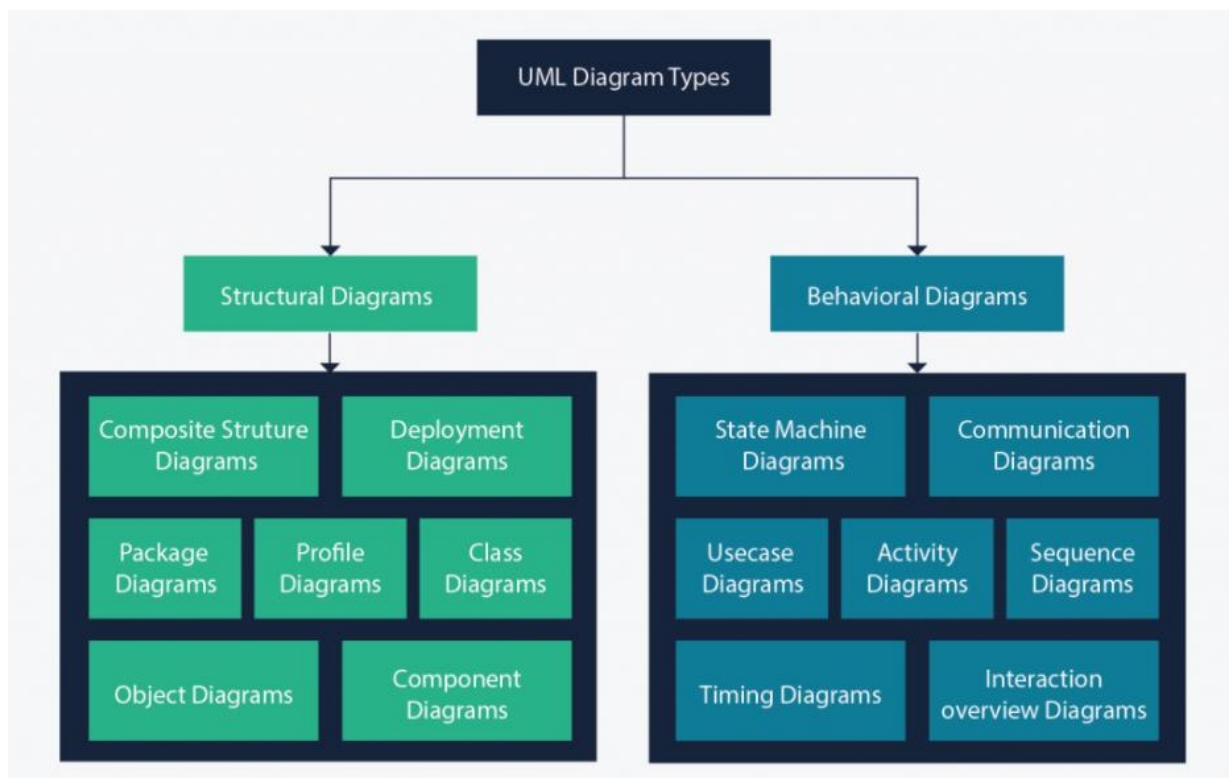


## GROUP 10

# INVENTION MANAGEMENT SYSTEM

- The Invention Management System Database is made to store,
  - Invention details
  - Inventor details
  - Awards Received etc.

### UML DIAGRAM:



## **Structural diagrams:**

- Structural diagrams show the things in the modeled system.
- In a more technical term, they show different objects in a system.

## **Behavioral diagrams:**

- Behavioral Diagrams show what should happen in a system.
- They describe how the objects interact with each other to create a functioning system.

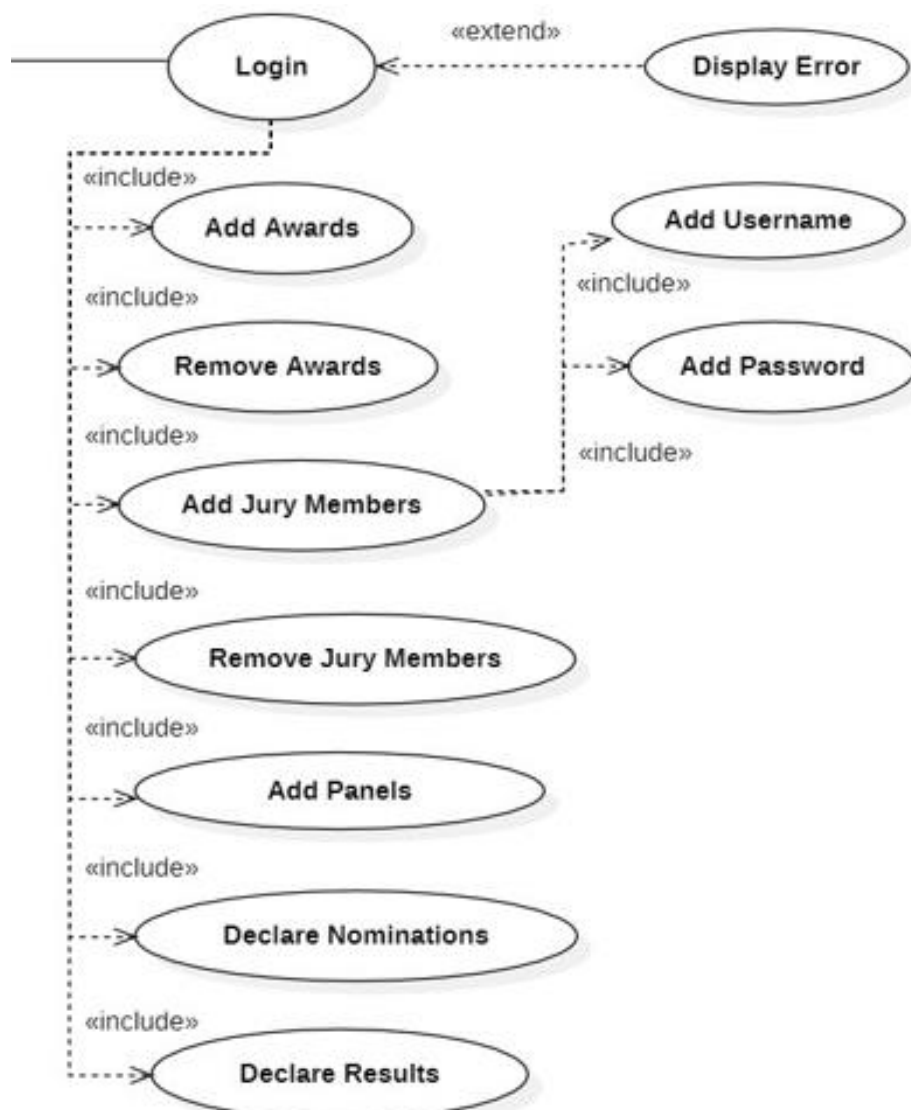
## **Use Case Diagram:**

- Use case diagrams give a graphic overview of the actors involved in a system, different functions needed by those actors and how these different functions interact.
- It's a great starting point for any project discussion because you can easily identify the main actors involved and the main processes of the system.
- This Use Case Diagram depicts the High-level view of the Invention Management system.
- It also provides the scenarios in which the application interacts with,
  - Inventor
  - Jury
  - Admin

