

PocketWeb

Dustin Barnes
Greg Greenway
Erik Day

Rob Hanson
David Owens II
Jacques Crocker

PocketWeb

- **The PocketWeb Project**
 - Fetch Data from Web
 - Display on Phone
 - User Manipulation
 - Program Module Ideas
 - News
 - Email
 - Bus Schedules
 - Plane Tickets
 - Sports Scores

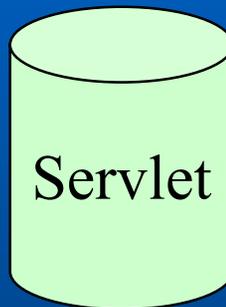
Software Requirements

- **Server Application**
 - .WAR file designed for Tomcat 4
 - .JAR files, libraries and modules
- **Midlet Application**
 - .JAD file for phone
 - .JAR file

Midlet to Servlet



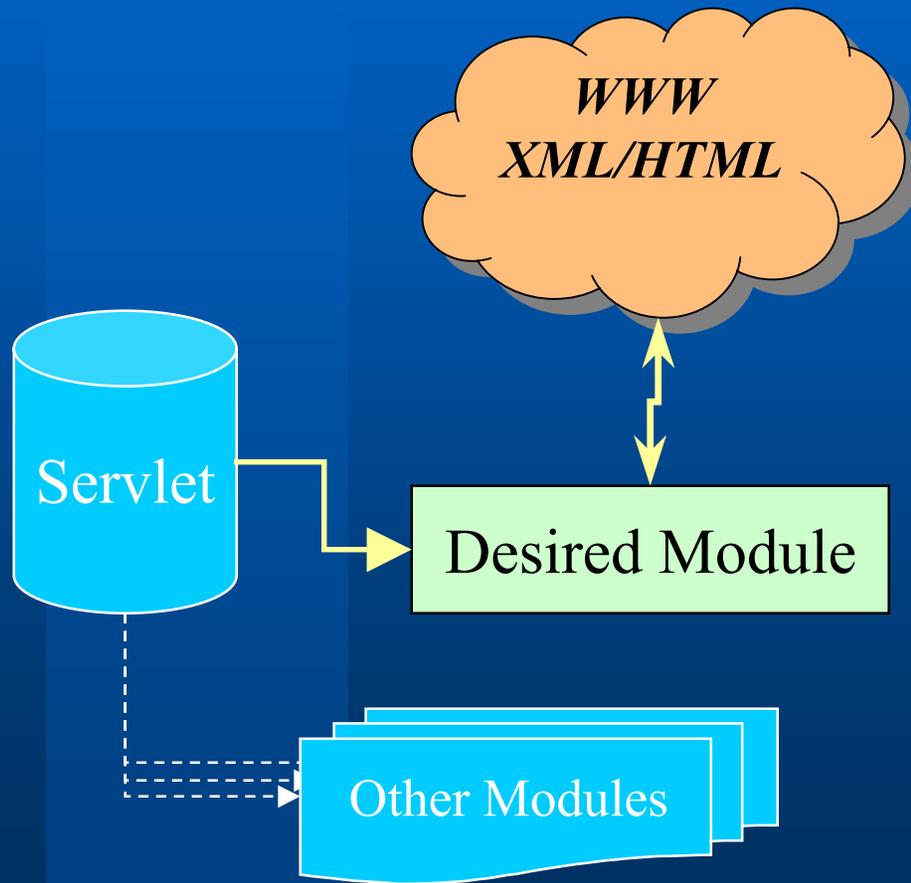
Local Director



Requests:

