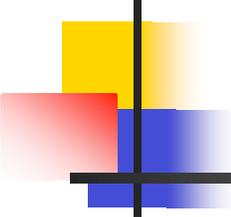


CSE 403: Servlet Technology

Zach Crisman (zcrisman@cs)

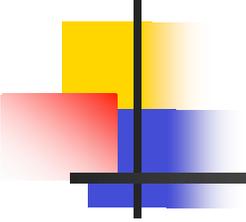
Shane Cantrel (shanec@cs)

4/10/03



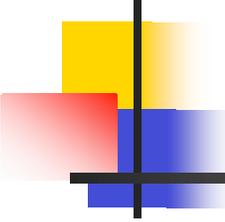
CGI (Common Gateway Interface) vs Servlets

- Separate Process for each connection
- No Standard Libraries/Languages
- State not saved between connections
- One Servlet Engine Process
- Java Libraries/Language
- State saved until servlet destroyed



Tomcat & How We Will Be Using it

- **Official** Reference Implementation of Java Servlet Technology
- A Servlet Engine & Normal Webserver
- Everyone will be running an different instance of Tomcat on a different port numbers ('81'+instance number)
- Will install war (Web Application Resource) files via Tomcat management tasks in Ant



Where do I find this stuff?

```
/*For generic , protocol independent servlet
functionality*/

import javax.servlet.*;

/*For servlets that will use the http protocol
(WWW Based) */

import javax.servlet.http.*;
```

Tutorial @

<http://java.sun.com/webservices/docs/1.0/tutorial/doc/Servlets.html>

API @

http://java.sun.com/j2ee/sdk_1.3/techdocs/api/javax/servlet/package-summary.html

Tomcat: Kick Start by Bond & Law

Focus on Chapters 1,3,4,6 for this assignment (Don't worry about JPS stuff)

GenericServlet

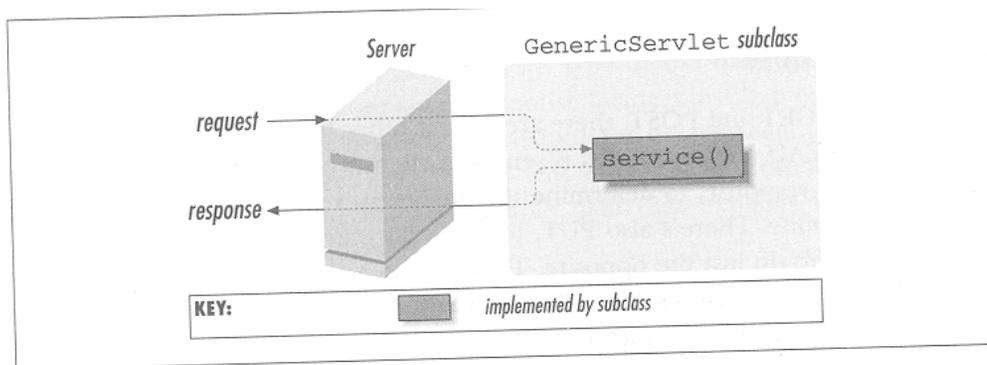


Figure 2-1. A generic servlet handling a request

Image from *Java Servlet Programming* by Jason Hunter

- Protocol Independent
- Override `service()` when extended
- Must write one's own means of handling requests

HttpServlet

- Extends `GenericServlet ()`
- Override `doGet (...)` & `doPost (...)`
- Already understands http
- Majority of servlets extend

