# Mobile Oxford Case Study

Open Source Junction
29 March 2011


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University of Oxford
http://www.ox.ac.uk

Mobile Oxford
http://m.ox.ac.uk
@mobileox

Molly Project
http://mollyproject.org
@mollyproject

What do _you_ do?

HTML5 kicked into 2014

**Another three years of crushing hype**

- The Register 14th February 2011

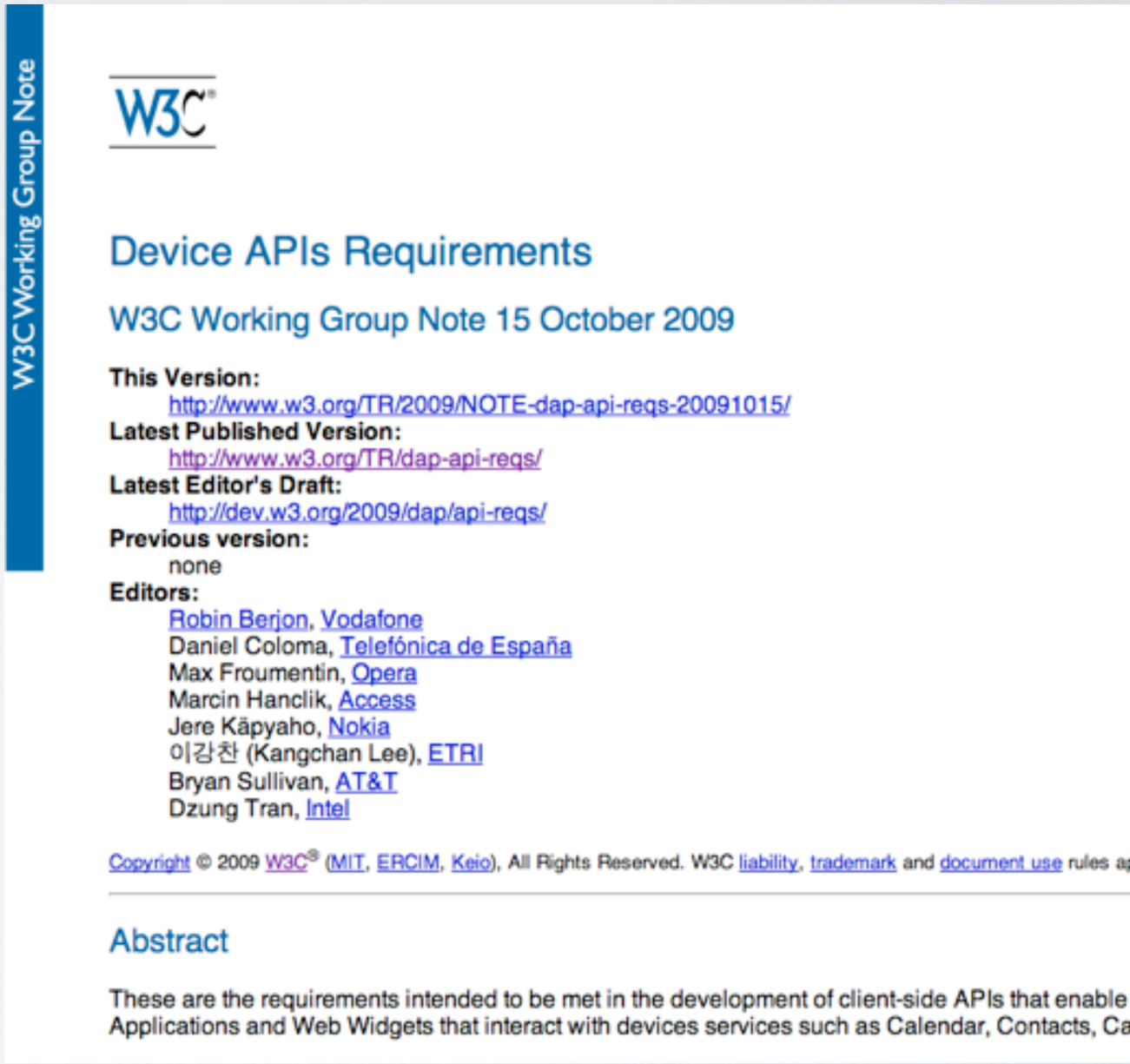
"Not using HTML5 is like not using English because it hasn't been finished"

# YOU NEED TO DEVELOP FOR THE WEB*

* All caps signifies importance of this statement

But it won't do what a native app will!

Check out what this document says →



W3C Working Group Note

W3C

## Device APIs Requirements

W3C Working Group Note 15 October 2009

**This Version:**
http://www.w3.org/TR/2009/NOTE-dap-api-reqs-20091015/
**Latest Published Version:**
http://www.w3.org/TR/dap-api-reqs/
**Latest Editor's Draft:**
http://dev.w3.org/2009/dap/api-reqs/
**Previous version:**
none
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### Abstract

These are the requirements intended to be met in the development of client-side APIs that enable
Applications and Web Widgets that interact with devices services such as Calendar, Contacts, Ca

http://www.w3.org/TR/dap-api-reqs/

Do you have a significant use case that _needs_ a native app?