Actor Category	Actor
Primary Actor	Jury, Admin
Secondary Actor	Inventor

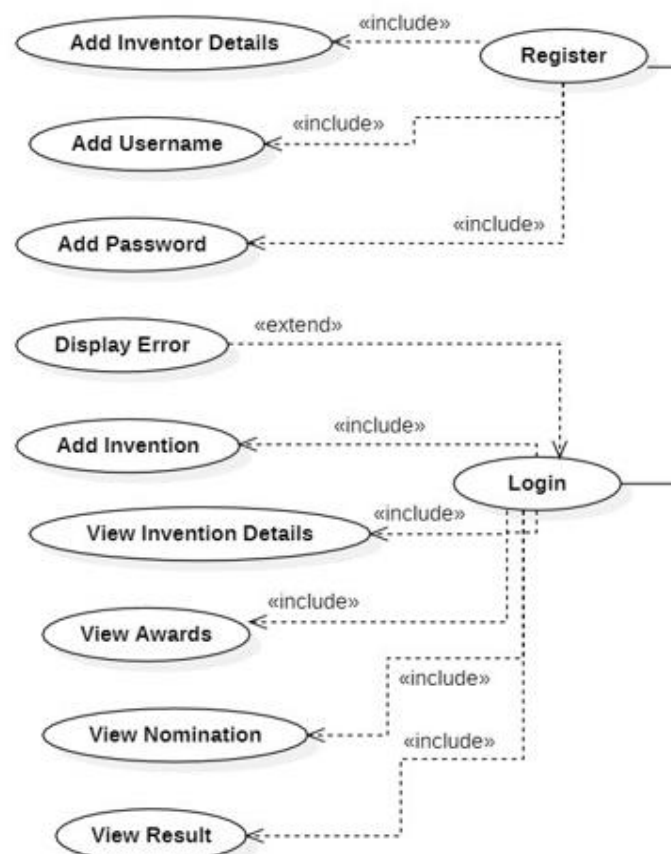
There are total of Twenty-Six use cases that represent the specific functionality of Invention Management System.

Each actor interacts with a particular use case.



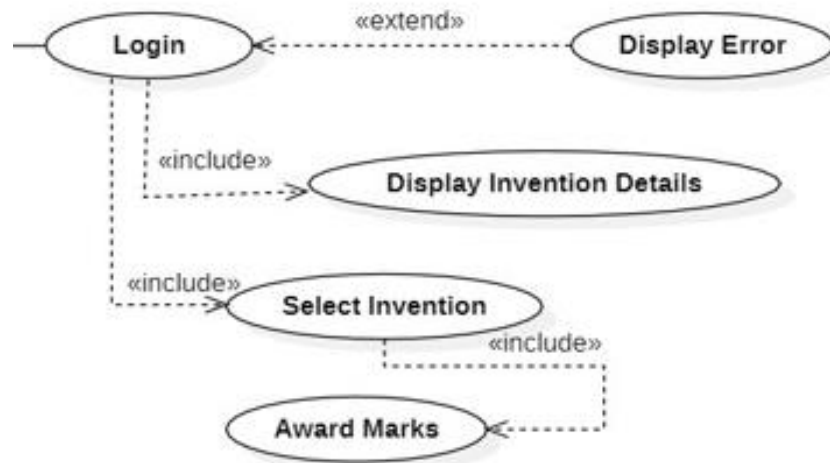
## Functionality of Admin:

- Login to take the overall Control of the Data Base
- Add or Remove Awards
- Add or Remove Panel
- Add or Remove Jury
- Declare Nominations
- Declare Results
- Admin takes the overall control of the database or in other words say one of the primary Actors.
- Admin have to just login inside the database and gets the overall control.



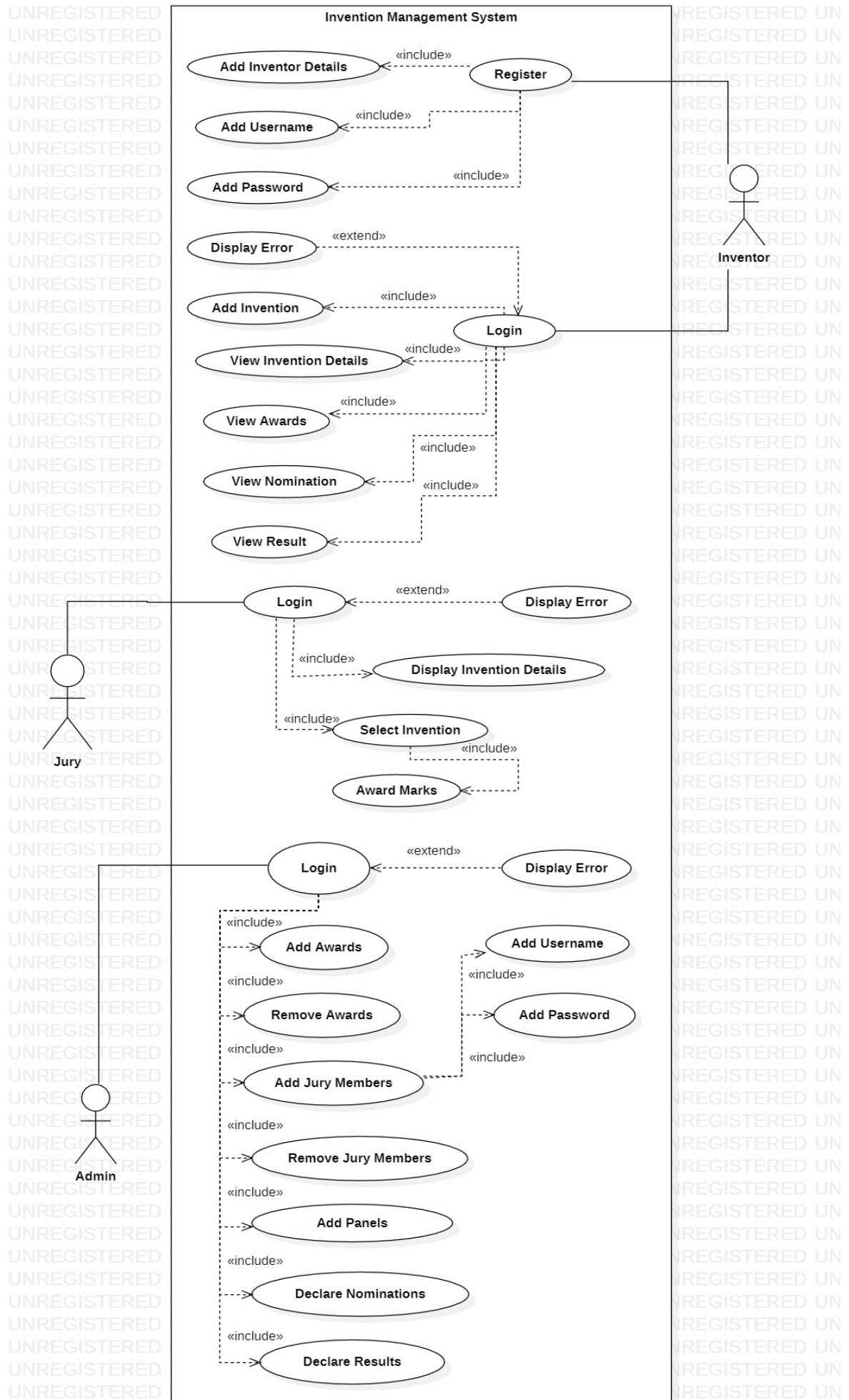
## **Functionality of Inventor Actor:**

- Register in the database to create Account
- Register for New Username and Password
- Login using his/her credentials
- Add the details of his/her invention
- View the Invention details
- View Awards
- View Nominations
- View Results
- Inventor can create the account in the database to register his/her invention.
- Once registered Inventor needs to set the username and password to login into the database next time.
- Once Inventor Actor successfully logs in, gets option to add the invention to the database.
- If Inventor is not able to login successfully then, they will get the Error message.
- Inventor can also view the invention details that he/she have enclosed while registering in the database.
- Inventor can view the results of the invention.



