

Graphics and Interactivity

Getting user input using a mouse

```
import graphics.*;

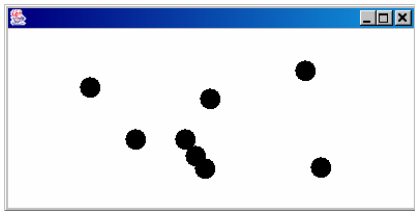
public class Measles
{
    public static void main(String [] args)
    {
        Window win = new Window(400, 200);

        while(true) // loop forever
            if(win.isPressed())
            {
                Point mouse = win.getMouse();
                int x = mouse.getX();
                int y = mouse.getY();
                win.fill(new Circle(x, y, 10));
            }
    }
}
```

Measles.java

Measles

- Clicking anywhere on the window creates a filled disk.



Mouse methods

- The Measles program uses the following mouse methods

```
win.isPressed()
win.getMouse()
```

`isPressed()` returns a boolean value, true if the mouse is currently pressed.

`getMouse()` returns a Point, the current location of the mouse.

Checking a Hit

- A shape has a `contains` method which returns true if a point is contained within it.

```
Circle disk = new Circle(100, 30, 15);
win.draw(disk);
Point mouse = win.getMouse();
if(disk.contains(mouse))
    win.fill(disk);
else
    win.clear(disk);
```

Summary

- Using two methods to access the mouse position and state (pressed or not) it is easy to add interactivity to a program.
- We can easily check when the mouse is over a shape with the `contains` method.