Many tasks + cheap computing = many devices

# Each form factor suits certain uses more than others

‘Glance’ Device

Weather, contact information, sports results, meeting room status

‘Watch/Ultra compact’ Device
Who’s calling, number of e-mails waiting

# Tablet Device

Web browsing, e-mail,
photo viewing, mapping, visual design

# E-Reader

Low eyestrain document display, note taking

## Smart Phone

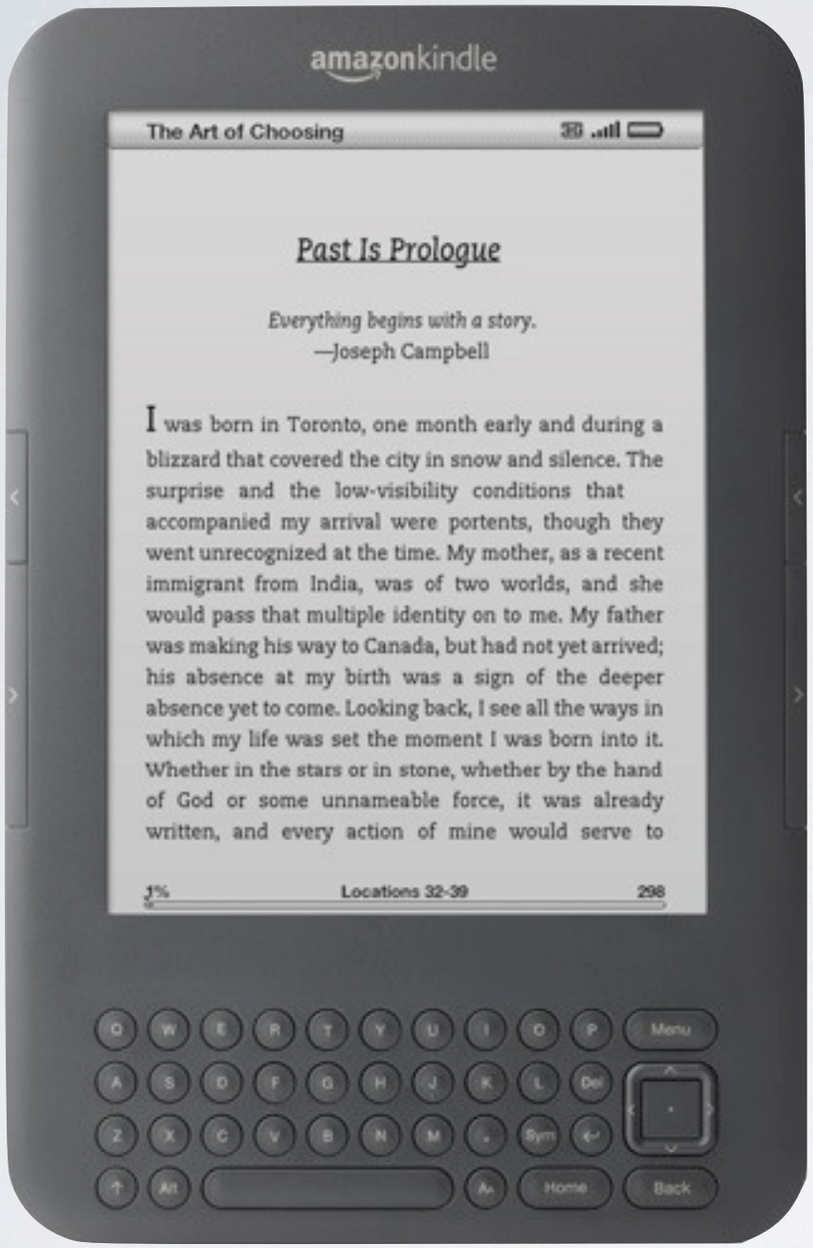
Fast e-mail, simple tasks e.g. booking a tutorial, finding a library book, and a primary location sensitive information display

# Samsung i5500 Galaxy Europa

SIM Unlocked ≈ £140

## Features

Android 2.1
QVGA 2.8" Screen
Quadband GSM + 3G
GPS
Wifi
3MP Camera
Accelerometer
Digital Compass
FM Radio




£111

Excellent Reading Experience

WiFi, Web Browser

Do you really want to write a native app for each of these?

# mobile Oxford

# JISC

JISC

"Institutional Innovation" funding strand
18 months, approximately 2FTE
From October 2008

# Erewhon's Aims

Geo-spatial database
(with temporal sensitivity)

Demo Mobile Apps

Mobilisation of Sakai VLE

Disseminate knowledge learned

Demo Mobile Apps

Mobilisation of Sakai VLE

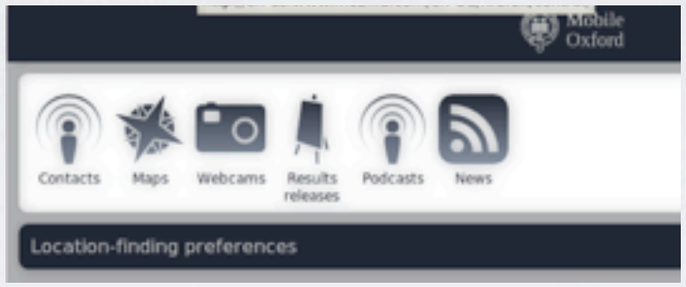
# The available options (Q1 2009)