### Functionality of Jury Actor:

- Login to Invention Management System
- View Invention Details that are Displayed when logged In.
- Select the Invention
- Award Marks for the Selected Invention.
- Jury can login to the Invention management system using the credentials provided by the Admin.
- Once they successfully login inside the Portal they get access to all invention.
- If they are not able to login successfully then they will get the Error message.
- From the list of inventions given they can select the allotted invention.
- They can look into the inventions and award marks to the selected Invention.



## Class Diagram:

- Class diagrams are the main building block of any object-oriented solution.
- It shows the classes in a system, attributes, and operations of each class and the relationship between each class.
- In most modeling tools, a class has three parts.
- Name at the top, attributes in the middle and operations or methods at the bottom.
- In a large system with many related classes, classes are grouped together to create class diagrams.
- Different relationships between classes are shown by different types of arrows.

## Public (+):

- Public members are visible to all other classes.
- This means that any other class can access a public field or method.
- Further, other classes can modify public fields unless the field is declared as final.

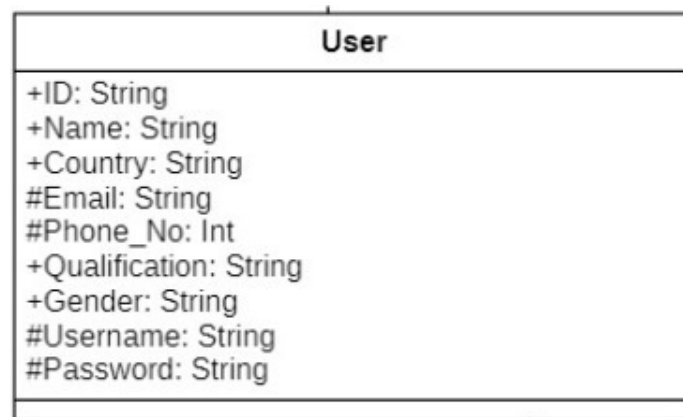
## Protected (#):

- The **protected** keyword is an access modifier used for attributes, methods and constructors, making them accessible in the same package and subclasses.



## Private (-):

- The methods or data members declared as private are accessible only within the class in which they are declared.
- The access level of a private modifier is only within the class. It cannot be accessed from outside the class.
- Any other class of the same package will not be able to access these members.



- **User** is Implemented from the Interface **Login Details**.

### + ID:

- Unique ID to identify the User.
- It is of type String.

### + Name:

- Name of the User.
- It is of type String.

### **+ Country:**

- Country in which the user resides.
- It is of type String.

### **+ Qualification:**

- An experience that makes the user suitable for a particular job or activity.
- It is of type String.

### **+ Gender:**

- To specify the Gender of the User.
- It is of type String.

### **# Email:**

- Email of the User.
- It is of type String.

### **# Phone\_No:**

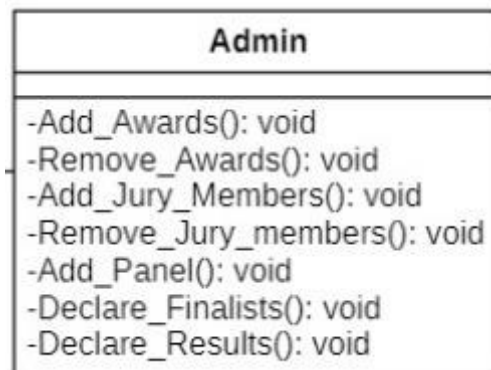
- Phone Number of the User.
- It is of type Integer.

### **# Username:**

- Unique Username that each user has to login to his/her account.
- It is of type String.

## # Password:

- Password that each user has to login to his/her account.
- It is of type String.



Admin class is Inherited from the Parent Class User.

It Inherits all properties of the User and it has its own Methods.

### - Add\_Awards():

- This Method is used to add the available Awards to the DataBase.
- These Awards will be given to the Inventor based on their Invention.
- It doesn't take any parameter and doesn't return anything.
- It just asks for the name of the Award that has to added when it is called.

**- Remove\_Awards():**

- This method is used to remove the Awards from the DataBase.
- It doesn't take any parameter and doesn't return anything.

**- Add\_Jury\_Members():**

- This Method is used to add the details of the Jury Members to the DataBase.
- It doesn't take any parameter and doesn't return anything.
- It just asks for the details of the Jury that has to added when it is called.

**- Remove\_Jury\_Members():**

- This method is used to remove the details of the Jury Members from the DataBase.
- It doesn't take any parameter and doesn't return anything.

**- Add\_Panel():**

- This Method is used to add the Panel to the DataBase.
- It doesn't take any parameter and doesn't return anything.
- It just asks for the details of the Panel that has to added when it is called.

**- Declare\_Finalists():**

- This method is used to declare the names of the Inventors who have been selected to the Finals.

### - Declare\_Results():

- This method is used to declare Finale results.

Invention
+Invention_ID: String
+Invention_Name: String
+Category: String
+Year_Of_Invention: Int
+Story_Behind: String
#Marks: Float

### + Invention\_ID:

- Unique ID to identify the Invention.
- It is of type String.

### + Invention\_Name:

- Name of the Invention.
- It is of type String.

### + Category:

- This attribute defines the category In which the Invention belongs to.
- It is of type String.

### + Year\_Of\_Invention:

- Year in which the invention has been invented.
- It is of type Integer.

### + Story\_Behind:

- This defines the motive and the reason behind Inventing the particular Invention.
- It is of type String.

### # Marks:

- Marks that has been awarded for the particular invention by the Jury.

Inventor
+Job_Type: String +Specialization: String +Year_Of_Experience: Int
+Add_Invention(): void ~View_Nomination(): void ~View_Result(): void +Add_Inventor_Details(): void

### + Job\_Type:

- This attribute stores the current job of the Inventor
- This is of type String.

### + Specialization:

- This stores the academic specialization of the inventor.
- This is of type String.

### + Year\_Of\_Experience

- This attribute stores the years of experience of the inventor.
- It is of type integer(int).

### - Add\_Invention()

- Using this method, we add the inventions of the inventor which has been nominated to the database.

### - View\_Nomination()

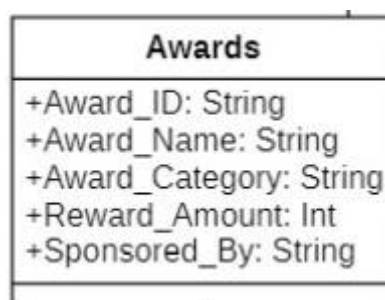
- This method displays the inventions of the inventor which have been nominated.

### - View\_Result()

- This method displays the inventions which has been shortlisted as winners.

### - Add\_Inventor\_Details()

- This method is used to add the details of the invention into the database.



### + Award\_ID

- This attribute is used to store the id of the award.
- This is of type String.

### + Award\_Name

- This attribute is used to store the name of the award.
- This is of type String.

### + Award\_Category

- The invention category is stored in this attribute.
- This is of type String.

### + Reward\_Amount

- The prize money given to the winner in this category is stored in this attribute.
- This is of type integer(int).

### + Sponsored\_By

- The sponsor for the prize money is stored in this attribute.
- This is of type String.

