

Mobil webserverek

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W3C Mobilweb Műhelykonferencia, Budapest
2006. október 18.

Előzmények

- Klassz lenne, ha a mobiltelefonon web szerver is futna?
 - nem igazán akadály a CPU (>100MHz), a memória (>10MB) és a sávszélesség (>43kbps) már 2004-ben sem
 - web böngészőből látnánk a telefonunk tartalmát, vagy másokét, pl.: <http://gipsz.jakab.mobilweb.hu>
- És milyen web szerver legyen az?
 - butuskák: [Mobile Web Server on PocketPC](#), SmallServ, [VS Httpd](#), [EPOCHTTP](#)
 - Apache a Symbian-on: ez már valami lenne
- És mire lenne ez jó?
 - képek megosztása, SMS olvasás/küldés PC-ről, üzenetküldés, távszerviz, stb.
 - hadd gondolkodjanak rajta mások is!

Nokia mobil webszerver

- Apache Symbian-on + HTTP gateway megoldás
- Open source
 - <http://research.nokia.com/research/projects/mobile-web-server/>
 - <http://sourceforge.net/projects/raccoon/>
- Johan Wikman és Dózsa-Rác Ferenc, Helsinki

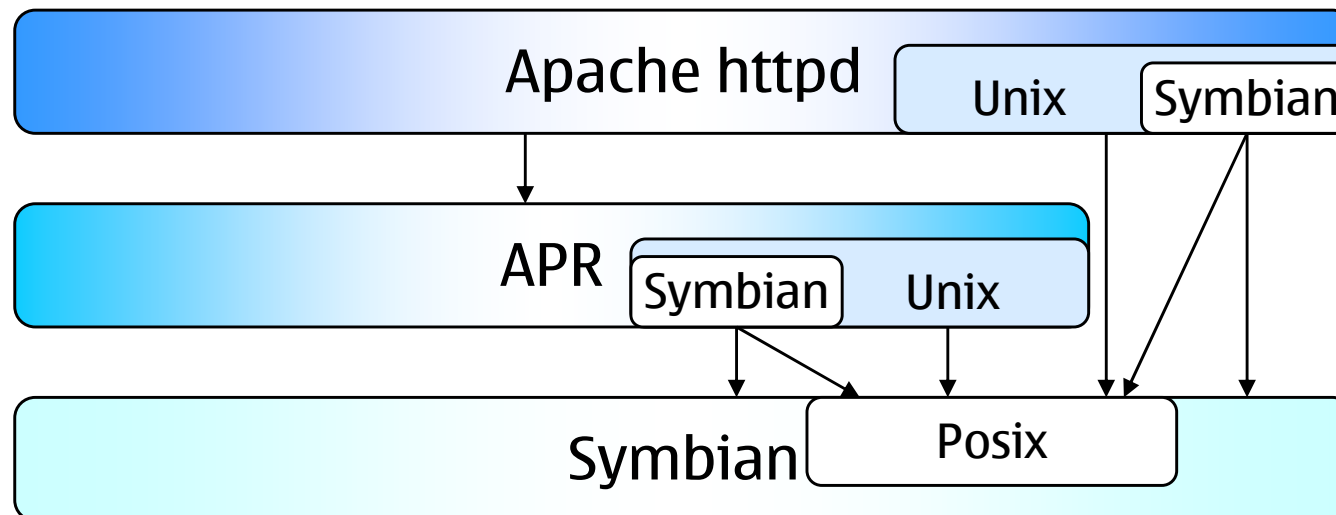
Apache on Symbian/S60

By courtesy of Johan Wikman
Nokia Research Center

Presented on EuroOSCON 2006
18–21 September 2006, Brussels, Belgium

Apache on Symbian

- Apache runs on top of *Apache Portable Runtime*.
 - Port/implement the platform specific parts of both and you're done.
- Direct implementation of APR on top of Symbian native constructs would have been prohibitively expensive in terms of required time and effort.
- Instead, the current port is implemented using Symbian's Posix library and is based on the generic Unix implementation.



Modules

- Many modules build out of the box.
 - mod_alias, mod_auth, mod_autoindex, mod_dav, mod_dav_fs, mod_dir, mod_log_config, mod_mime, mod_rewrite, mod_setenvif
 - Unless some external functionality is needed, it's likely that a module builds.
- Most important – mod_python.
 - Some modifications needed to make it work with *Python for S60*.
 - Alleviates the lack of dynamically loadable modules.