+ Was made freely available under MIT License Q1 2009.
+ Works on many devices.
- Code was 'dumped' as open source
- No community input
- We were not a PHP shop

+ Promised fast deployment times (perhaps unrealistic)
+ Fully managed with contractual obligations
- iPhone Only (at time)
- Service had not been deployed anywhere
- Vendor lock-in
- Yearly fees
- Development fees
- Long term sustainability/relevance unknown

# The available options (Q1 2009)

Both required a lot of work on our side




# Mobile Oxford work started in Q3 2009

It needed to be:

# Accessible and Inclusive

For prospective students, current students, staff and the general public

# An Open Source Community Project

The “community” being pivotal in its long term sustainability

# Extensible and have significant longevity

# Work on any web-capable device

*Not* reactionary.

# A consistent UI

# Perform a number of key functions server-side

Not proxying, not iframing etc.

Carrier
6:09 PM
Mobile Oxford
Contact search
Places
Library search
Podcasts
Webcams
WebLearn
Weather
Service status
Results releases
News
Wednesday, 20th week, Trinity 2010 (8 Sep)
Oxford: 18°C
Isis:
Godstow:

Mobile Oxford
Your university and city on the move
UNIVERSITY OF OXFORD
A wealth of information from across the University and City of Oxford.
Whoever you are, Mobile Oxford is your central guide to help you do your day-to-day tasks. Whether it's finding a library book, checking the next bus or even finding what time the nearest post box is collected Mobile Oxford is for you.
Discover Mobile Oxford's features
You don't need a fancy phone
A device with a web browser is all you need to be able to use most of the features below. Of course if you're lucky enough to own a smartphone you can use more advanced features like your GPS.
Use it now by visiting
m.ox.ac.uk
using your mobile device's web browser, preview on your computer or click on and scan a 2D barcode below
Blog
Wed, 09 Mar 2011
Mobile Oxford 1.0 has arrived
It's been a long time coming, but we've finally put together a release we think worthy of the "1.0" tag. You may not notice a massive difference, ...
Mon, 31 Jan 2011
Yet another release of Mobile Oxford (0.5)
Hello folks, I'm pleased to announce another release of Mobile Oxford incorporating a couple of new major features and a whole bunch of fixes and tweaks. Check ...
Fri, 24 Dec 2010
New Mobile Oxford for Christmas!
Twitter
Thu Feb 17
@ittiemanproj thanks! Sorry for the slow reply! ^TF
Wed Feb 02
We won the UCISA Award for Excellence 2010! Very pleased! http://t.co/xqmL9BH
Wed Nov 03
We seem to be all back to normal as of 4pm yesterday. Sorry for any inconvenience!
Tue Nov 02
Having a few issues in displaying maps (and associated pages) in the past 24hrs. Seems to be OK now. We'll be keeping an eye on it.

# m.ox.ac.uk

Winner - UCISA Award for Excellence 2010

Finalist - Learning Without Frontiers Innovation Award 2011

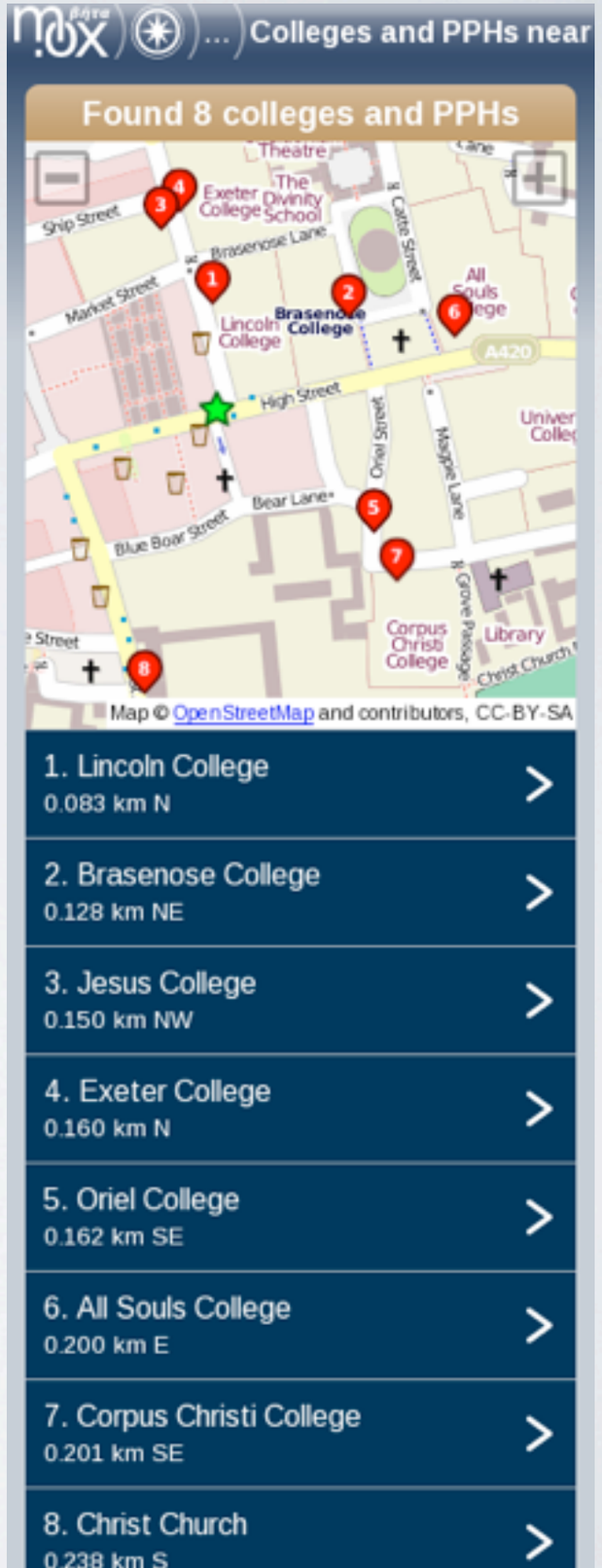
UK Nomination - UN World Summit Award in Mobile (Education) 2010

