CECS 174 – Lecture 32 – Applets Continued

Mouse Event Handlers – allow the user to use the mouse as input to your program. Event Handlers allow your program to react whenever the user moves or clicks the mouse. Mouse Events work in applets or applications where the mouse can be used as input device. All five of these methods must be created if any of them are to be used.

mouseClicked() – Method that is called when the mouse is clicked (pressed and released in quick succession).

mousePressed() – Method that is called when the mouse button is pressed down but not released.

mouseReleased() – Method that is called when the mouse button has been released after being pressed.

mouseEntered() – Method that is called when the mouse pointer enters a specific area.

mouseExited() **–** Method that is called when the mouse pointer leaves a specific area.

Classes to Import –

```
import java.awt.event.*;
```

Class Declaration implements MouseListener -

```
public class MouseApplet extends JApplet implements MouseListener {
```

Applet init() –

```
addMouseListener(this);
```

Event Methods –

```
public void mouseClicked (MouseEvent evnt) {
     int xpos = evnt.getX();
     int ypos = evnt.getY();
     …
     repaint();
}

public void mousePressed (MouseEvent evnt) {}
public void mouseReleased (MouseEvent evnt) {}
public void mouseEntered (MouseEvent evnt) {}
public void mouseExited (MouseEvent evnt) {}
```

Buttons and the Action Listener – You can add functionality to your applets by adding buttons, textboxes and other form elements. The ActionListener is an event handler for when these elements are clicked or changed.

Classes to Import –

```
import java.awt.*;
import java.awt.event.*;
```

Class Declaration –

```
public class ButtonApplet extends JApplet implements ActionListener {
```

Form Element Declarations –

```
Button button1, button2;
TextField textbox1;
Checkbox chkbox1, chkbox2;
CheckboxGroup radios;
Checkbox radio1, radio2;
boolean red = true;
```

Applet init() method –

```
public void init(){
    setLayout(new FlowLayout(FlowLayout.CENTER));
    setSize(300, 300);
    button1 = new Button ("OK");
    button2 = new Button("Cancel");
    textbox1 = new TextField("Enter Name", 25);
    chkbox1 = new Checkbox("one", true);
    chkbox2 = new Checkbox("two", false);
    radios = new CheckboxGroup();
    radio1 = new Checkbox("Red", radios, true);
    radio2 = new Checkbox("Blue", radios, false);

    add(button1);
    add(button2);
    add(textbox1);
    add(chkbox1);
    add(chkbox2);
    add(radio1);
    add(radio2);

    button1.addActionListener(this);
    button2.addActionListener(this);

}
```

Event Method – actionPerformed(ActionEvent evt) method is required when you implement the ActionListener class.

```java
public void actionPerformed(ActionEvent evt){
    if( evt.getSource() == button1 ){
        if(radio1.getState()){
            red = true;
        }else{
            red = false;
        }
    }else if( evt.getSource() == button2 ){
        textbox1.setText("You Canceled");
    }
    repaint();
}

public void paint(Graphics g){
    if (red){
        g.setColor(Color.RED);
    }else{
        g.setColor(Color.BLUE);
    }
    g.fillRect(0,0,100,100);
}
```