VIT Vidyalankar Institute of Technology Accredited A+ by NAAC	DEPARTMENT OF COMPUTER ENGINEERING

Experiment No. 17

Semester	S.E. Semester III – Computer Engineering
Subject	Skill Based Lab Course: OOP with Java (CSL304)
Subject Professor In-charge	Prof. Swapnil S. Sonawane
Assisting Teachers	Prof. Swapnil S. Sonawane

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Title: Program to create GUI application

Objective:

To develop GUI based application.

Explanation:

- **Applet :**

An **applet** is a Java program that runs in a Web browser. An applet can be a fully functional Java application because it has the entire Java API at its disposal.

There are some important differences between an applet and a standalone Java application, including the following −

- An applet is a Java class that extends the java.applet.Applet class.
- A main() method is not invoked on an applet, and an applet class will not define main().
- Applets are designed to be embedded within an HTML page.
- When a user views an HTML page that contains an applet, the code for the applet is downloaded to the user's machine.
- A JVM is required to view an applet. The JVM can be either a plug-in of the Web browser or a separate runtime environment.

- The JVM on the user's machine creates an instance of the applet class and invokes various methods during the applet's lifetime.

- **Event listening :**

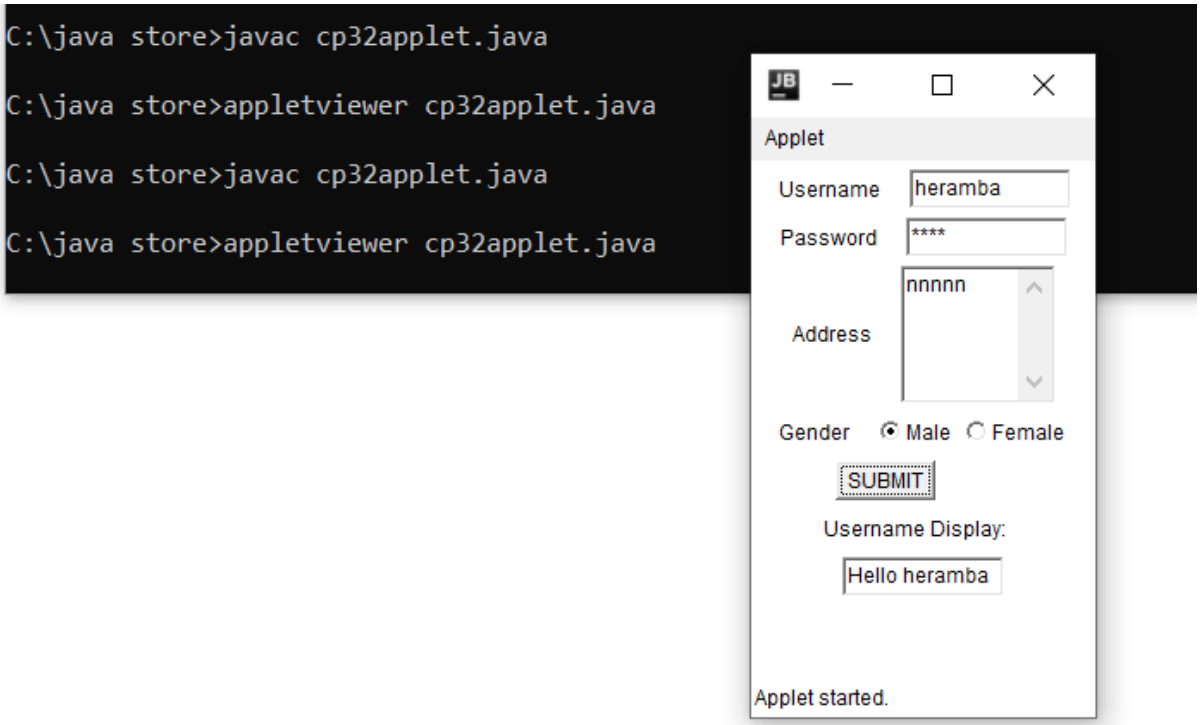
The Event listener represent the interfaces responsible to handle events. Java provides us various Event listener classes but we will discuss those which are more frequently used. Every method of an event listener method has a single argument as an object which is subclass of EventObject class. For example, mouse event listener methods will accept instance of MouseEvent, where MouseEvent derives from EventObject .

Program Code:

```
import java.applet.*;
import java .awt.*;
import java.awt.event.*;
/*<applet code= cp32applet width= 200 height= 300>
</applet>*/
public class cp32applet extends Applet implements ActionListener
{
TextField t1,t3;
Button b1;

public cp32applet()
{
FlowLayout f=new FlowLayout();
setLayout(f);
Label l1= new Label("Username");
Label l2= new Label("Password");
Label l3= new Label("Address");
Label l4= new Label("Gender");
 t1=  new TextField(10);
TextField t2=  new TextField(10);
t2.setEchoChar('*');
TextArea ta=new TextArea(4,10);
CheckboxGroup cb= new CheckboxGroup();
```

```
Checkbox c1=new Checkbox("Male",true,cb);
Checkbox c2=new Checkbox("Female",false,cb);
 b1= new Button("SUBMIT");
b1.addActionListener(this);
Label l5=new Label("        ");
Label l6=new Label("Username Display:");
 t3=  new TextField(10);
add(l1);
add(t1);
add(l2);
add(t2);
add(l3);
add(ta);
add(l4);
add(c1);
add(c2);
add(b1);
add(l5);
add(l6);
add(t3);
}

public void actionPerformed(ActionEvent ae){

String s="Hello "+t1.getText();
t3.setText(s);

}

public static void main (String args[]){
cp32applet c=new cp32applet();
}
}
```

Output:



Conclusion:

The GUI programming is an important part of making an application using any programming language. Java also thus provides powerful tools for creating GUI for the application using classes like Graphics, Applet, Swing classes, etc. along with classes for event handling.

We learnt to make GUI for applications in this experiment and learnt its importance.