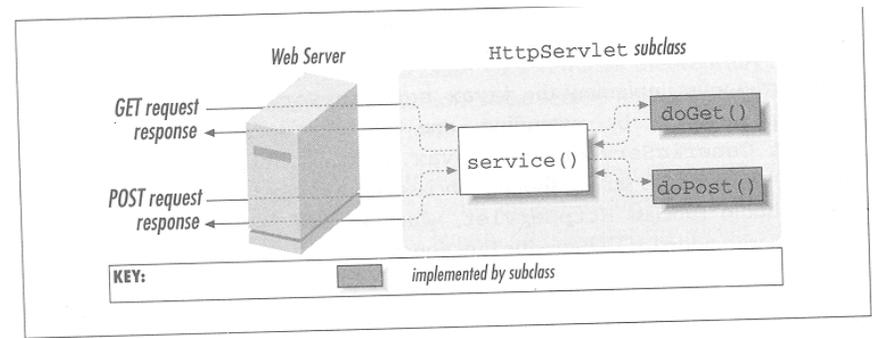
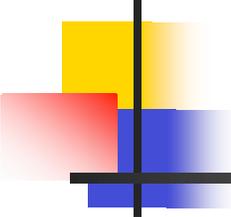


Figure 2-2. An HTTP servlet handling GET and POST requests

Image from *Java Servlet Programming* by Jason Hunter



HttpServlet Skeleton

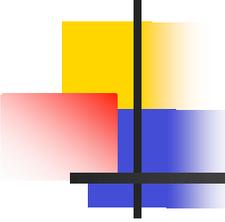


```
import javax.servlet.*;

import javax.servlet.http.*;

public class ServletSkeleton extends HttpServlet {
    public void doGet(HttpServletRequest req,
                      HttpServletResponse res)
        throws ServletException, IOException {}

    public void doPost(HttpServletRequest req,
                       HttpServletResponse res)
        throws ServletException, IOException {}
}
```



GET vs POST

GET

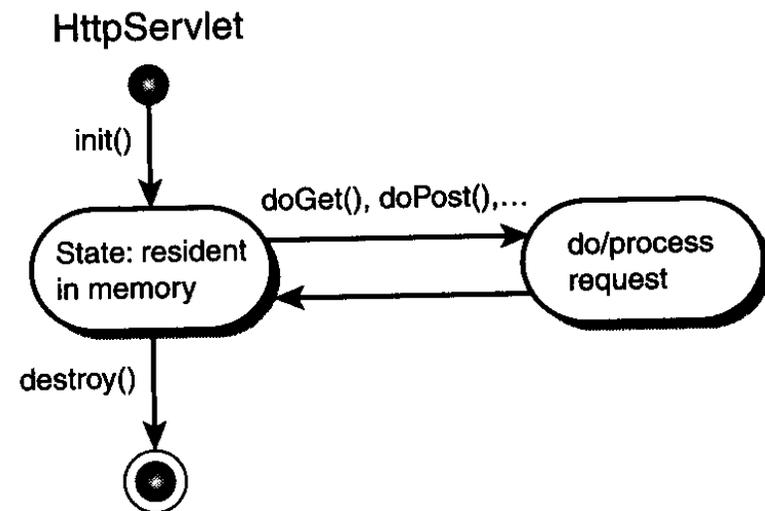
- retrieving information
- html/images
- parameters listed in URL

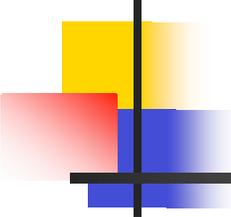
POST

- send information
- uploads/forms
- parameters hidden within header

Servlet Lifecycle

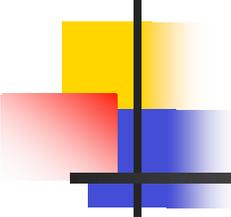
- Timing of Lifecycle not specified by servlet spec
- Servlet may be destroyed/ instantiated when you least expect it
init() only called once in lifecycle
- Multi-threaded environment
- destroy() should not only free resources but also save state that will be required in another instance
- A servlet is only an instance of a class that is dynamically loaded into the servlet engine (Tomcat)





