

Lash-Ups

A Toolkit for Location-Aware Mash-Ups

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Using A Lash-Up



1 Click

Open the Lash-Up Client on the mobile phone

Read

Peruse the list of location-relevant Lash-Ups



3 Select

Choose the most relevant Lash-Up



What Are Lash-Ups?

Lash-Ups are **location-aware mash-ups** of web content for mobile devices.

The **Lash-Up Toolkit** makes writing Lash-Ups easy by providing:

- An **API** that makes it easy for programmers to integrate a user's location information into a Lash-Up
- A **common distribution method** that makes it simple for users to find and access Lash-Ups relevant to their location

Programming A Lash-Up

Find

Locate web services to use in the Lash-Up



2 Code

Write a few lines of code using the Lash-Up API to glue content together with location information

```
<?php
// get the user's location (GSM cell tower) from GET request
$cell_id = $_GET['cell_id'];

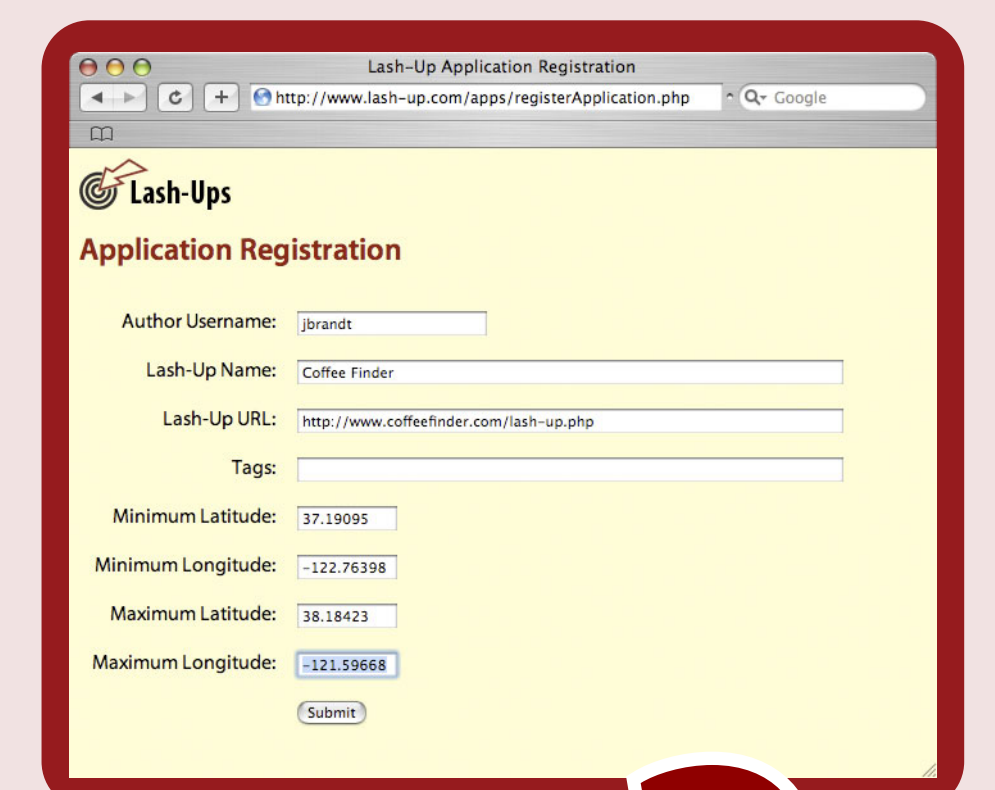
// convert the location to lat/long coordinates using Lash-Up API Call
$lat = simplexml_load_file("http://www.lash-up.com/api/getLatLong.php?cell_id=$cell_id");
if (is_null($lat->record[0])) { // we got a response from Lash-Up Server

// pull lat/long out of response
$lat = $lat->record[0]->lat;
$long = $lat->record[0]->long;

// format the search string
$location = urlencode($lat . " " . $long);
$href = "http://www.google.com/search?q=Coffee&nearby=$location&site=local&hl=en&btnG=Search";

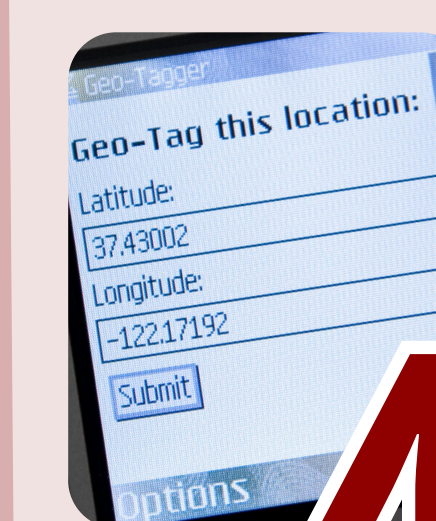
// redirect the user to the search page
header("Location: $href");
exit;

} else { // no lat/long available from the Lash-Up Server; apologize
echo "Sorry, no location information available. </p></body></html>";
}
?>
```



