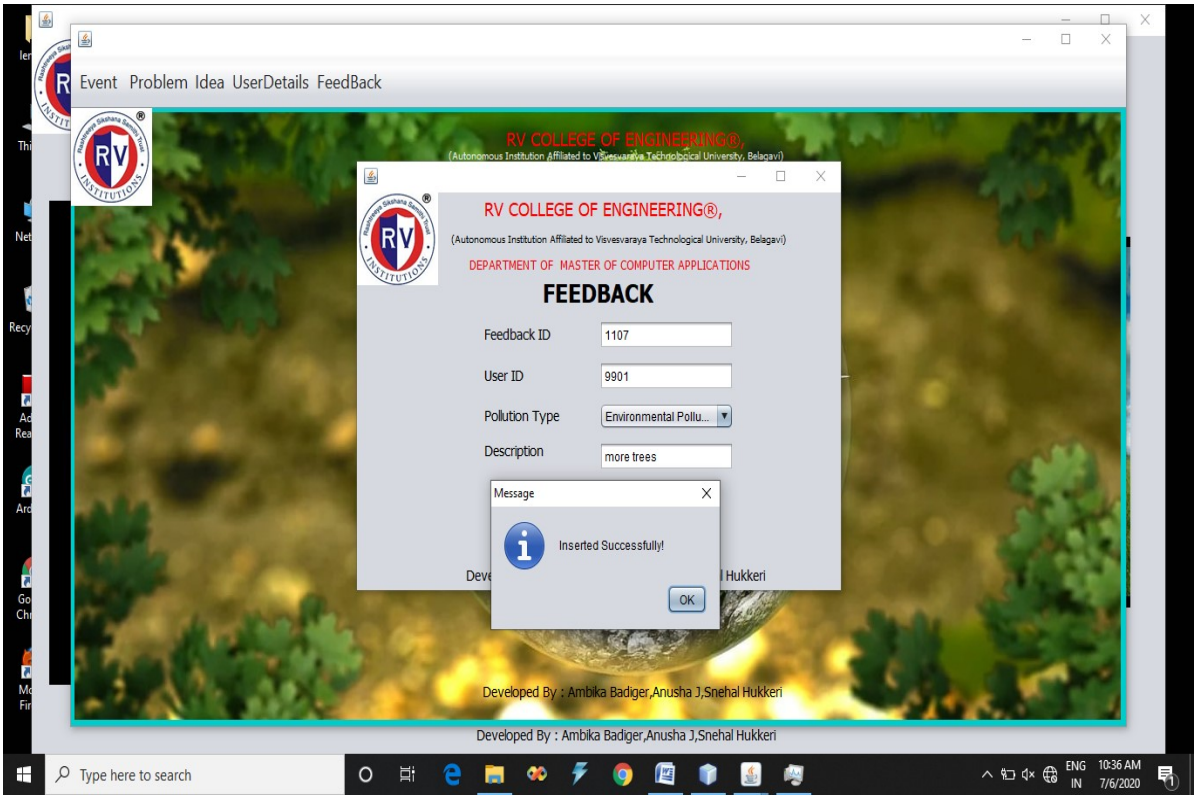
				(user id field is mandatory).		
		Test the user id field with correct validation	1. Enter a valid user id. 2. Click in submit button.	After entering valid user id. it must be accepted.	Accepte d user id.	Pass
		Test the Required material field with correct validation	1. Enter a required material. 2. Click in submit button.	After entering required material. it must be accepted.	Accepte d required material.	Pass
2	Polluti on type	Test Pollution type field without selecting	Direct click on submit button.	it should display a proper Error message(p	Form is not submitte d.	Pass

		field from dropdown list .		ollution type field is mandatory).		
		Test the pollution type with incorrect validation.	1.Enter a invalid pollution type. 2.Click on submit button.	After entering invalid pollution type. it must not be accepted.	passwor d is not accepted .	Pass
		Test the pollution type field with correct validation	1.Enter a valid password. 2.Click in submit button.	After entering valid pollution type. it must be accepted.	Accepte d pollutio n type.	Pass
3.	Descri	Test description	Direct click on Submit	It should display a	Form is not	Pass