# Device Detection

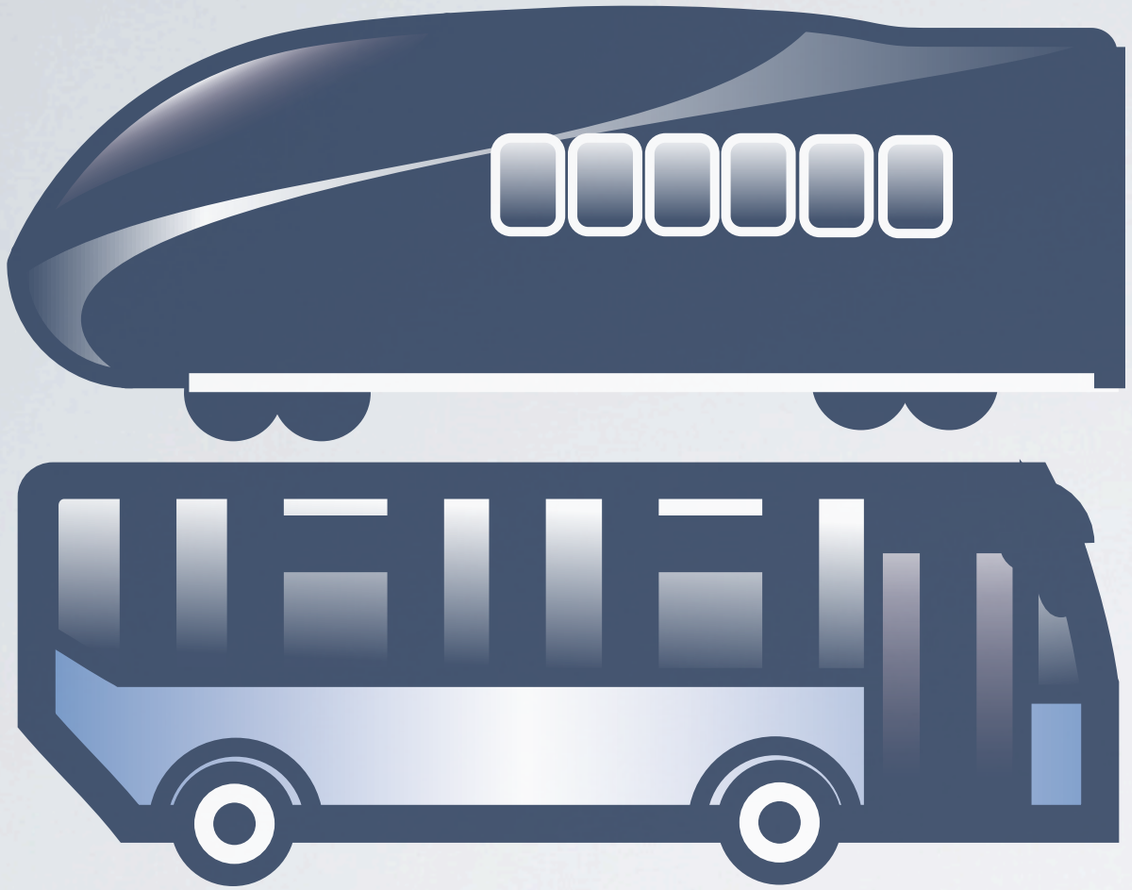
Smartphones, Featurephones, Desktops (Tablets coming)

# PLACES

Multiple geo-data sources including Open Street Map (community sourced), OxPoints, Department for Transport etc.