Register

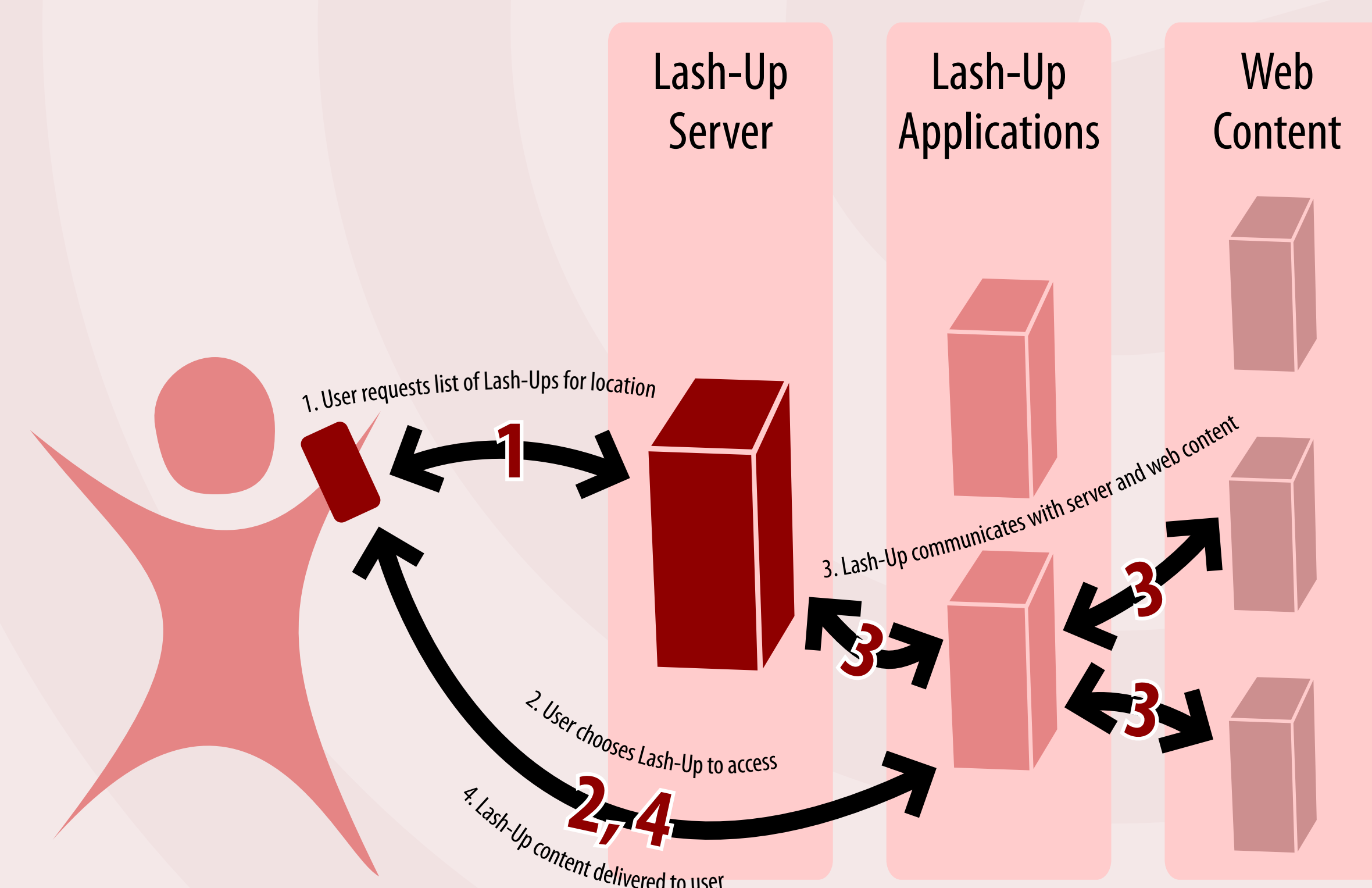
Tell the Lash-Up Server about the new Lash-Up and specify the locations where the Lash-Up is useful



