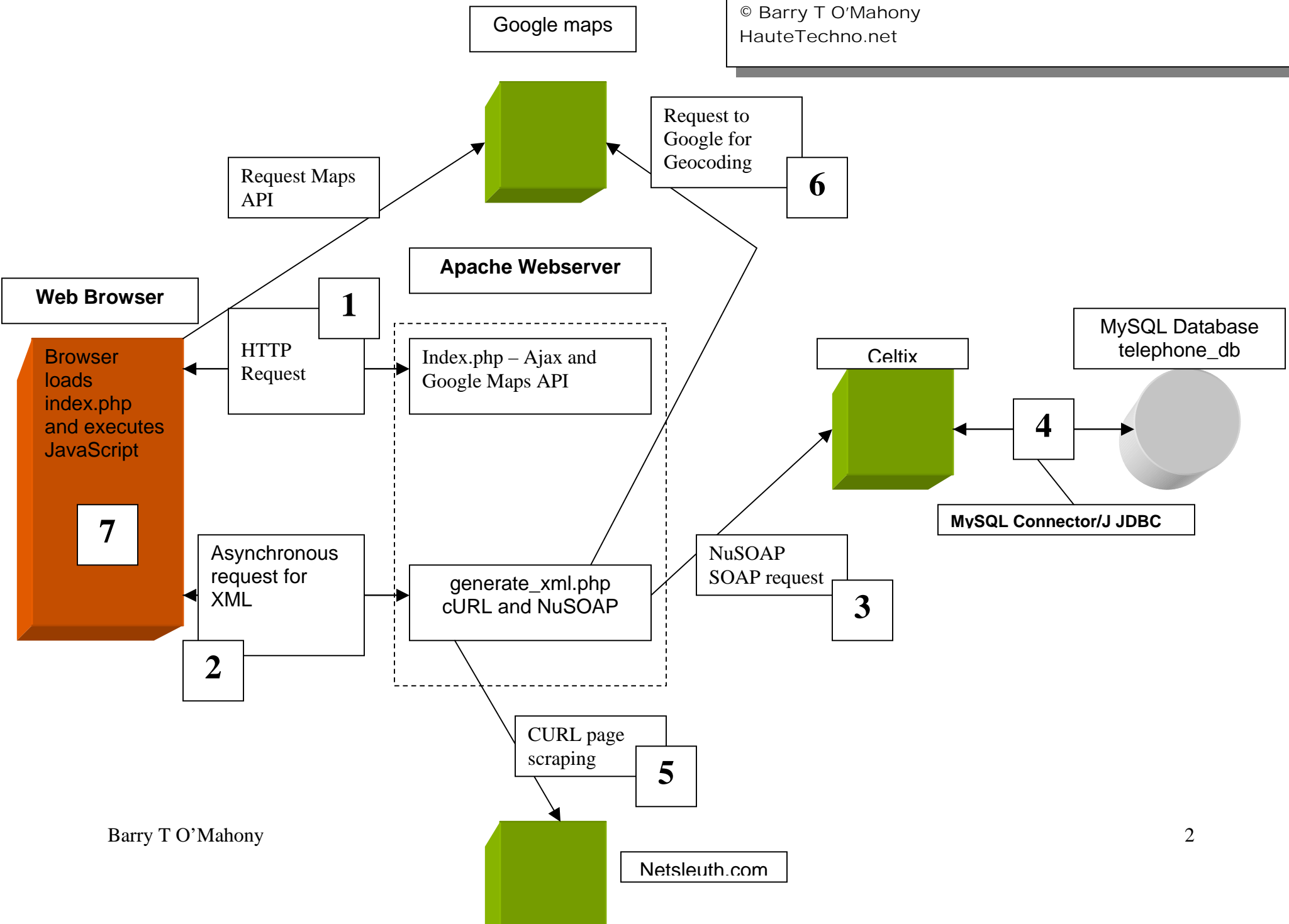# Enterprise style mashup

(Celtix, Unix, Mysql, Apache and PHP)