	ption	without entering the field.	button.	proper Error message (Description field is mandatory).	submitted	
		Test the Description field with correct validation	1.Enter a valid Description . 2.Click in submit button.	After entering Description it must be accepted.	Accepted Description.	Pass
4	Test if user is able to give feedba	1 .Test all fields.	1. Enter all valid Data Fields. 2. Click on Submit	User must successfully give feedback.	User has given feedback successf	Pass

	ck succes sfully.		button		ully	


Event Problem Idea UserDetails FeedBack
RV COLLEGE OF ENGINEERING®,
(Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi)
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
FEEDBACK
Feedback ID
1107
User ID
Pollution Type
Air Pollution
Description
Clear
Submit
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Type here to search
ENG IN 10:35 AM 7/6/2020


Event Problem Idea UserDetails FeedBack
RV COLLEGE OF ENGINEERING®,
(Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi)
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
FEEDBACK
Feedback ID
1107
User ID
9901
Pollution Type
Environmental Pollu...
Description
more trees
Message
Inserted Successfully!
OK
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
Developed By : Ambika Badiger,Anusha J,Snehal Hukkeri
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ENG IN 10:36 AM 7/6/2020

Evaluations:

In the attempt to evaluate the designed system, it is imperative that the predefined functionalities, goals and objectives are in relation to the expectations met by the system.

The main objective of our application is to solve the pollution related problem and trying to provide social awesomeness among people. As it collects the problems regarding various pollution types such as air pollution, soil pollution, water pollution, in various areas, reported by user. Based on these problems. Admins plan an appropriate event and organize in the area it was reported sometimes based on ideas provided by other users. These events are managed by one of the admins and by conducting events they try to solve reported problem. And conduct some other events to provide social awareness regarding prevention and controls of pollutions to people. As far as I concern the system met these expectations.

7.Conclusion & Future Enhancements

The System “Pollution Analysis and Control” is developed using the Software requirements and Software methodology, which helps to develop a system that is a user friendly. The software requirements specify the user requirements which are considered during development of the system. The system methodology helps in maintenance of the developed system. These results in a development of a user friendly system which helps to solve the problems. The Pollution Analysis and Control system helps users by organizing the specific event for solving the problems regarding pollutions happing in their area or locality when they post a problems regarding the issue.

In future we can enhance this application with more capabilities like analysis of data and generating reports. Based on analysis we can take correct decisions. We are going to keep track of every event we have organized to control pollution in that area. Thus this application would be helping us to control pollution.

Bibliography

1) Creator

Pritham thing
Title of the video "Registration form validation in java Netbeans with regular expression"
uploaded by " Pritham thing"
link "https://youtu.be/sHqB8dtoVDs"
"https://youtu.be/WeON7Ku1bTQ"
Published on march 15 2018

2) Creator

Gsoft knowledge
Title of the video "how to fetch or populate data from database to jframe or jtable - javatutorial#14"
link "https://youtu.be/sHqB8dtoVDs"
Published on april 07 2016

3) Creator

Mouna Naravani
Title of the video
a) "how to display the database records in jtable using Netbeans "
b)"registration form validation in java Netbeans"
uploaded by " Mouna Naravani"
link a)https://youtu.be/4nvTwvfWt7I
b)https://youtu.be/54yGDNLjzro
Published on December 07 2017

4) Creator

knowledge to share

Title of the video "JAVA SWING | jtext field phone number validation | accept only numbers(with 10 digits)"
link "https://youtu.be/NXi-atvW73o"
Published on December 30 2018

More References

1) https://stackoverflow.com/questions/21898053/display-records-from-mysql-database-using-jtable-in-java

2)
https://stackoverflow.com/questions/13172898/how-to-autoincrement-string-in-java-swing
3)
https://stackoverflow.com/questions/9612096/i-want-to-make-a-text-field-editable-only-when-a-check-box-is-selected-in-netbea