- Module Name
- List (no module name)
- Module Name with state and/or variables

Servlet to Module



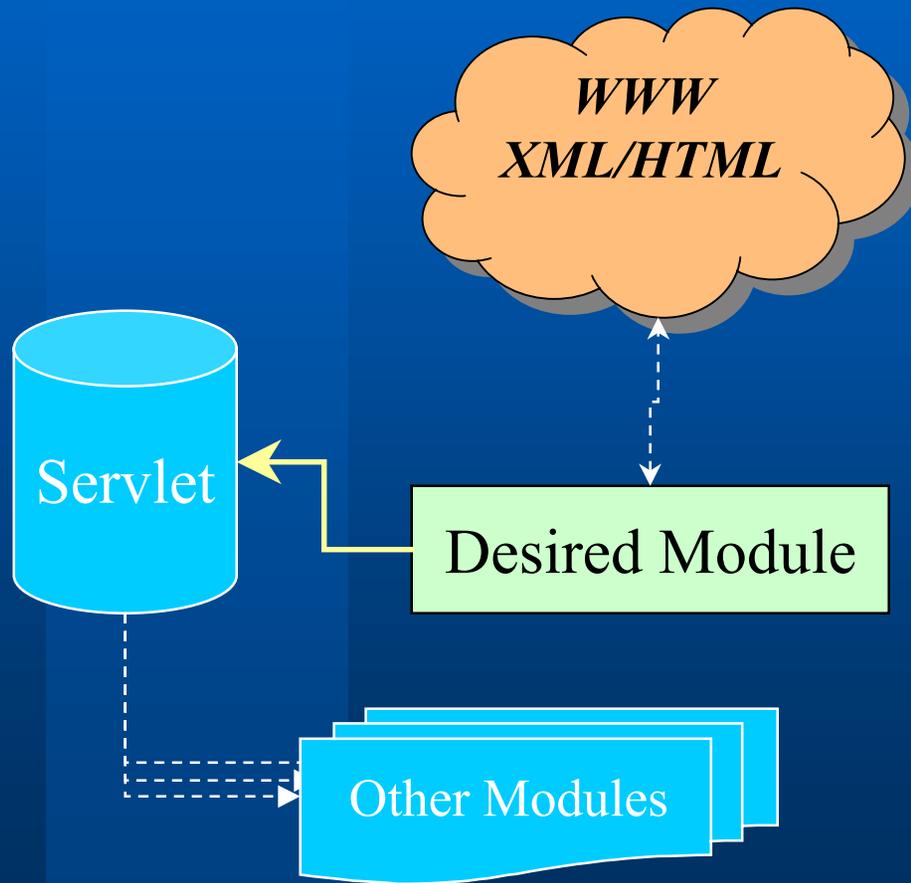
Requests:

- Request Screen
- Web Request

Responses:

- XML Web Services
- HTML Response
- Scraped Pages

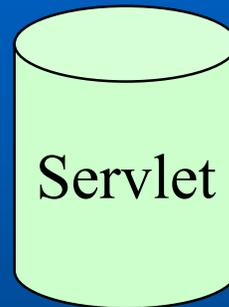
Module to Servlet



Responses:

- Modified Response Screen with Client Data

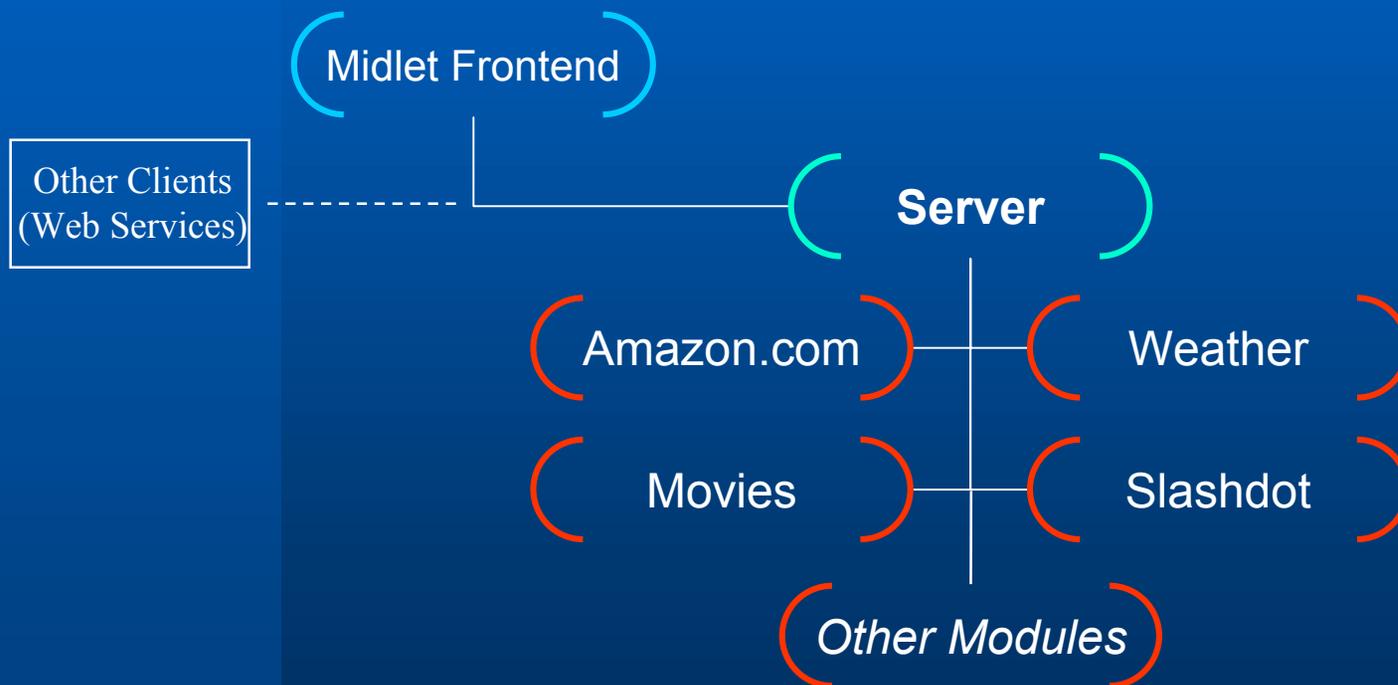
Servlet to Midlet



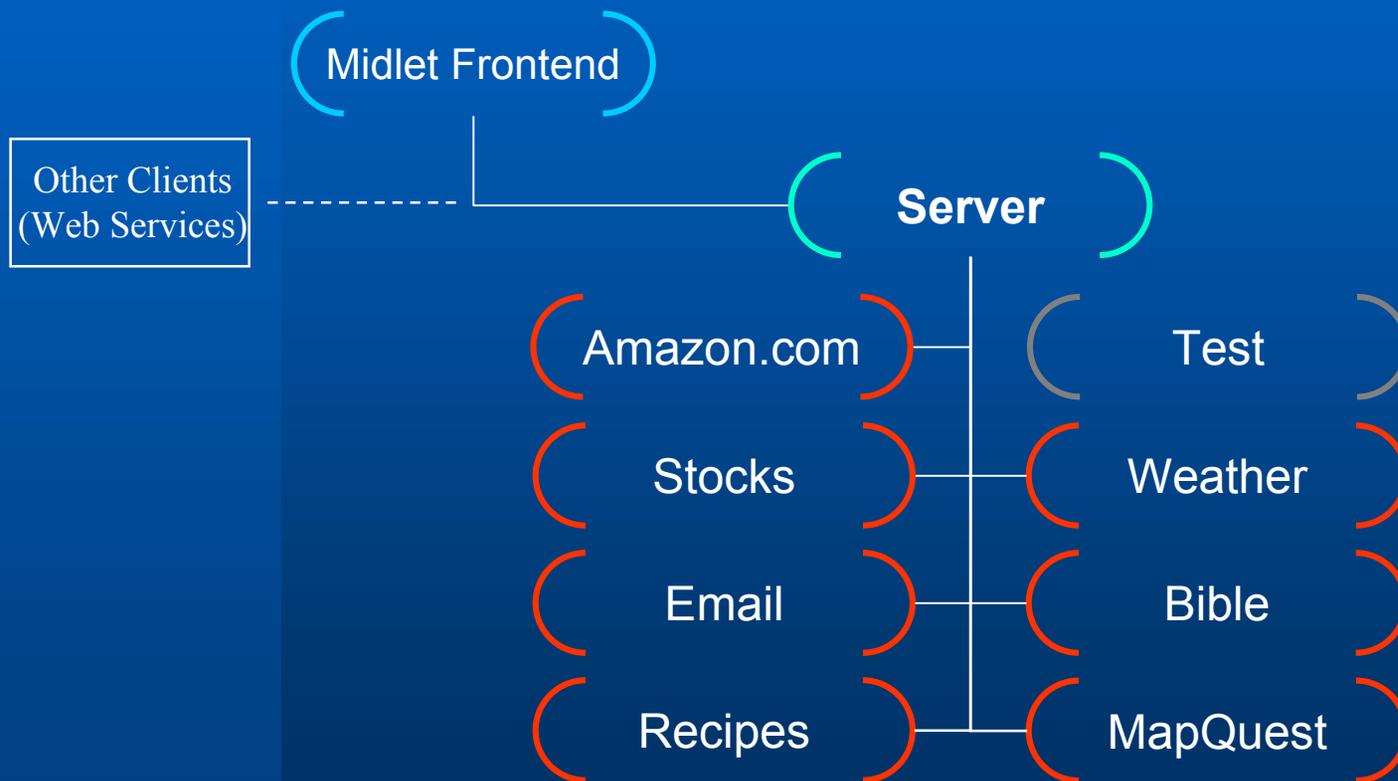
Response:

- Generated XML from Response Screen
- Data Transmitted to Midlet

Original Design View



Release Design View



Software Pieces: Midlet

- **XML Browser**

- **Converts XML to MIDP 1.0 Components**
- **Only Diverse as MIDP 1.0 Spec**
- **MMAPI Not fully used**
- **No Streaming support**
- **Basic data I/O**
- **No caching**
- **No user profile**
- ***Did we do anything?***

Software Pieces: Servlet

- **Interfaces with Framework**
 - Abstraction layer between phone data and module layer
- **Processes requests**
 - Phone to module and back
- **Configurable from Database**
 - Fast integration/update/removal of modules
 - Not fast enough

Software Pieces: Framework

- **Simple Java Classes Hierarchy**
- **Useful for Developers**
 - **Can simulate requests**
 - Test Bed
 - JTest
 - Fast development of modules!
 - **WebServices Toolkit**
 - SOAP Requests
 - XML Parsing with XPath
- **Link Application Code and Server**

Software Pieces: Modules

- **Amazon v1.1**
 - Can View all of Amazon's Inventory, Searchable
- **Bible**
 - Can View King James Bible , Searchable
- **MapQuest**
 - Can Get Directions from one place to another
- **Recipes**
 - 67,000 Recipes Available, Searchable
- **Weather**
 - Weather for 7 days Available for your ZIP code
- **More...**

Missing Features

- **Spec'd**
 - Database Redrive
 - Some Module Ideas (RSS News etc)
 - User Module Selection (Web Page)
- **Not Spec'd**
 - New J2ME
 - MMAPI Elements (music, games)
 - Streaming Data
- **Kinda Spec'd**
 - State Processing Engine for Server/Framework

State Processing Engine

- **Database of Module-Phone Connection States**
- **Midlet Interruptions**
 - Phone Calls, Car Crashes etc.
- **Intelligent Re-Drive**
 - Database URL Queries for Continuation of Client Connection
 - Re-Drive initiated by request from known device
 - **Optionally Disabled by Module**
 - Transactions!!!

What can I do?

- PocketWeb v2.0

- Tasks:

- Revised Specs

- SOAP Requests
- Server Administration
- Web Page stuff

- New Specs

- MMAPAPI Elements
- More Modules
- (What do you want to do?)

What can I do?

- PocketWeb v2.0 (cont.)
 - Tasks:
 - Midlet Code
 - Upgrades for new Elements
 - Support for Streaming Data
 - User Management
 - Servlet / Database
 - User Management
 - Database Re-Drive
 - Safety / Security

Resources

- **Code!!!!**
 - Everything we did
 - Everything we didn't =)
- **Documentation**
 - Specs, Beta, IOC, etc...
 - Every document we wrote
 - For better or worse =)

Nutshell

- Real World Problems
 - Update a Spec
 - Implement Features “Triaged” by Previous Developers
 - Devise the next Version
 - Usability Decisions
 - Your Creativity
 - Spec the Next Version
 - Implement the new Spec