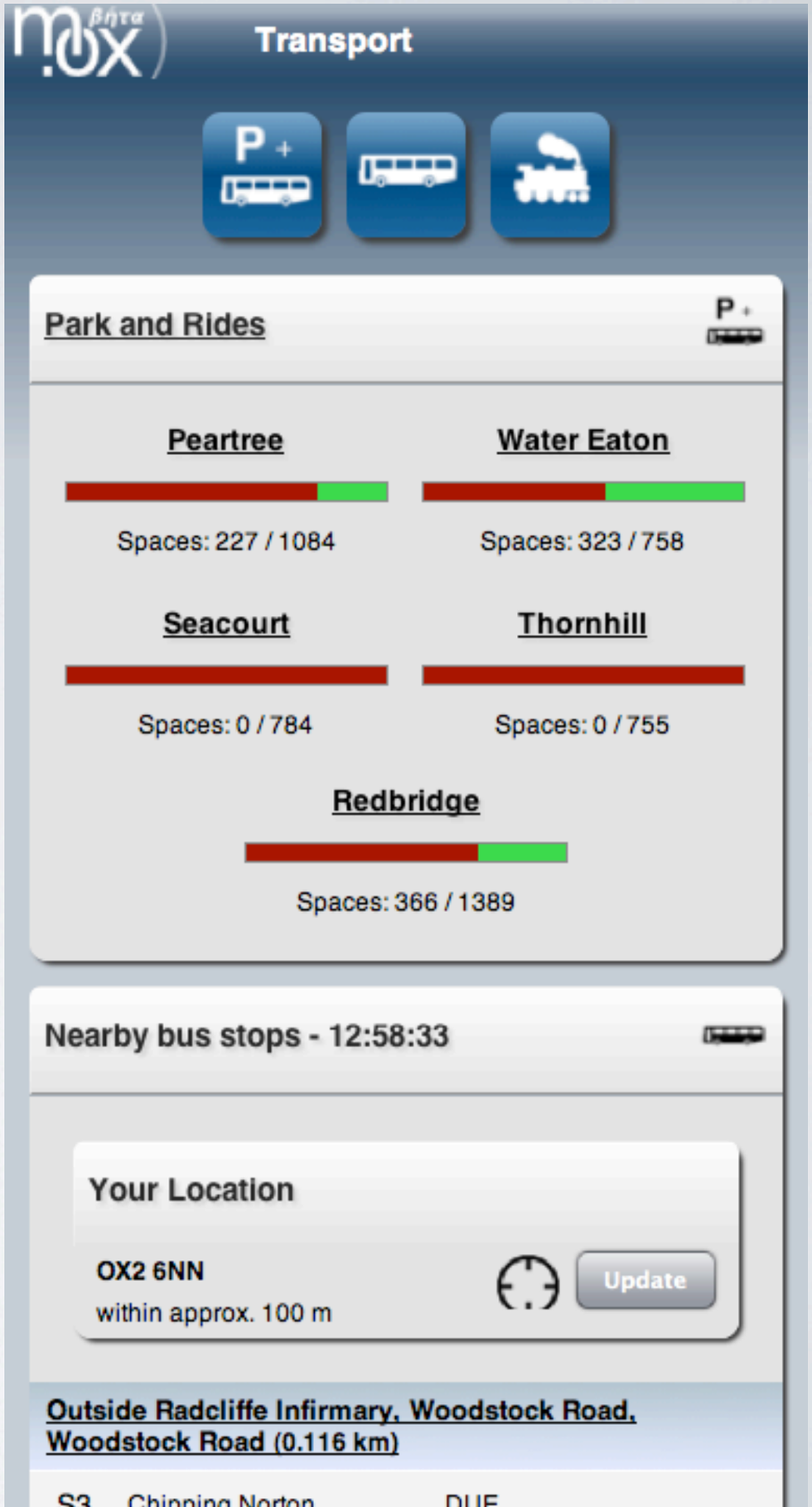


# Transport information - a compelling reason to revisit



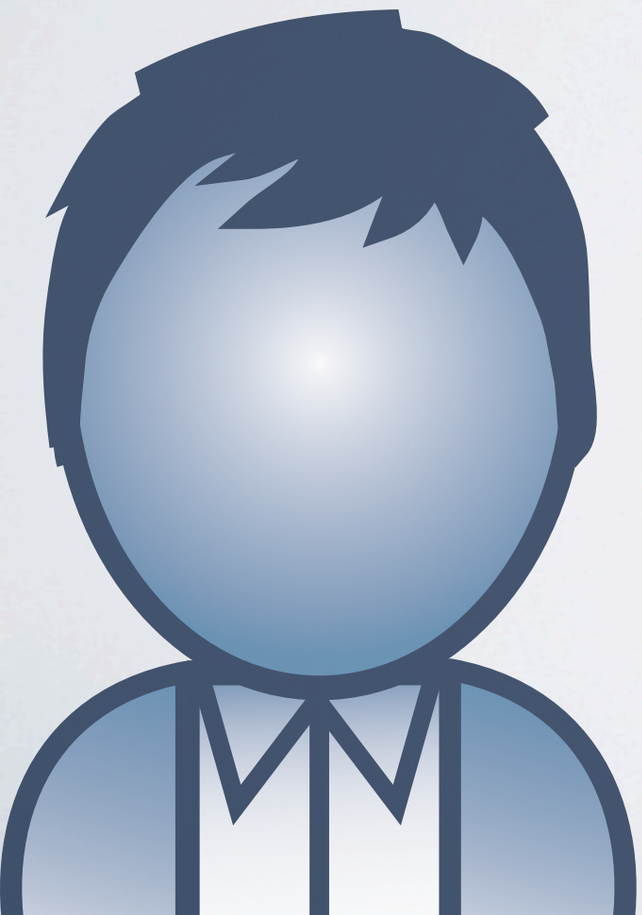
# TRANSPORT

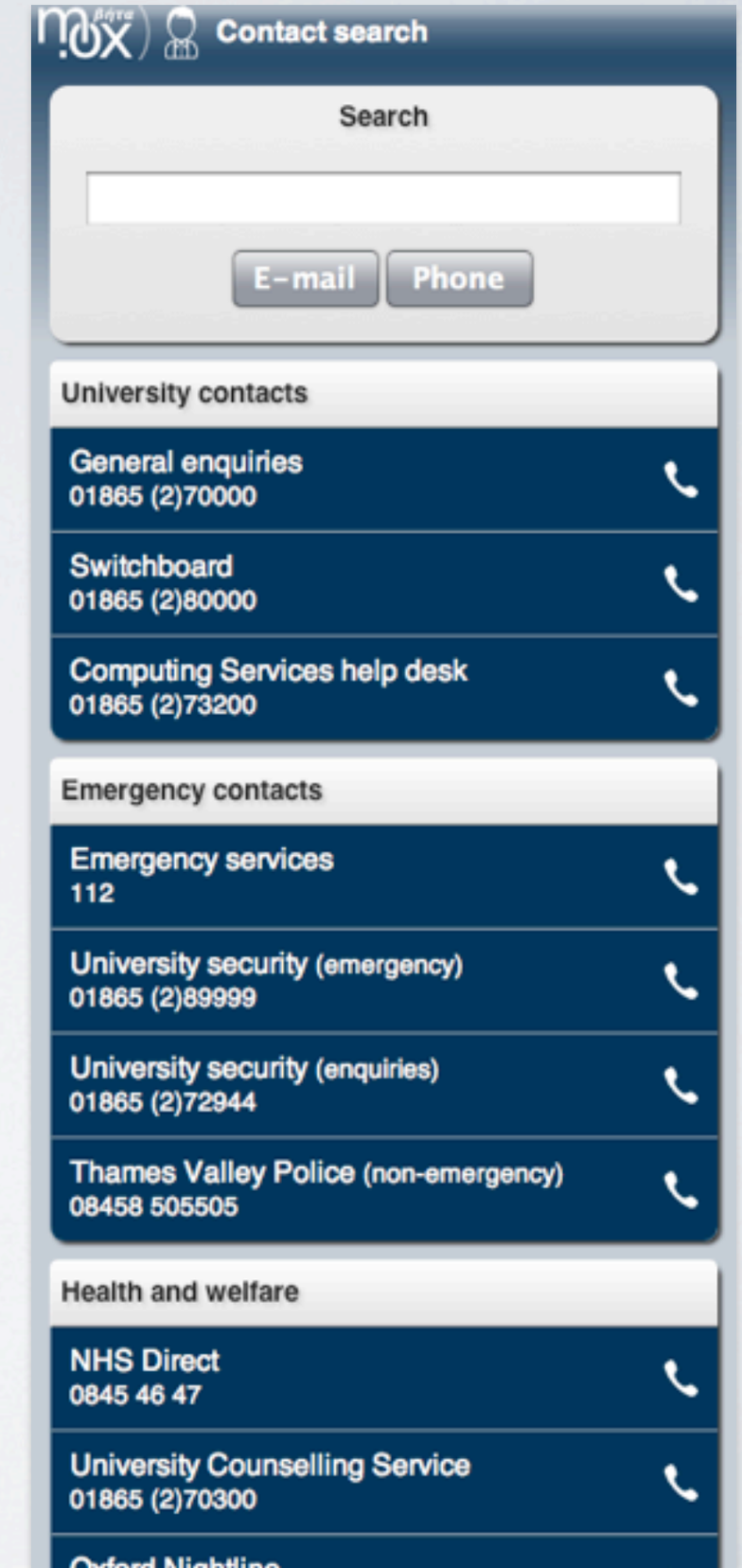
Integrated view of Oxford's transport incorporating Park and Ride spaces, real time bus and railway information



# CONTACTS

## Via LDAP





# LIBRARY SEARCH

Z39.50 (library protocol),
OpenStreetMap, 3rd Party GIS

**Erewhon / Samuel Butler ; edited with an introduction by Peter Mudford**

| | |
|---|---|
| **Author:** | Butler, Samuel, 1835-1902. |
| **Publisher:** | Harmondsworth : Penguin, 1970 |
| **Edition:** | [New and revised ed. reprinted] |
| **Description:** | [1], 270 p. : facsim., port ; 19 cm |
| **ISBN:** | 0140430571 |

**Library holdings**

Please note that all libraries have admission and borrowing policies; inclusion in this list does not imply access.

**1. Continuing Ed - CED Reserve**

| | |
|---|---|
| Shelfmark: *823.8 BUT (copy 4)* | *Available* |
| Shelfmark: *823.8 BUT (copy 5)* | *Available* |
| Shelfmark: *823.8 BUT (copy 6)* | *Available* |

# Universal Search

Pattern matching for ISBNs, Bus Stops and interfaces with our Google Search Appliance.