Jury Member
+Category: String +Year_Of_Experience: Int
#Award_Mark(Marks: Float): void

### + Category

- The category in the award ceremony where the particular person is part of the jury is stored in this attribute.
- This is of type String.

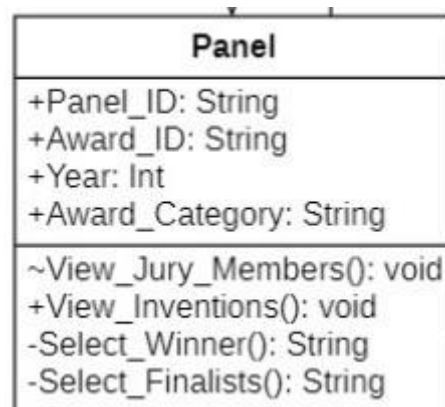


### + Year\_Of\_Experience

- The years of experience of the Jury Member is stored in this attribute.
- It is of type Integer(int).

### # Award\_Marks

- It stores the marks that has been awarded for the invention.
- This takes marks as the parameter which is of type Float.
- It doesn't return anything.



### + Panel\_ID

- This attribute stores the ID of the particular panel.
- It is of type String.

### + Award\_ID

- This attribute stores the ID of the award for which the particular panel is judging.
- It is of type String.

#### **+ Year:**

- It stores the year of the award ceremony.
- It is of type Integer(int).

#### **+ Award\_Category:**

- This attribute stores the category of the award for which the panel is judging for.
- It is of type String.

#### **- View\_Jury\_Members()**

- This method displays the jury members present in the particular panel.

#### **- View\_Inventions()**

- This method displays the inventions which are part of the category the panel is judging over.

#### **- Select\_Winner()**

- This method is used to determine the winner in the particular category.
- The winner is returned as a String.

#### **- Select\_Finalists()**

- This method is used to find out the qualifying inventions in the preliminary round.
- The qualifying inventions are returned as a String.

Nomination
~Invention_ID: String
~Award_ID: String
~Category: String

#### + Invention\_ID

- This attribute stores the invention ID of the particular invention which has been nominated.
- It is of type String.

#### + Award\_ID

- This attribute stores the award ID of the invention which has been nominated.
- It is of type String.

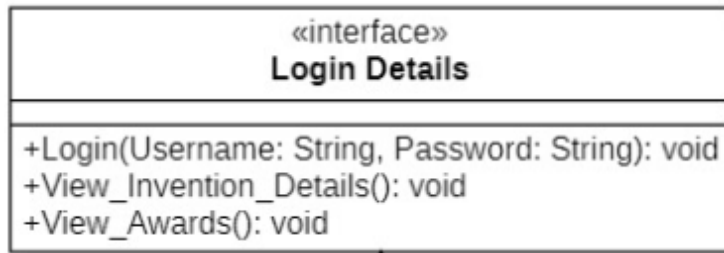
#### + Category

- This attribute stores the category of the invention,
- It is of type String.

Finalists
+View_Nomination(Nomination: void)

#### + View\_Nominations:

- It shows all the nominations of the finalists.



## Login:

- This takes the Username and Password as arguments which is of type String.
- It doesn't return anything.
- Using this credential, the user can login to the Portal/System.

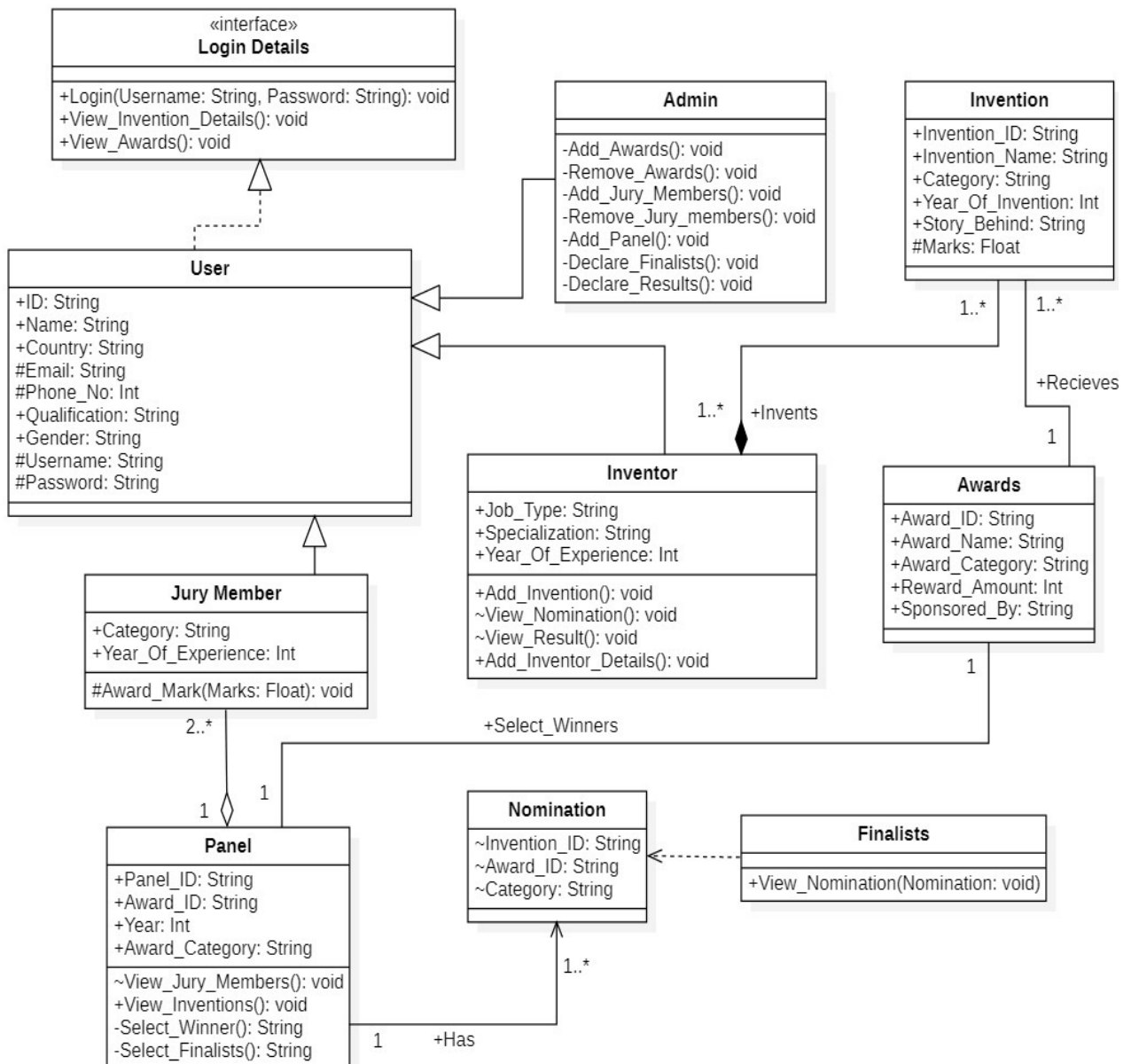
ASSOCIATION	Invention ↔ Award Awards ↔ Panel
	<ul style="list-style-type: none"> <li>• One Award can be given to one or more Invention.</li> <li>• Panel selects only one winner for a particular Award.</li> <li>• One Award can be selected by only One Panel.</li> </ul>

REALIZATION	Login Details ← User
	<ul style="list-style-type: none"> <li>• User implements an interface <b>Login Details</b>, thereby inheriting the abstract methods of the <b>Login details</b>.</li> </ul>
GENERALIZATION	USER ← Admin ← Inventor ← Jury Member
	<ul style="list-style-type: none"> <li>• Admin Inherits the properties of User.</li> <li>• Inventor Inherits the properties of User.</li> <li>• Jury Member Inherits the properties of User.</li> </ul>
DEPENDENCY	Nominations ← Finalists
	<ul style="list-style-type: none"> <li>• Finalists Dependent on the Nominations since an object of Nominations is being used by the Finalists.</li> </ul>
AGGREGATION	Jury Member → Panel
	<ul style="list-style-type: none"> <li>• The Jury Member can exist independently of the Panel.</li> </ul>

## COMPOSITION

Invention  $\longrightarrow$  Inventor

- Invention cannot exist without the Inventor.