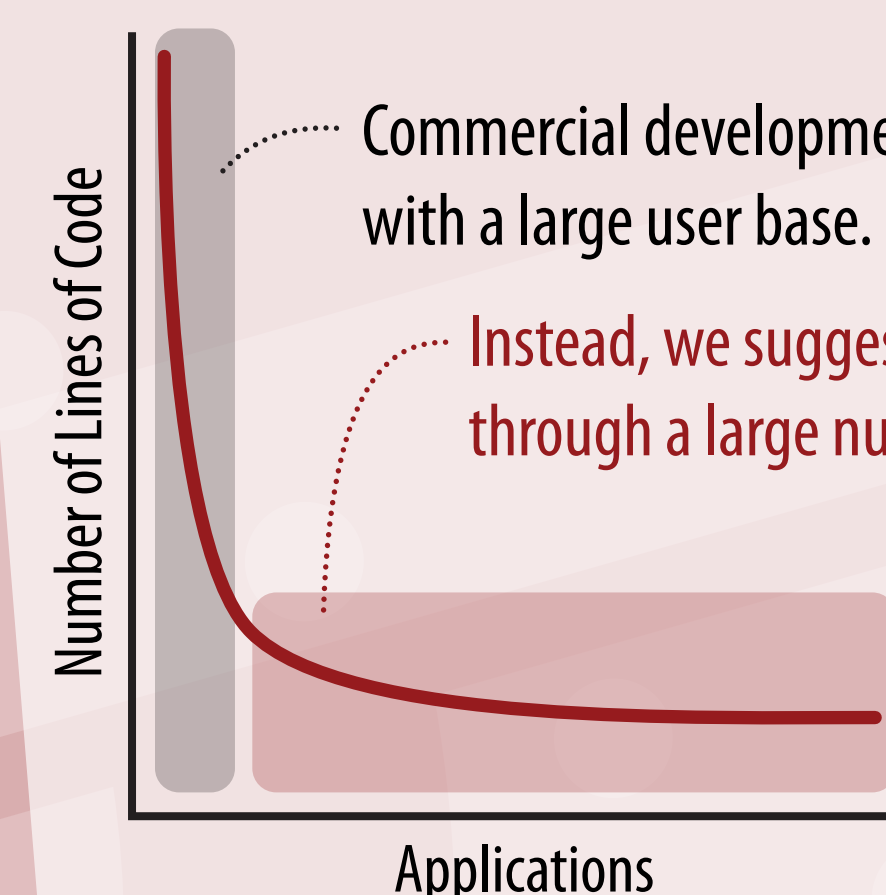
4 Tag

Use a cell phone to tag places with location information (or, rely on a community of users to do this for you)

System Architecture



Hacking the Long Tail



Commercial development efforts typically target a few large applications with a large user base.

Instead, we suggest that location-aware computing is more likely to succeed through a large number of small applications targeted at specific locations and tasks.

Rather than supporting the development of the next "killer app", the Lash-Up Toolkit specifically addresses the needs of development within the long tail of the application space, allowing the creation of a *killer ecology*.

Why Lash-Ups?

Lash-Ups make sense for four primary reasons:

- Location-aware computing is more likely to succeed through a killer ecology of many small applications rather than a few large applications.
- These applications need to be kept up to date, which is more manageable in a user-supported development community.
- Many applications simply consist of providing pre-existing information in a useful location, which matches the mash-up paradigm perfectly.
- Web delivery of applications is straightforward and ubiquitous, and the programming model is familiar to a large number of programmers.