# WEBLEARN

Based on the Sakai VLE

# Weblearn Tools

Polls (simple survey)

Evaluations (extended survey)

Sign Ups (book events)

# Polls Tool Example

1. Lecturer sets up a 'poll' in Weblearn
2. Lecturer pastes short URL and 2D Barcode in slides
3. Students answer on whatever device they have

http://m.ox.ac.uk/3523

# URL Shortener

Only shortens **valid** links on m.ox.ac.uk and provides an easy to type numeric short code

e.g. http://m.ox.ac.uk/3

or QR code:

*If the page contains secure content, the number is randomised

# Other ideas/work in progress

More Sakai tools

Walking/Cycle Routing

Short Course Bookings

College Meal Bookings

Location based study group organiser

Augmented reality layer

Further social networking integration

Local city event listings

Fully AJAX interface

Official Traffic cameras

Many more!

# Mobile Oxford

## The ‘one stop shop’ for Mobile devices

Side effect: has become a central aggregation point

# Black Box Data Flow Diagram (Simplified)

EDINA®

BBC

Department for Transport

OXONTIME

OXFORDSHIRE COUNTY COUNCIL acis Working communities

**OSS**
Oracle Student System

**Oak**
Directory Service

**OxPoints**
Geo-Spatial Database

**iTunes U**
Oxford iTunes U Integration

WebLearn

**OLIS**
Oxford Library Information Service

Open Street Map

And More...

Lots of Data Sources

mobile βήτα

## Molly as 'Mobile Oxford'

Data Aggregation and Manipulation Layer

Web User Interface

RESTfull API

Other Applications

Native Applications

etc. phones under 100USD

Feature phone UI

Smartphone UI

# What's Molly?

1. A girl, a woman, esp. a lower-class one; (occas.) a prostitute. Cf. MOLL *n*.2 Now chiefly *Irish English*.

*- Oxford English Dictionary*

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1. A girl, a woman, esp. a lower-class one; (occas.) a prostitute. Cf. MOLL *n.*2 Now chiefly *Irish English*.

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Mobile Oxford is now developed entirely in the open as part of the Molly Project

Molly

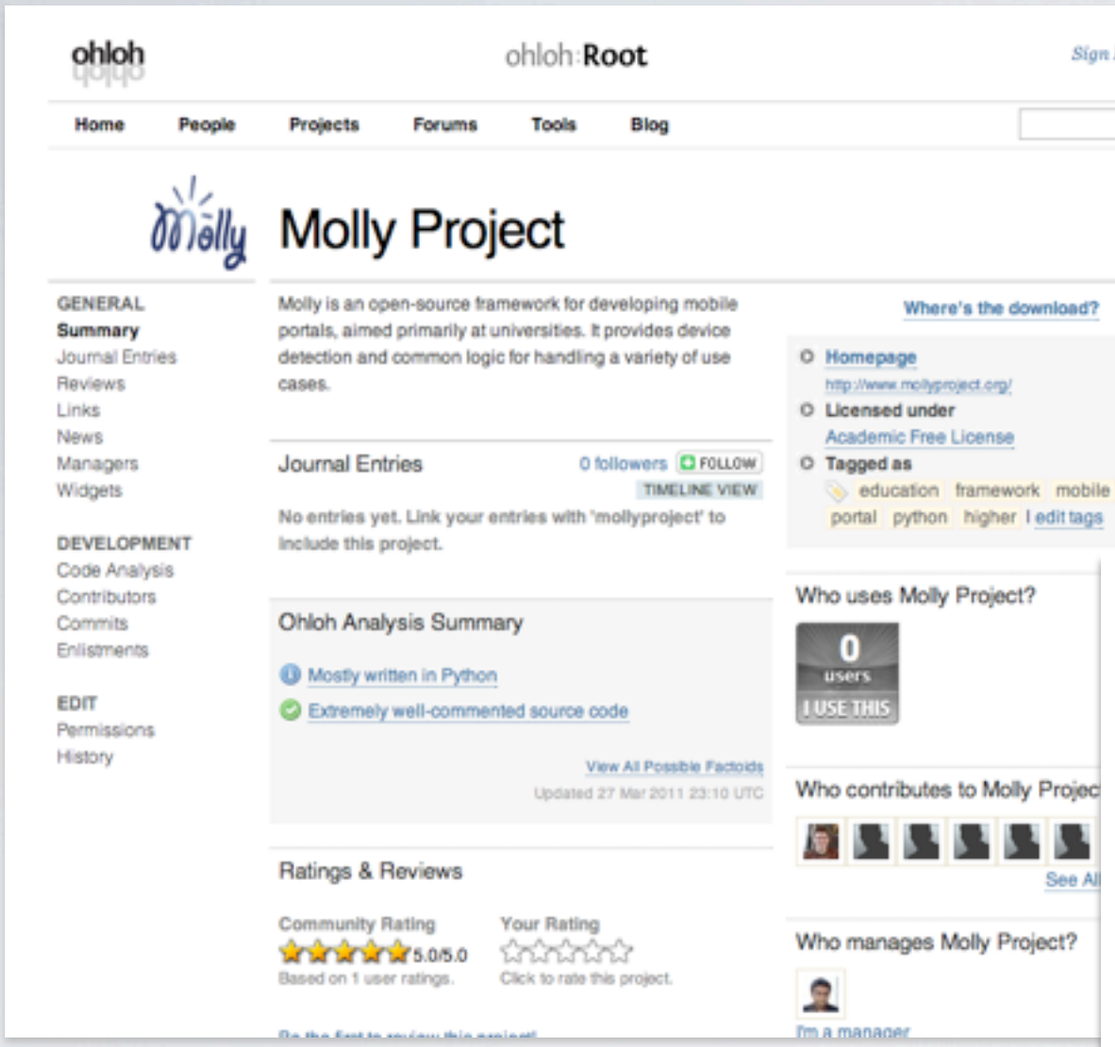
FREE!

