Project Overview

CSE 403, Spring 2004
Software Engineering

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Project Goals

- To provide opportunities to employ software engineering principles
- To allow groups to develop applications that incorporate their interests and expertise
- Emphasize creating a good mobile client user experience
- Encourage creativity

Project Requirements

- Server
- Client(s) for web, desktop, and/or handheld
- Web Service API
- Formal definition given in HW 1 which will be distributed next Wed 4/7

Project Resources

- Server development... Your Choice!
  - .NET and Visual Studio recommended
- Client development... Your Choice!
  - Web based
  - Platform specific
  - Mobile client

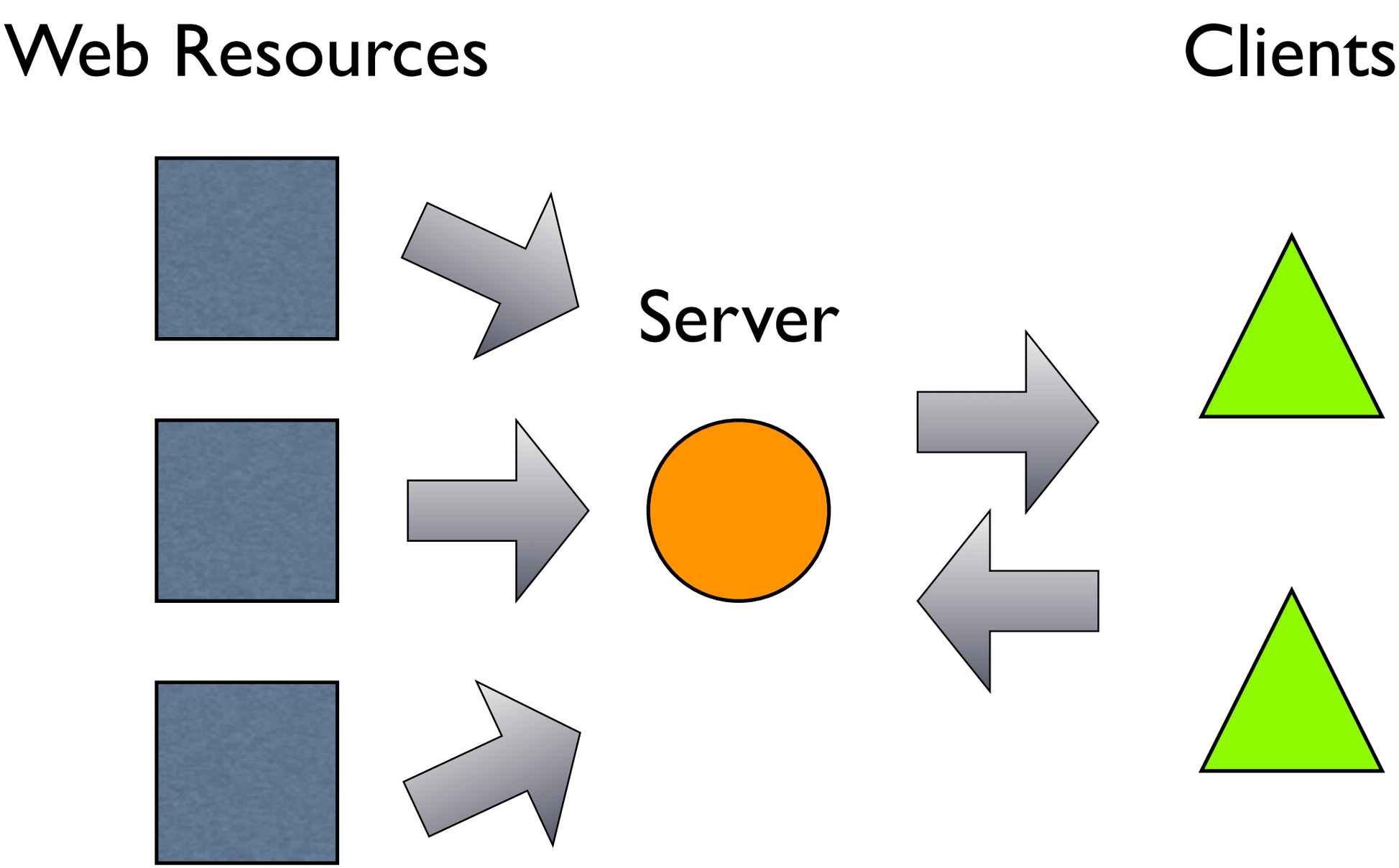
Project Resources (tentative)