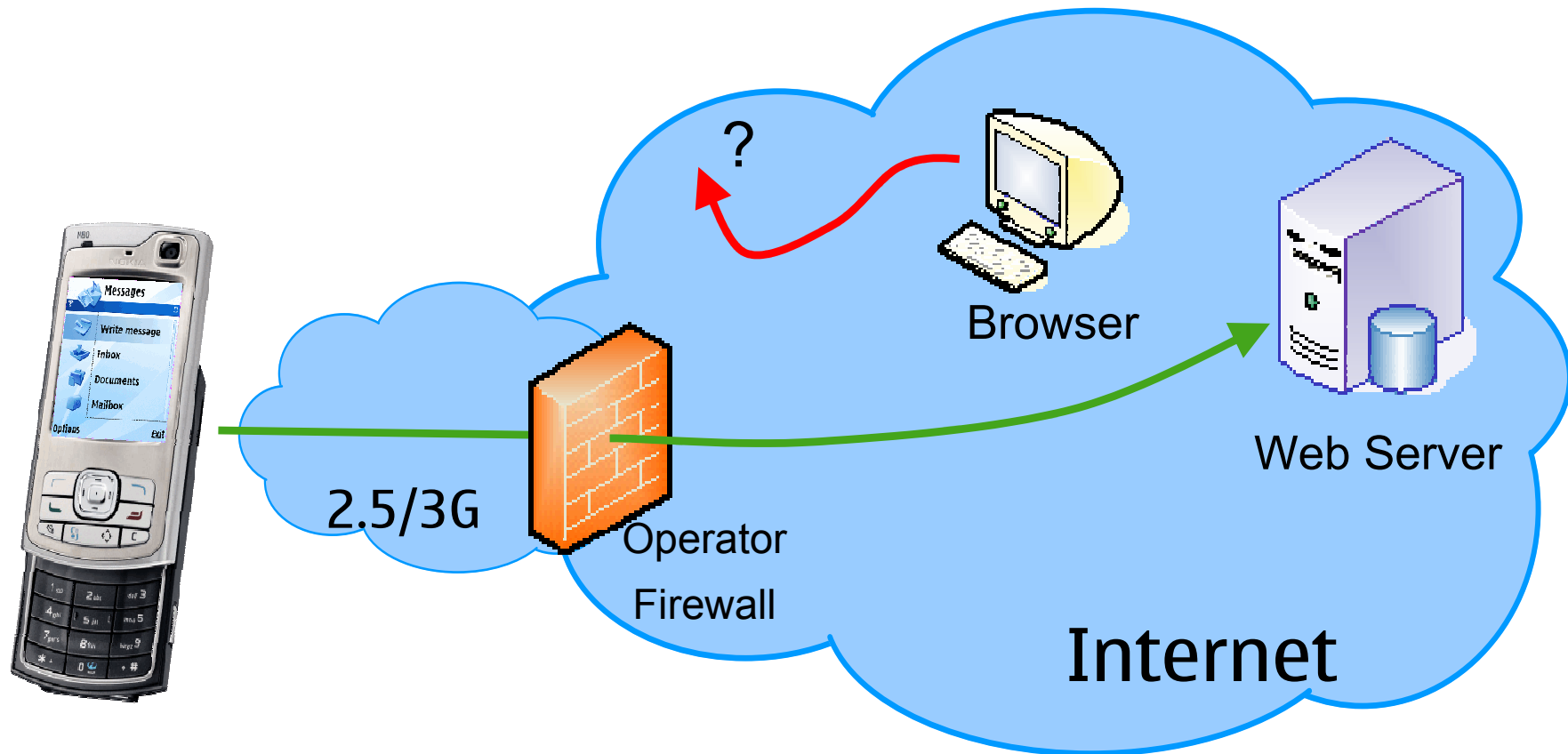
Connectivity

**By courtesy of Johan Wikman
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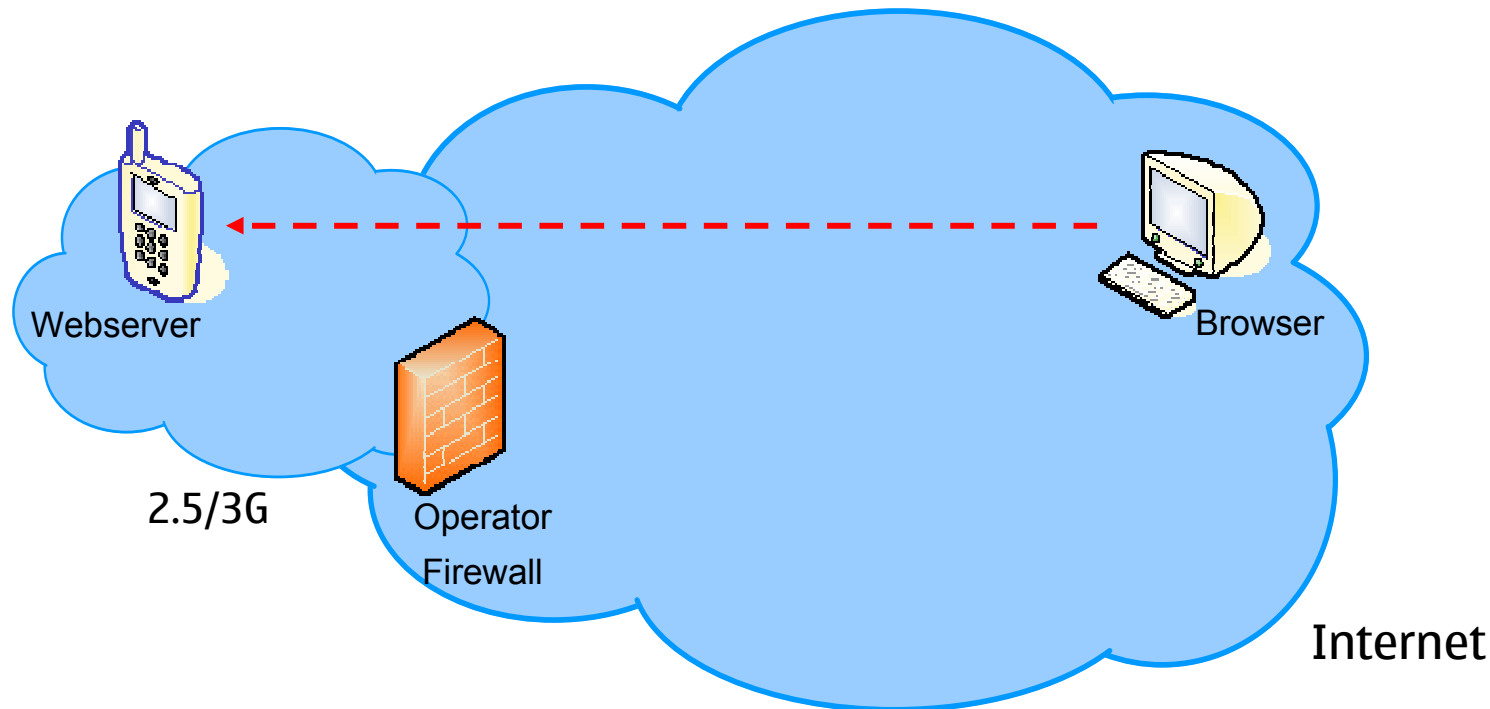
The Basic Problem

- There are NATs/Firewalls between the terminal and the Internet.
- That is, the terminal does not have a name and you can't reach it.