Logic flow for Mashup Demo
© Barry T O'Mahony
HauteTechno.net

Google maps

Request to Google for Geocoding

6

Request Maps API

Apache Webserver

1

Web Browser

Browser loads index.php and executes JavaScript

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HTTP Request

Index.php – Ajax and Google Maps API

Celtix

MySQL Database telephone_db

4

MySQL Connector/J JDBC

Asynchronous request for XML

generate_xml.php cURL and NuSOAP

NuSOAP SOAP request

3

2

CURL page scraping

5

Netsleuth.com

Prerequisites

- **Celtix 1.0 (celtix.objectweb.net)**
- **Java JDK 1.5.0 (java.sun.com)**
- **MySQL Database Ver 14.7 Distrib 4.1.13 (www.mysql.com)**
- **MySQL Connector/J JDBC Driver 3.1.13 (www.mysql.com)**
- **Apache Webserver 2.0 (www.apache.org)**
- **PHP 5.0 (Previous versions should work) (www.php.net)**
- **NuSoap (http://sourceforge.net/projects/nusoap)**
- **Google Maps key for your server (http://www.google.com/apis/maps/signup.html)**

Mashup demo description

1. User loads http://www.example.com/mashup/index.php. The browser loads the page and begins executing the JavaScript on the page and includes the **Google Maps** javascript
2. The browser makes an Asynchronous XML call to http://www.example.com/mashup/generate_xml.php.
3. **generate.xm**l creates a new NuSoap client and requests the **WSDL** from the server (from http://www.example.com/mashup/mashup.wsdl). Using this it calls the operation *getNumbers()* from the **Celtix** server running on another server.
4. *getNumbers()* makes a request over TCP/IP to the MySQL database using the MySQL Connector/J JDBC interface for a list of telephone numbers. This is compiled and returned as a comma separated string to *generate_xml.php*.
5. *generate_xml.php* then makes a **cURL** call for each of the numbers returned to NetSleuth.com and scrapes the page for the zip code of each number.
6. Next *generate_xml.php* requests the latitude/longitude pair from **Google Maps.**
7. Finally *generate_xml.php* returns an **XML** document to the browser, containing the zip code, a count of the number of calls to that zip and the lat/long pair. The browser uses the info to plot the points on the map and we're done!

Installation

- Download and install Java JDK 1.5.0 on your server.
- Download and install Celtix 1.0
- Download and install the MySQL database
- Download and install the MySQL Connector/J library
- Download and install Apache 2.0
- Download and install PHP 5.0
- Have your Google Maps key nearby

Now we're ready to begin
- Copy the **mashup_demo** directory in the **celtix_src** directory to you **celtix/samples** directory.
- Create the database like this '**mysqladmin –u <admin_user> -p create telephone_db**'
- Then create the table with '**mysql –u <user> -p telephone_db <mashup_db.sql**'
- You will also need to populate the database with telephone numbers. I suggest you go to **netsleuth.com** and check each number returns a valid zip code. The code does no error checking here. It is, after all, only a model (Shhh)

You should now be able to compile the Celtix server.
- Move to the **celtix/samples/mashup_demo** folder
- In the **src/demo/mashup/server** directory edit **NumberImpl.java** to have to correct connection string for your database
- Edit **wsdl/mashup.wsdl** to reflect the server where the Celtix server is running (It's near the bottom of the WSDL)
- Type '**ant build**'
- Everything should compile OK
- Now type '**ant server**'
- You should see the server come up

The server is set to time out after 5 mins. This can be changed. The server is also configured to run on port 9000. This can be altered in the WSDL found in **mashup_demo/wsdl/mashup.wsdl**

Next copy the contents of the web_src directory to your webserver. I choose the subdirectory mashup. Also copy (or if possible symlink) the **celtix_src/mashup_demo/wsdl/mashup.wsdl** to somewhere on you web

server. Remember, any changes to one of the WSDL files must be mirrored in the other. This is where a symlink makes things easier.

In the CONFIG.PHP file, alter the variables to reflect the settings for your environment. These are included in both the **generate_xml.php** and the **index.php** files.

Install NuSOAP to this directory also.
*(NOTE: If you are using PHP 5.0 and receive the error "**Cannot redeclare class soapclient in /some_dir/nusoap.php on line 7240**" you will have to change all occurrences of "soapclient" with "soapclientw" or something similar. PHP 5.0 has it own built in SOAP client. If you do this, make sure you rename the file "class.soapclient.php" to "class_soapclientw.php". I had no problem doing this, but don't forget to BACKUP THE ORIGINALS!)*

To see the whole thing in action, bring the Celtix server up with '**ant server'** then load up the index.php in your browser. You should have markers on your map representing the zip codes of the phone numbers you entered into the database.