Database Info

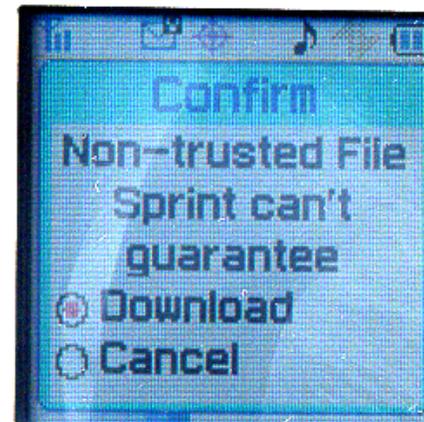
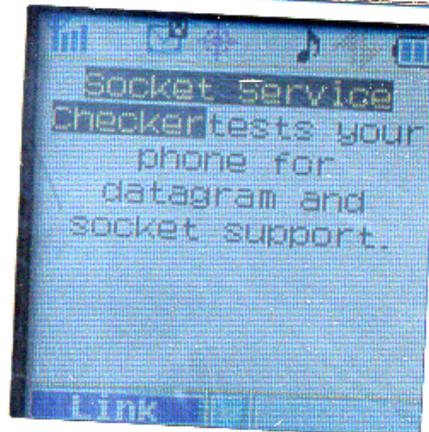
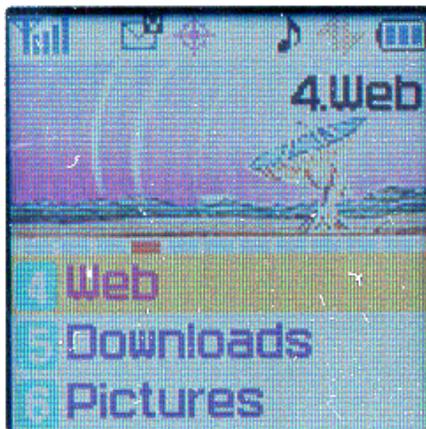
- PostgreSQL 7.3 installed on rockhopper & adelle
<http://www.postgresql.org/docs/>
- JDBC interface will be installed
- Tomcat: Kick Start, ch 9 (general using databases w/ Tomcat)
- Everyone will have accounts already setup on the DB system
- w/ database concurrency is not a problem when storing data



Web Setup

- MIME Settings
 - .jad
 - text/vnd.sun.j2me.app-descriptor
 - .jar
 - application/java-archive
- The settings are preset on Tomcat, but not on other servers.
- <http://hydrus.net/midlets>

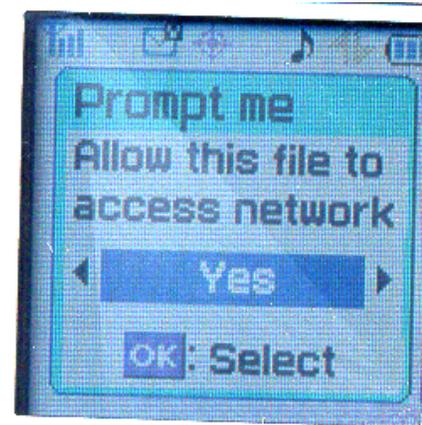
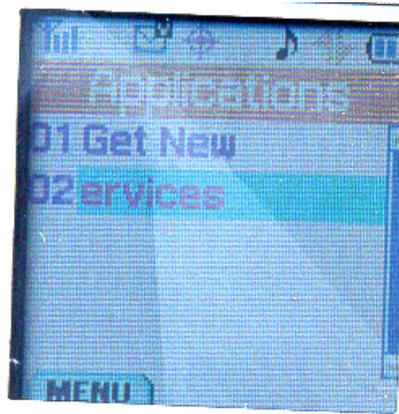
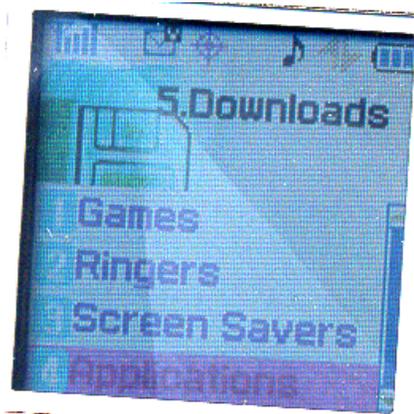
Downloading the Midlet



4/10/03

CSE 403

Running the Midlet



Notice
unpredictable
errors