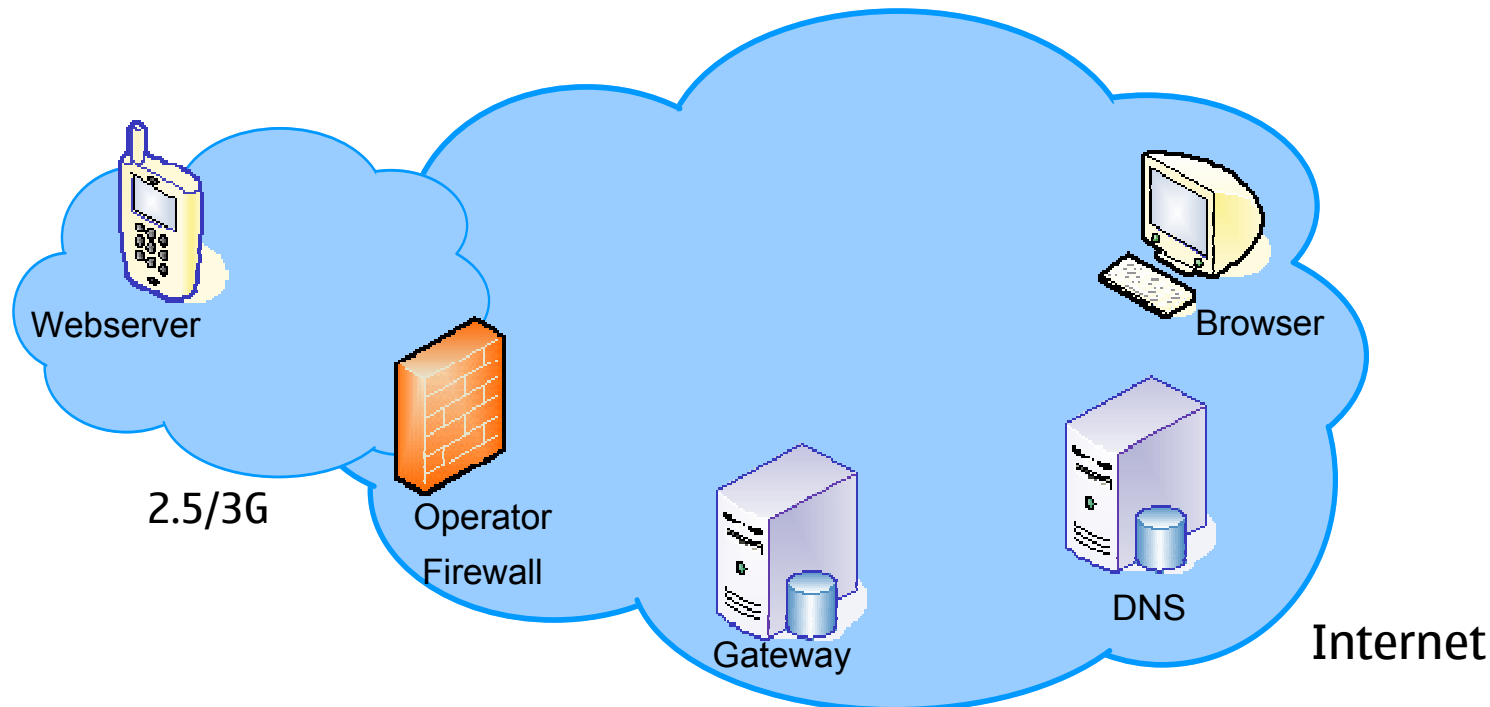
The Illusion

- Web server on mobile phone accessible from any regular browser.
 - Millions of compatible clients – no modifications of any kind needed.
- For the person browsing, the web browser, the web server and the phone owner, it appears as if there would be a direct connection.
- Catchphrase: The mobile phone becomes a full member of the web.



