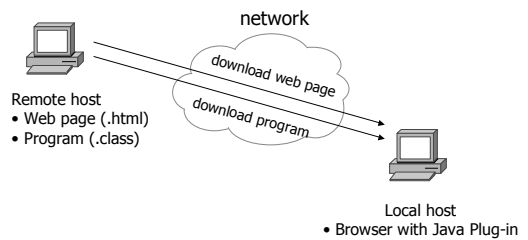


CS202 Java Object Oriented Programming GUI Programming – Applets

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Applet

◆ Embed programs in web pages



A Simple Applet

- ◆ WelcomeApplet.html
- ◆ WelcomeApplet.java

WelcomeApplet.html

◆ Tags and attributes

```
<html>
  <head>
    <title> WelcomeApplet </title>
  </head>
  <body>
    <applet code="WelcomeApplet.class" width=300 height=300>
    </applet>
  </body>
</html>
```

WelcomeApplet.java

```
import java.awt.Graphics;
import javax.swing.JApplet;

public class WelcomeApplet extends JApplet {
  public void paint( Graphics g )
  {
    super.paint(g);

    g.drawString( "Welcome to Applet Programming!", 25, 25 );
    g.drawOval( 100, 100, 100, 100 );
  }
} // end of class WelcomeApplet
```

Running Applet

◆ Browser

- URL of the web page
- Open File – WebPageName.html

◆ Appletviewer

- appletviewer WebPageName.html

Applet as a Top-level Container

- ◆ Hold other components
 - getContentPane()
 - ◆ setLayout(LayoutManager)
 - ◆ add(Component)
 - setJMenuBar(JMenuBar)
- ◆ Handling various events

JEdit Revisited

- ◆ JEdit, the Applet version

Applet-specific Issues

- ◆ How do we start an applet, or when is an applet object created?
- ◆ What happens if we leaves a web page?
- ◆ What happens if we reload a web page?
- ◆ How do we end an applet?
 - System.exit() does not work, for good reasons

Life Cycle of an Applet ... Sort Of

Browser	Applet
◆ loads the web page with the applet for the first time	◆ Applet object created ◆ Applet initializes itself ◆ Applet starts running
◆ leaves the web page, or ◆ minimizes the web page	◆ Applet stops running
◆ returns to the web page, or ◆ maximize the web page	◆ Applet starts running
◆ reload the web page	◆ Applet stops running ◆ Applet object is destroyed ◆ An new applet object is created, then it initializes and starts
◆ browser is closed	◆ Applet stops running ◆ Applet object is destroyed

The Milestone Methods

- ◆ Milestone methods
 - public void init()
 - public void start()
 - public void stop()
 - public void destroy()
- ◆ init() vs. constructor

Other Applet Methods

- ◆ showStatus(String)
 - AppletLife.java
- ◆ getWidth(), getHeigth()
- ◆ String getParameter(String name)

Limitations of Applets

- ◆ Security restrictions
 - Cannot read/write files
 - Can only make network connections with the remote host where the applet is downloaded
- ◆ Limited support for graphics design
- ◆ Different browsers have different Java plug-ins