- Windows Mobile 2003 Hardware
  - Audio, Video, Bluetooth, .NET compact
- .NET Compact Reference Books
- Windows Mobile 2003 SDK
- Unlimited Subscription to MapPoint Service

Project Ideas

- Create new service
- Aggregate existing services
- Extend existing services
- Examples?

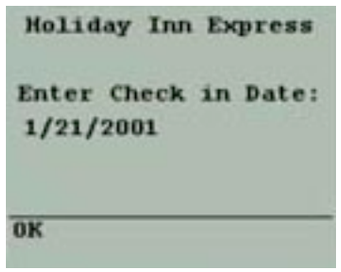
Possible Architecture

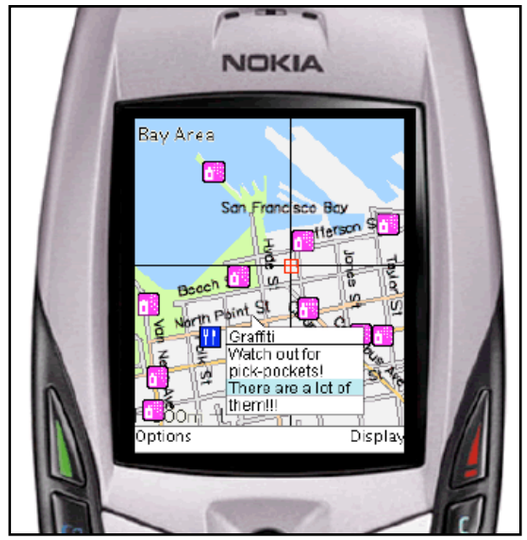


Sample Project

- Image Search
- Server
  - Take in keyword or image and searches various web resources for similar images
  - Return urls of matching images
- Client
  - Act as interface to server's API
  - Provide seamless image library management

Trends in Mobile Computing





WAP

Limited Connectivity

Limited Devices

Rich Multimedia

Persistent, High Speed Networks

Smartphones, PDAs

Mobile Computing

- Portable
  - Camera → Capture spontaneous moments
  - GPS, signal triangulation → Location aware
  - Bluetooth → Device connectivity
- Personal
  - Ringtones, graphics, accessories → Express individuality
  - Personalized content
  - Text messaging

Mobile Computing (cont.)

- Connectivity
  - 3G, 802.11x → Always connected
- Progressing
  - Updated hardware quarterly

Nokia 7610

Motorola Mpx

What will people pay for?

“ People like to interact with people they care about. The interactions are often simple, but personally important. They are willing to pay money for this. ”

http://www.bricklin.com/peoplepay.htm

- Take advantage of available features to facilitate interactions
- Focus on creating good user experiences

What is a Web Services?

” Web services are a new breed of Web application. They are self-contained, self-describing, modular applications that can be published, located, and invoked across the Web. Web services perform functions, which can be anything from simple requests to complicated business processes...Once a Web service is deployed, other applications (and other Web services) can discover and invoke the deployed service. “

http://webservices.xml.com/pub/a/2001/04/04/webservices/index.html?page=3#ibmtut

Terminology

- XML is used to tag the data
- SOAP is used to transfer the data
- WSDL is used for describing the services available
- UDDI is used for listing what services are available

Advantages of Web Services

- Provides standardized communication of data across applications and platforms
- Works over the web
- Allows functionality to be made public and reused by applications
- http://webservices.xml.com/pub/a/ws/2001/04/04/webservices/index.html

Available Services

- Google API
  - http://www.google.com/apis/
- Amazon
  - http://www.amazon.com/gp/browse.html/103-0335014-8818263?node=3435361
- Web Service Directory
  - http://xmethods.net/