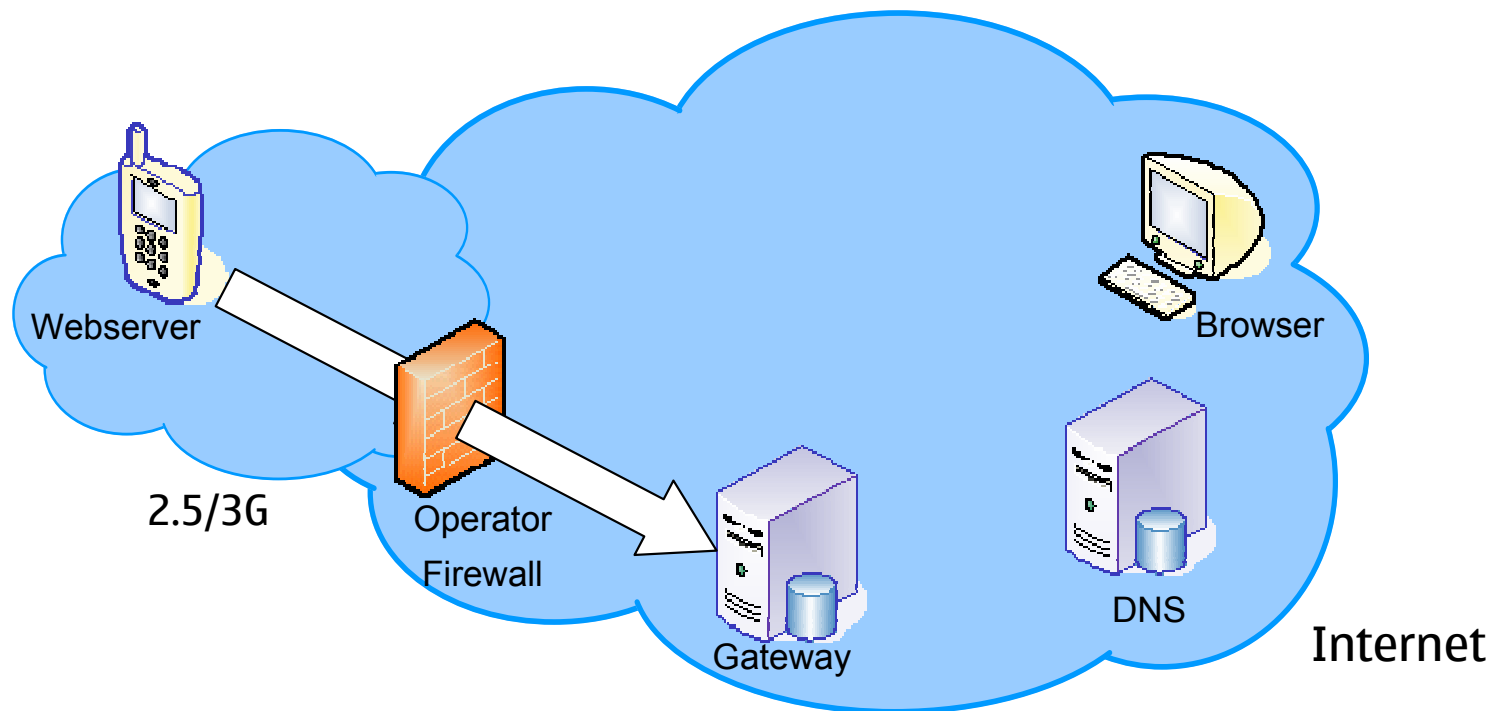
An Extra Level of Indirection

- Gateway on the Internet, running on a computer with a static IP.
 - In our case 212.213.221.246.
- A DNS mapping `*.at.openlaboratory.net -> 212.213.221.246`.
 - `john.at.openlaboratory.net -> 212.213.221.246`
 - `bob.at.openlaboratory.net -> 212.213.221.246`