# INHERITANCE

- Here user is the parent class and it has three child class or sub class.
  - Admin
  - Inventor
  - Jury Members
- User have all data members and attributes that are common to all three sub classes.
- Here the basic Details are taken as the common attributes and made the sub classes to inherit from the parent class.
  - ID
  - Name
  - Country
  - Email
  - Phone
  - Qualification
  - Gender
  - Username
  - Password

The common operation for admin, inventor, jury members is that all have to login to the portal before entering into the database.

- So, login operation and it's common attributes are included in the parent class.
- All those three actors can view both the Invention and Award details.

## STATIC

- Here we have used static variable to differentiate the ADMIN and the JURY.
- Here we have declared as if the flag is 1 then the admin class will be triggered and all functionalities associated with the admin will be visible.
- If the flag is 0 then the jury class will be triggered and all functionalities associated with the jury will be visible.
- Static holds the same value in all places and thus it is helpful in interacting with different object.

## OVER RIDING

- If a subclass provides the specific implementation of the method that has been declared by one of its parent class, it is known as method overriding.
- Here we have used over riding concept in the operations **viewnomination()** and **viewawards()** rather than declaring them individually.
- This improves readability and helps in better implementation.



# JDBC

- JDBC stands for Java Database Connectivity, which is a standard Java API for database-independent connectivity between the Java programming language and a wide range of databases.
- The JDBC library includes APIs for each of the tasks mentioned below that are commonly associated with database usage.
- Making a connection to a database.
- Creating SQL statements.
- Executing SQL queries in the database.
- Viewing & Modifying the resulting records.

## Create a Connection

- Before doing any work, we must create a connection to the database:
- `Class.forName("org.postgresql.Driver");`
- `Connection c = DriverManager.getConnection("jdbc:postgresql:DATABASELOCATION");`
- Replace **DATABASELOCATION** with the (preferably relative) path to your database file.

## Close a Connection

After finishing working with the database, we must close its connection:

```
c.close();
```

## Using Statements

- Statements can be used to make updates, like this INSERT:
- `Statement stmt = c.createStatement();`
- `String sql = "INSERT INTO employees (name, salary, address) " + "VALUES ('" + name + "', " + salary + ", '" + address + "')";`
- `stmt.executeUpdate(sql);`

## Or queries, like this SELECT:

- `Statement stmt = c.createStatement();`
- `String sql = "SELECT * FROM employees";`
- `ResultSet rs = stmt.executeQuery(sql);`
- When making queries, the results are returned as a Result Set.
- We must always remember to close the Statement:
- `stmt.close();`

## Prepared Statements

- Statements **are not recommended** for queries, and they can't be used at all for queries that include anything other than INTEGERS, REALs or TEXTs.
- In this situation, and when we're concerned about security, we use **Prepared Statements**.
- Prepared Statements can be used to make updates, like this INSERT:
- `String sql = "INSERT INTO employees (name, phone, salary, dob, photo) " + "VALUES (?, ?, ?, ?, ?)";`

```
PreparedStatement prep = c.prepareStatement(sql);
```

```
prep.setString(1, "Bob");
```

```
prep.setInt(2, 666666666);
```

```
prep.setDouble(3, 35000.00);
```

```
prep.setDate(4, anSqlDateObject);
```

```
prep.setBytes(5, aByteArray);
```

```
prep.executeUpdate();
```

## Or queries, like this SELECT:

- `String sql = "SELECT * FROM employees WHERE name LIKE ?";`
- `PreparedStatement prep = c.prepareStatement(sql);`
- `prep.setString(1, "%XYZ%");`
- `ResultSet rs = prep.executeQuery();`
- Again, when making queries, the results are returned as a Result Set.
- As always, remember to close the Prepared Statement:
- `prep.close();`

## Processing Result Sets

- When making queries, either with Statements or Prepared Statements, the results are returned as a Result Set.
- We can iterate over a Result Set and access its contents:
- Again, we mustn't forget to close the Result Set:
- `rs.close();`

Query Editor   Query History

1

**CREATE TABLE AWARDS**

2

(**AWARD\_ID** VARCHAR (20) **PRIMARY KEY**,

3

**AWARD\_NAME** VARCHAR (20),

4

**AWARD\_CATEGORY** VARCHAR (20),

5

**REWARD\_AMOUNT** INT,

6

**SPONSORED\_BY** VARCHAR (20));

Data Output   Explain   Messages   Notifications

CREATE TABLE

Query returned successfully in 248 msec.

Query Editor   Query History

1

**CREATE TABLE INVENTION**

2

(**INVENTION\_ID** VARCHAR (20) **PRIMARY KEY**,

3

**INVENTION\_NAME** VARCHAR (30),

4

**AWARD\_CATEGORY** VARCHAR (20),

5

**YEAR\_OF\_INVENTION** INT,

6

**STORY\_BEHIND** VARCHAR (100),

7

**MARKS** NUMERIC)

8

Data Output   Explain   Messages   Notifications

CREATE TABLE

Query returned successfully in 150 msec.

```

1  CREATE TABLE INVENTOR
2  (INVENTOR_ID VARCHAR (10) PRIMARY KEY,
3  NAME VARCHAR (20),
4  GENDER VARCHAR(20),
5  EMAIL VARCHAR(20),
6  PHONE_NO VARCHAR(20),
7  COUNTRY VARCHAR (20),
8  JOB_TITLE VARCHAR (20),
9  QUALIFICATION VARCHAR (20),
10 SPECIALIZATION VARCHAR (20),
11 YEAR_OF_EXPERIENCE VARCHAR(20))
12

```

Data Output Explain Messages Notifications

CREATE TABLE

Query returned successfully in 83 msec.

Query Editor Query History

```

1  CREATE TABLE INVENTS
2  (INVENTOR_ID VARCHAR (10) REFERENCES
3  INVENTOR(INVENTOR_ID),
4  INVENTION_ID VARCHAR (10) REFERENCES
5  INVENTION(INVENTION_ID)
6  )
7

```

Data Output Explain Messages Notifications

CREATE TABLE

Query returned successfully in 102 msec.

Query Editor   Query History

1

CREATE TABLE PANEL

2

(PANEL\_ID VARCHAR (10) PRIMARY KEY,

3

PANEL\_NAME VARCHAR (20),

4

AWARD\_CATEGORY VARCHAR(20))

Data Output   Explain   Messages   Notifications

CREATE TABLE

Query returned successfully in 228 msec.