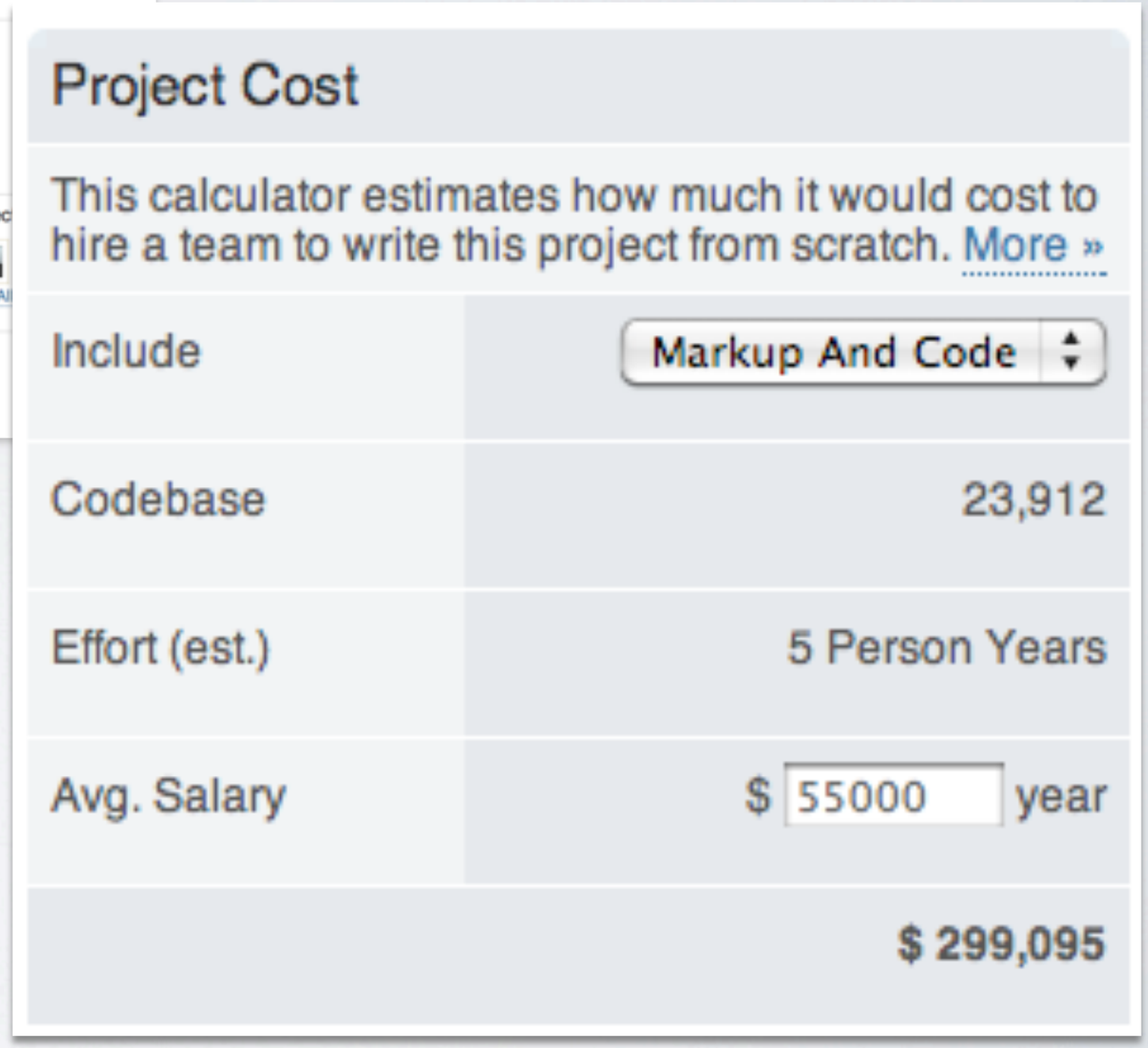
mollyproject.org

Licensed under AFL v3

1.0 Release Candidate now available

Deployment time depends on existing skills set. Those with existing Python/ Django can often customise and test deploy within a day.




check us out on ohloh.net

COCOMO Based (probably rubbish in this case)

The Mobile Oxford team is available for fast bespoke or Molly-related development

Personal GPS Tracking System (for time use research)

Mobile departmental admissions information website

Me:

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@timfernando

| | |
|---|---|
| Mobile Oxford | http://m.ox.ac.uk<br>@mobileox |
| Molly Project | http://mollyproject.org<br>@mollyproject |