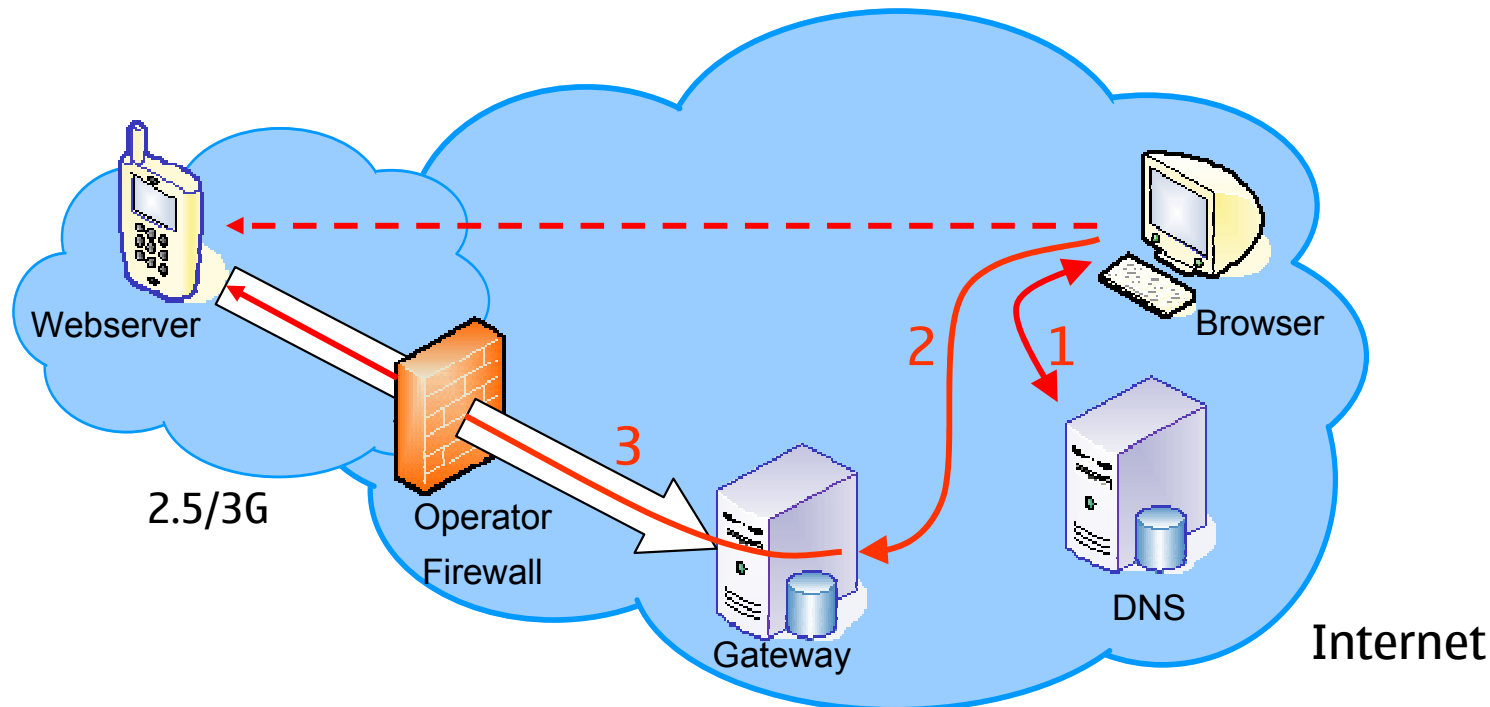
Going Online

- The terminal connects to the gateway and identifies itself, e.g. at *john*.
 - An account must exist at the gateway.
 - The connection exists for the entire time the terminal is online.
- The terminal is now known as `http://john.at.openlaboratory.net`.