1   CREATE TABLE JURY\_MEMBERS

2   (JURY\_ID VARCHAR (10) PRIMARY KEY,

3   JURY\_NAME VARCHAR (20),

4   GENDER VARCHAR(20),

5   EMAIL VARCHAR(20),

6   PHONE\_NO VARCHAR(20),

7   COUNTRY VARCHAR(20),

8   AWARD\_CATEGORY VARCHAR(20),

9   QUALIFICATION VARCHAR (20),

10   SPECIALIZATION VARCHAR (20),

11   YEAR\_OF\_EXPERIENCE VARCHAR(20))

Data Output   Explain   Messages   Notifications

CREATE TABLE

Query returned successfully in 183 msec.



```
1 CREATE TABLE PANEL_JURY
2 (PANEL_ID VARCHAR(20) REFERENCES
3 PANEL(PANEL_ID),
4 JURY_ID VARCHAR (10) REFERENCES
5 JURY_MEMBERS(JURY_ID))
```

Data Output Explain Messages Notifications

CREATE TABLE

Query returned successfully in 50 msec.

Query Editor Query History

```
1 CREATE TABLE LOGIN
2 (USERNAME VARCHAR(20),
3 PASSWORD VARCHAR(20),
4 CATEGORY VARCHAR(20),
5 ID VARCHAR(20))
```

Data Output Explain Messages Notifications

CREATE TABLE

Query returned successfully in 47 msec.



```
1 SELECT * FROM AWARDS
```

award_id	award_name	award_category	reward_amount	sponsored_by
1	Best Actor	Acting	1000000	Academy of Motion Picture Arts and Sciences
2	Best Actress	Acting	1000000	Academy of Motion Picture Arts and Sciences
3	Best Supporting Actor	Acting	1000000	Academy of Motion Picture Arts and Sciences
4	Best Supporting Actress	Acting	1000000	Academy of Motion Picture Arts and Sciences
5	Best Director	Directing	1000000	Academy of Motion Picture Arts and Sciences
6	Best Adapted Screenplay	Screenwriting	1000000	Academy of Motion Picture Arts and Sciences
7	Best Original Screenplay	Screenwriting	1000000	Academy of Motion Picture Arts and Sciences
8	Best Animated Feature	Animation	1000000	Academy of Motion Picture Arts and Sciences
9	Best Live Action Short Film	Short Film	1000000	Academy of Motion Picture Arts and Sciences
10	Best Animated Short Film	Short Film	1000000	Academy of Motion Picture Arts and Sciences
11	Best Documentary Short Film	Short Film	1000000	Academy of Motion Picture Arts and Sciences
12	Best Documentary Feature	Documentary	1000000	Academy of Motion Picture Arts and Sciences
13	Best International Feature	International	1000000	Academy of Motion Picture Arts and Sciences
14	Best Production Design	Production Design	1000000	Academy of Motion Picture Arts and Sciences
15	Best Costume Design	Costume Design	1000000	Academy of Motion Picture Arts and Sciences
16	Best Hair and Makeup	Hair and Makeup	1000000	Academy of Motion Picture Arts and Sciences
17	Best Production Music	Production Music	1000000	Academy of Motion Picture Arts and Sciences
18	Best Sound	Sound	1000000	Academy of Motion Picture Arts and Sciences
19	Best Music	Music	1000000	Academy of Motion Picture Arts and Sciences
20	Best Visual Effects	Visual Effects	1000000	Academy of Motion Picture Arts and Sciences
21	Best Production Design	Production Design	1000000	Academy of Motion Picture Arts and Sciences
22	Best Costume Design	Costume Design	1000000	Academy of Motion Picture Arts and Sciences
23	Best Hair and Makeup	Hair and Makeup	1000000	Academy of Motion Picture Arts and Sciences
24	Best Production Music	Production Music	1000000	Academy of Motion Picture Arts and Sciences
25	Best Sound	Sound	1000000	Academy of Motion Picture Arts and Sciences
26	Best Music	Music	1000000	Academy of Motion Picture Arts and Sciences
27	Best Visual Effects	Visual Effects	1000000	Academy of Motion Picture Arts and Sciences

```
1 SELECT * FROM INVENTION
```

Data Output Explain Messages Notifications

invention_id	invention_name	award_category	year_of_invention	story_behind	marks
[PK] character varying (20)	character varying (30)	character varying (20)	character varying	character varying (100)	numeric

[illegible]

1	SELECT * FROM INVENTS	
<div><div>Data Output</div><div>Explain</div><div>Messages</div><div>Notifications</div></div>		
	<div>inventor_id</div> <div>character varying (10)</div>	<div>invention_id</div> <div>character varying (10)</div>

1 SELECT \* FROM JURY\_MEMBERS

Data Output

Explain

Messages

Notifications

jury_id	jury_name	gender	email	phone_no	country	award_category	qualification	specialization	year_of_experience
[PK] character varying (10)	character varying (100)	character varying (10)	character varying (200)	character varying (20)	character varying (20)	character varying (20)	character varying (20)	character varying (20)	character varying (20)

1SELECT \* FROM PANEL

Data Output

Explain

Messages

Notifications

	panel_id [PK] character varying (10)	panel_name character varying (20)	award_category character varying (20)

```
1 SELECT * FROM LOGIN
```

Data Output Explain Messages Notifications

	username character varying (20)	password character varying (20)	category character varying (20)	id character varying (20)
1	Rahan	1	ADMIN	A1
2	Abhi	1	JURY	A2
3	Harvind	1	INVENTOR	A3

```
1 SELECT * FROM PANEL_JURY
```

Data Output Explain Messages Notifications

	panel_id character varying (20)	jury_id character varying (10)
--	------------------------------------	-----------------------------------

# SWING

- A component is an independent visual control and Java Swing Framework contains a large set of these components which provide rich functionalities and allow high level of customization.
- They all are derived from JComponent class.
- All these components are lightweight components.
- This class provides some common functionality like pluggable look and feel, support for accessibility, drag and drop, layout, etc.
- A container holds a group of components.
- It provides a space where a component can be managed and displayed. Containers are of two types.

## 1. Top level Containers

- It inherits Component and Container of AWT.
- It cannot be contained within other containers.
- Heavyweight.
- **Example:** JFrame, JDialog.

## 2. Lightweight Containers

- It inherits JComponent class.
- It is a general purpose container.
- It can be used to organize related components together.
- **Example:** JPanel

## **JFrame:**

- `new JFrame(String title)` make a new frame with optional title
- `setVisible(true)` make a frame appear on the screen
- `add(Component comp)` place the given component or container inside the frame
- `setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE)` make it so that the program exits when the frame is closed
- `setSize(int width, int height)` gives the frame a fixed size in pixels

## **JDialog**

- `new JDialog(Frame parent, String title, boolean modal)` make a new JDialog with given parent and title. If modal is set, the parent will be locked until the dialog is closed
- `JOptionPane.showMessageDialog(parent, message)` static method to pop up a dialog with just a message and OK button
- `JOptionPane.showConfirmDialog(parent, message)` static method to pop up a dialog with a message and Yes and No buttons
- `JOptionPane.showInputDialog(parent, message)` static method to pop a dialog with a message and a textfield for entering information

## **JLabel**

- new JLabel(String text) creates a new label with the given text
- getText() returns the text showing on the label
- setText() sets label's text JButton
- new JButton(String text) creates a new button with text
- getText() returns the text showing on the button
- setText(String text) sets button's text
- new JTextArea(int lines, int columns) create a new text area with preferred size for the given number of lines and columns JTextField
- new JTextField(int columns) create a new field, the given number of columns wide.

## **Event:**

- Event Object that contains detailed information about the event
- getSource() returns a reference to the object to which the event occurred

## **ActionEvent:**

- `getActionCommand()` returns the command string associated with this action.
- `getWhen()` returns a timestamp of when this event occurred.

## **Listener:**

- Listener Object that can be attached to a component to listen for events.
- Contains a method that is automatically called when an event occurs.

## **Swing JButton**

- `JButton` class provides functionality of a button.
- It is used to create button component.

## **JTextField**

- `JTextField` is used for taking input of single line of text. It is most widely used text component.

## **JCheckBox**

- The `JCheckBox` class is used to create checkbox in swing framework.

## **JRadioButton**

- Radio button is a group of related button in which only one can be selected.
- JRadioButton class is used to create a radio button in Frames.

## **JComboBox**

- Combo box is a combination of text fields and drop-down list.
- JComboBox component is used to create a combo box in Swing.

## **JLabel**

- In Java, Swingtoolkit contains a JLabel Class.
- It is under package javax.swing.JLabel class.
- It is used for placing text in a box.
- Only Single line text is allowed and the text cannot be changed directly.

## **JTextArea**

- In Java, Swing toolkit contains a JTextArea Class.
- It is under package javax.swing.JTextArea class.
- It is used for displaying multiple-line text.



## **JPasswordField**

- In Java, Swing toolkit contains a JPasswordField Class.
- It is under package javax.swing.JPasswordField class.
- It is specifically used for password and it can be edited.

## **JTable**

- In Java, Swing toolkit contains a JTable Class.
- It is under package javax.swing.JTable class.
- It used to draw a table to display data.

## **JList**

- In Java, Swing toolkit contains a JList Class.
- It is under package javax.swing.JList class.
- It is used to represent a list of items together.
- One or more than one item can be selected from the list.

## LOGIN PAGE

LOGIN AS



ADMIN



JURY



INVENTOR

USERNAME

PASSWORD

LOGIN

## LOGIN PAGE

LOGIN AS



ADMIN



JURY



INVENTOR

USERNAME

PASSWORD

LOGIN

## LOGIN PAGE

LOGIN AS

☒ ADMIN

☐ JURY

☐ INVENTOR

US  
PA

INVENTOR

?

ARE YOU AN EXISTING USER?

Yes

No

LOGIN

## ADMIN PAGE

### AWARD DETAILS

☒ ADD AWARD

☐ ADD PANEL

☐ REMOVE AWARD

☐ REMOVE JURY MEMBERS

AWARD ID

AWARD NAME

AWARD CATEGORY

REWARD AMOUNT

SPONSORED BY

ADD AWARD

ADD JURY MEMBER

VIEW AWARDS

VIEW INVENTIONS

DECLARE FINALISTS

DECLARE RESULTS

LOGOUT

# ADMIN PAGE

## PANEL DETAILS

● ADD AWARD

● ADD PANEL

● REMOVE AWARD

● REMOVE JURY MEMBERS

PANEL ID

PANEL NAME

AWARD CATEGORY

ADD PANEL

ADD JURY MEMBER

VIEW AWARDS

VIEW INVENTIONS

DECLARE FINALISTS

DECLARE RESULTS

LOGOUT

# ADMIN PAGE

## PANEL DETAILS

● ADD AWARD

● ADD PANEL

● REMOVE AWARD

● REMOVE JURY M

PANEL ID

PANEL NAME

×

?

ENTER AWARD ID OR AWARD NAME

OK

Cancel

ADD JURY MEMBER

VIEW AWARDS

VIEW INVENTIONS

DECLARE FINALISTS

DECLARE RESULTS

LOGOUT

# ADMIN PAGE

## PANEL DETAILS

● ADD AWARD

● ADD PANEL

● REMOVE AWARD

● REMOVE JURY MEMBERS

PANEL ID

PANEL NAME

AWARD CATEGORY

Input

×

?

ENTER JURY MEMBER ID OR JURY MEMBER NAME

OK

Cancel

ADD JURY MEMBER

VIEW AWARDS

VIEW INVENTIONS

DECLARE FINALISTS

DECLARE RESULTS

LOGOUT

# ADMIN PAGE

## AWARD DETAILS

● ADD AWARD

● ADD PANEL

● REMOVE AWARD

● REMOVE JURY MEMBER

AWARD ID

Arvhar

AWARD NAME

ACADEMY

SCIENTIFIC

100000

SPONSORED BY

IIFA

ADD AWARD

ADD JURY MEMBER

VIEW AWARDS

VIEW INVENTIONS

DECLARE FINALISTS

DECLARE RESULTS

LOGOUT

Message

×

i

SUCCESSFULLY ADDED

OK

# ADMIN PAGE

## PANEL DETAILS

- ADD AWARD
- ADD PANEL
- REMOVE AWARD
- REMOVE JURY MEMBERS

PANEL ID

123

**PANEL NAME**

Harvind

## AWARD CATEGORY

SCIENTIFIC

Message



**SUCCESSFULLY ADDED**

**ADD PANEL**

### ADD JURY MEMBER

[VIEW AWARDS](#)

VIEW INVENTIONS

## DECLARE FINALISTS

## DECLARE RESULTS

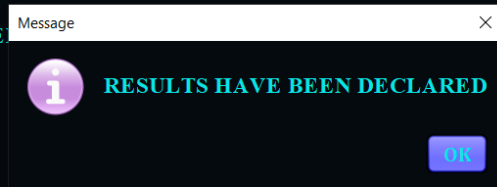
**LOGOUT**

AWARD ID	AWARD NAME	AWARD CATEGORY	REWARD AMOUNT	SPONSORED BY
Arvhar	ACADEMY	SCIENTIFIC	100000	IIFA
<a href="#">BACK</a>				



## ADMIN PAGE

- ADD AWARD
- ADD PANEL
- REMOVE AWARD
- REMOVE JURY MEMBER



ADD JURY MEMBER

VIEW AWARDS

VIEW INVENTIONS

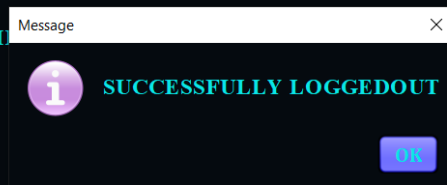
DECLARE FINALISTS

DECLARE RESULTS

LOGOUT

## ADMIN PAGE

- ADD AWARD
- ADD PANEL
- REMOVE AWARD
- REMOVE JURY MEMBER



ADD JURY MEMBER

VIEW AWARDS

VIEW INVENTIONS

DECLARE FINALISTS

DECLARE RESULTS

LOGOUT



## INVENTOR DETAILS

ID	<input type="text"/>	QUALIFICATION	<input type="text"/>
NAME	<input type="text"/>	JOB TYPE	<input type="text"/>
COUNTRY	<input type="text"/>	SPECIALIZATION	<input type="text"/>
EMAIL	<input type="text"/>	YEAR OF EXPERIENCE	<input type="text"/>
GENDER	<input type="text"/>	ENTER USERNAME	<input type="text"/>
PHONE NO	<input type="text"/>	ENTER PASSWORD	<input type="text"/>

REGISTER

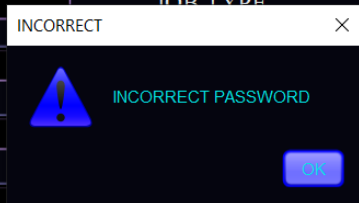
BACK

## INVENTOR DETAILS

ID	<input type="text"/>	QUALIFICATION	<input type="text"/>
NAME	<input type="text"/>	JOB TYPE	<input type="text"/>
COUNTRY	<input type="text"/>	SPECIALIZATION	<input type="text"/>
EMAIL	<input type="text"/>	YEAR OF EXPERIENCE	<input type="text"/>
GENDER	<input type="text"/>	ENTER USERNAME	<input type="text"/>
PHONE NO	<input type="text"/>	ENTER PASSWORD	<input type="text"/>