Browsing

- DNS lookup of *john.at.openlaboratory.net* resolves to the IP address of the gateway computer (1).
- HTTP request delivered to the gateway (2).
- From the HTTP request headers, the gateway can deduce who the request is intended for.
 - Host: john.at.openlaboratory.net
- The gateway delivers the request of the connection opened by the terminal (3).



Mobile Websites — Mobsites

By courtesy of Johan Wikman
Nokia Research Center

Presented on EuroOSCON 2006
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Personal Mobsite

Mobile Web Servers, Mobsites in Manchester by Mobsite Python Server Pages Developer Graham Brown - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

Nokia Connecting Home Windows Marketplace

Mobile Phone Servers and Python Scripting Pages (PSP) Development by Graham Brown in Manchester, UK

2006-09-14, 13:17:31

main menu > [home](#) | [about mobsites](#) | [mobsite installation info](#)

Introducing the Mobile Web Server

A port of Apache Web Server to Symbian Series 60 incorporating Python for Series 60 and Mod_Python allowing dynamic content through the deployment of pages built upon Python Server Pages (PSP).

you didn't think this mobsite was hosted on a PC.....
Now did you?

Start mobile skypeing free
VoxLib works with all phones. Try it now!
It's free.
[Ads by Goooooogle](#)

Mobile Phones
The Online Source For Mobile Phones:
Comprehensive Info. And Pricing!
[Advertise on this site](#)

Believe it or not, this Mobile Website (mobsite) is hosted on a Nokia N80 Mobile Phone Server.

That's right. This mobile website (mobsite) is hosted entirely on a Nokia N80 which has Python for S60 installed along with Raccoon which is a port of the Apache httpd web server. For a while now, mobile phones have become more and more powerful yet they have always been clients to the internet, bundled with built-in web browsers for the last few years which allow the user to browse the web using their mobile phone. Yet mobile phones actually have more processing power and RAM built in than the servers of the early web. So it naturally stands that they are capable of running mobile web server software and hosting their own personal mobile web sites (mobsites). This mobsite is intended to be a resource for people who are new to the concept of a mobile web server, and those who are already hosting their own mobsites and as a communications portal to my Nokia N80. Here you can:

- ◆ make the phone take a camera using the built in 3MP camera
- ◆ send me messages which automatically get sent to my inbox, just like any other text message
- ◆ view my last 10 received text messages (yes I know that's an incredible amount of privacy I'm giving up for the good of computer science!)
- ◆ see vital information about my Nokia N80's system such as the available free RAM, disk space or operator signal level
- ◆ view database-driven news / mo-blog (mobile blog) articles which use the internal / built-in database of the mobile phone

So as you can see, the mobile web server is capable of giving you total access to the mobile phone via the internet through a web browser anywhere in the world! It all depends how much privacy

Done

Most recent photo taken:

Search this mobsite here:

Use the form below to either search this mobsite or the entire web:

Web
at.openlaboratory.net

SEARCH

Mobile Server Information:

Mobile Operator: Orange UK
Mobile Network Signal Level: 88
Mobile Server Battery Level: 100%
Mobile Server Free RAM: 8196096 Bytes
Free Disk space: 107855872 Bytes

Most Recent Text Messages Received:

Message From: +447852492083
hey u .howya doin? txt my nbr gothika u no who that is x.

Message From: Carrie
Very nice! I wasn't expecting one back just wondered if you liked mine. That will be getting round for a lovely evening.

Most recent photo taken.

Search your mobsite

Nice to know.

Received text messages.

By courtesy of graham@pixel8limited.com

Personal Mobsite

space or operator signal level

- view database-driven news / mo-blog (mobile blog) articles which use the internal / built-in database of the mobile phone

So as you can see, the mobile web server is capable of giving you total access to the mobile phone via the internet through a web browser anywhere in the world! It all depends how much privacy you want to give up but features to follow include access to the contact database, calendar including to-do lists and scheduled meetings and memos and location information. As soon as I acquire a bluetooth GPRS module you'll even see a map on the right detailing my exact location!