REGISTER

BACK



## JURY MEMBER DETAILS

ID	<input type="text" value="101"/>	QUALIFICATION	<input type="text" value="BTECH CSE"/>
NAME	<input type="text" value="Harvind"/>	AWARD CATEGORY	<input type="text" value="SCIENTIFIC"/>
COUNTRY	<input type="text" value="INDIA"/>		<input type="text" value="CSE"/>
EMAIL	<input type="text" value="abhirah@gmail.com"/>		<input type="text" value="2"/>
GENDER	<input type="text" value="MALE"/>		<input type="text" value="Raah"/>
PHONE NO	<input type="text" value="8870262441"/>	ENTER PASSWORD	<input type="text" value=""/>

REGISTER

BACK

## INVENTION DETAILS

INVENTION ID	<input type="text" value="1"/>
INVENTION NAME	<input type="text" value="PAYPAL"/>
CATEGORY	<input type="text" value="SCIENTIFIC"/>
YEAR OF INVENTION	<input type="text" value="2010"/>
STORY BEHIND	<input type="text" value="MAKING ONLINE PAYMENT"/>

ADD INVENTION

VIEW INVENTIONS

VIEW AWARDS

VIEW NOMINATIONS

VIEW RESULT

LOGOUT

# INVENTION DETAILS

INVENTION ID

INVENTION NAME

CATEGORY



SUCCESSFULLY ADDED

OK

YEAR OF

STORY BEHIND

ADD INVENTION

VIEW INVENTIONS

VIEW AWARDS

VIEW NOMINATIONS

VIEW RESULT

LOGOUT

# INVENTION DETAILS

INVENTION ID

INVENTION NAME

CATEGORY



SUCCESSFULLY LOGGEDOUT

OK

YEAR OF

STORY BEHIND

ADD INVENTION

VIEW INVENTIONS

VIEW AWARDS

VIEW NOMINATIONS

VIEW RESULT

LOGOUT

INVENTION ID	INVENTION NAME	AWARD CATEGORY	YEAR OF INVENTION	STORY BEHIND
1	PAYPAL		2010	MAKING ONLINE PAYMENT
12	ELECTICITY		2020	LIGHT THE WORLD
2	PAYPAL	SCIENTIFIC	2010	MAKING ONLINE PAYMENT
<div>BACK</div>				

JURY MEMBER NAME :  
PANEL NAME :

INVENTION ID

INVENTION NAME

INVENTOR NAME

CATEGORY

AWARD MARKS

Message

i

FINAL NOMINATION IS NOT DECLARED

OK

ADD MARKS

VIEW INVENTIONS

VIEW AWARDS

VIEW NOMINATIONS

VIEW RESULT

LOGOUT

JURY MEMBER NAME :  
PANEL NAME :

INVENTION ID

INVENTION NAME

INVENTOR NAME

CATEGORY

AWARD MARKS

Message

i

RESULT NOT DECLARED

OK

ADD MARKS

VIEW INVENTIONS

VIEW AWARDS

VIEW NOMINATIONS

VIEW RESULT

LOGOUT

## LOGIN PAGE

LOGIN AS



ADMIN



JURY



INVENTOR

USERNAME

J1

PASSWORD

+

LOGIN

JURY MEMBER NAME : JURY1

PANEL NAME : MEDICINE-P2

INVENTION ID

15

INVENTION NAME

ARTIFICIAL RETINA

INVENTOR NAME

INVENTOR3

CATEGORY

MEDICINE

AWARD MARKS

10

VIEW NOMINATIONS

VIEW INVENTIONS

VIEW AWARDS

ADD MARKS

VIEW RESULT

LOGOUT

JURY MEMBER NAME : JURY1

PANEL NAME : MEDICINE-P2

INVENTION ID

15

INVENTION NAME

ADDITIONAL DETAILS

INVENTOR NAME

CATEGORY

AWARD MARKS

Message



**FINAL NOMINATION IS NOT DECLARED**

OK

VIEW NOMINATIONS

VIEW INVENTIONS

VIEW AWARDS

ADD MARKS

VIEW RESULT

LOGOUT

## LOGIN PAGE

LOGIN AS

☒ ADMIN

☐ JURY

☐ INVENTOR

USERNAME

Abhi

PASSWORD

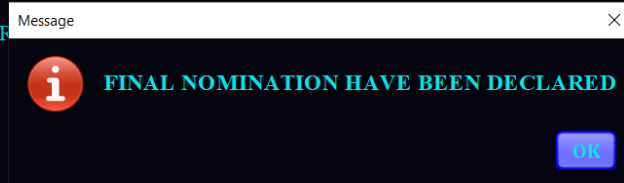
•••

LOGIN

# ADMIN PAGE

- ADD AWARD
- ADD PANEL
- REMOVE AWARD
- REMOVE JURY MEMBER

LOGOUT



ADD JURY MEMBER

VIEW AWARDS

VIEW INVENTIONS

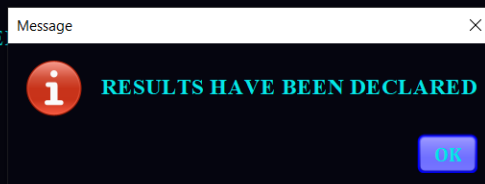
DECLARE NOMINATION

DECLARE RESULTS

# ADMIN PAGE

- ADD AWARD
- ADD PANEL
- REMOVE AWARD
- REMOVE JURY MEMBER

LOGOUT



ADD JURY MEMBER

VIEW AWARDS

VIEW INVENTIONS

DECLARE NOMINATION

DECLARE RESULTS





## INVENTION DETAILS

INVENTION ID

I1

INVENTION NAME

APPLE

CATEGORY

TECHNOLOGY

MEDICINE

SCIENTIFIC

TECHNOLOGY

MEDICINE

MOBILE COMMUNICATION

YEAR OF INVENTION

STORY BEHIND

ADD INVENTION

VIEW INVENTIONS

VIEW AWARDS

VIEW NOMINATIONS

VIEW RESULT

LOGOUT

## INVENTION DETAILS

INVENTION ID

I1

INVENTION NAME

APPLE

CATEGORY

TECHNOLOGY

YEAR OF INVENTION

2002

STORY BEHIND

MOBILE COMMUNICATION

ADD INVENTION

VIEW INVENTIONS

VIEW AWARDS

VIEW NOMINATIONS

VIEW RESULT

LOGOUT

## JURY MEMBER DETAILS

ID	<input type="text"/>	QUALIFICATION	<input type="text"/>
NAME	<input type="text"/>	AWARD CATEGORY	<div>MEDICINE</div>
COUNTRY	<input type="text"/>	SPECIALIZATION	<div>MEDICINE SCIENTIFIC TECHNOLOGY MEDICINE</div>
EMAIL	<input type="text"/>	YEAR OF EXPERIENCE	<input type="text"/>
GENDER	<input type="text"/>	ENTER USERNAME	<input type="text"/>
PHONE NO	<input type="text"/>	ENTER PASSWORD	<input type="text"/>

REGISTER

BACK

[illegible]

**Done By,**

- ✓ S. Abhishek - AM.EN.U4CSE19147
- ✓ Rahan Manoj – AM.EN.U4CSE19144
- ✓ Harsha Sathish – AM.EN.U4CSE19123
- ✓ Arvind Kumar K – AM.EN.U4CSE19109

**THANKYOU!!!**