> [Click here to find out more....](#)

Developments / Mobile Website (Mobsite) Blog:

- Discussion Board Information**
added / 2006-09-12, 23:46:25
- How to have your own mobsite.**
added / 2006-09-12, 00:44:01
- Hmmmm... what have I been up to today... well I'll tell you!!!!**
added / 2006-09-11, 23:13:24
- Further Developments**
added / 2006-09-10, 23:40:56
- Hello world!!!**
added / 2006-09-10, 23:39:23

Mobsite Communications:

You can use the form below to send a message to the mobile web server which will go straight into the inbox of the Nokia N80 just as though I'd received a text message. The text will be from this mobsite so please make sure to include any contact details if needed so I can get back to you!

Last 5 Photos taken by request using the link on the right:

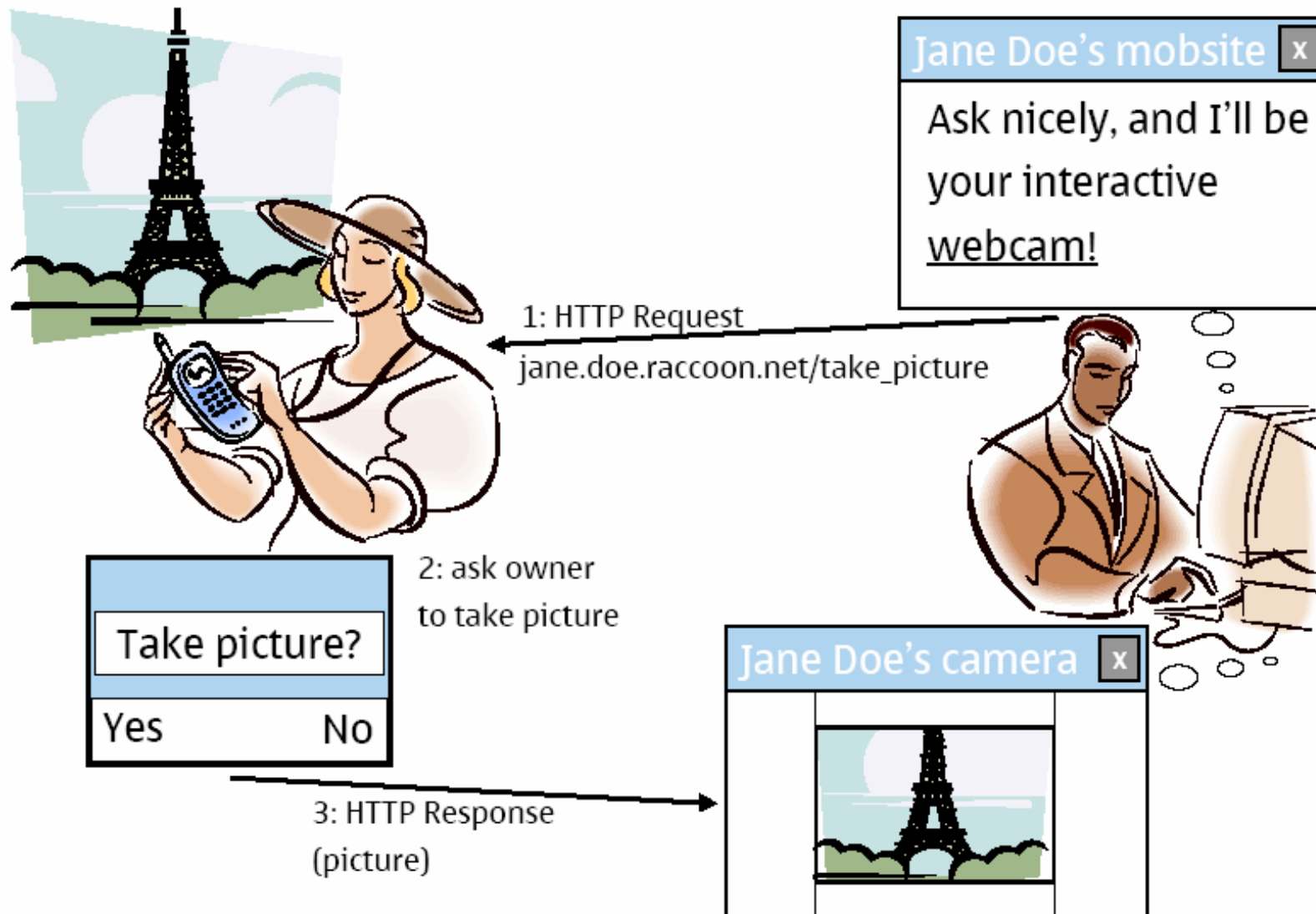
Integration of the mobile phone and the web.

Web-form for sending messages directly to the inbox of the phone.

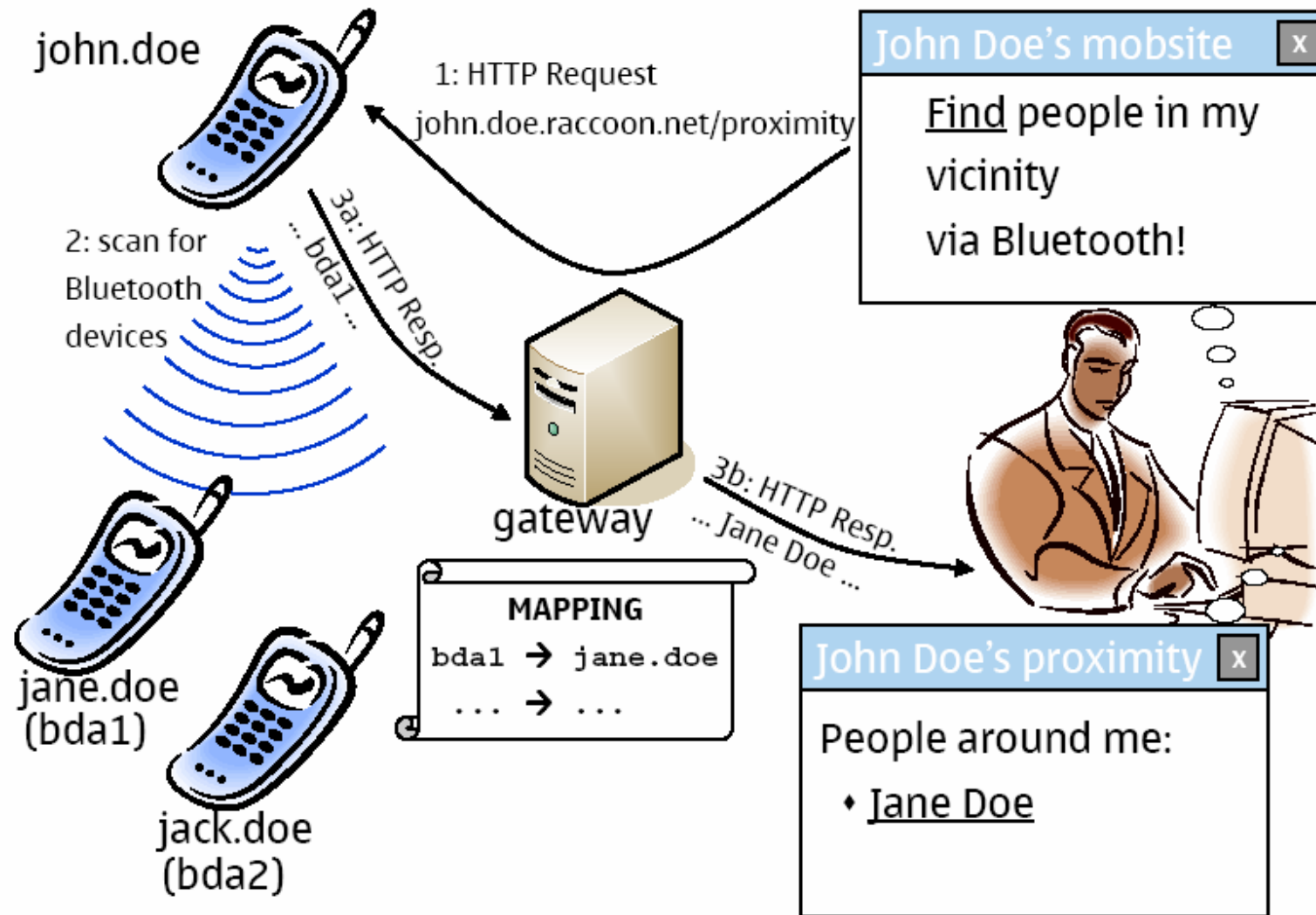
Interactively generated content.

By courtesy of [graham^{at}pixel8limited.com](http://graham@pixel8limited.com)

Interactive Content - Example



Linking by Proximity – Mobsite Hopping



- A new way for linking websites – they are related *at this moment* because they geographically happen to be nearby each other.

Hogyan tovább?

Hogyan tovább?

- További lehetőségek
 - web UI a telefonhoz
 - Webszolgáltatások (Web Services) a telefonon
 - üzenetküldés telefonra
 - stb.
- Kihívások
 - költségek
 - adatforgalom
 - áramfelvétel
 - hozzáférés korlátozás (vö. költségek)
 - webservert adminisztráció
 - kliens identitás
 - elérhetőség (24/7)
 - teljesítmény



Demo...