



Project erewhon

[er-uh-hwon]
[ɛrə,ˈhwɒn]

Support for mobile devices and geo-spatial services in
Oxford

ICTF Conference
15th July 2009

Tim Fernando

#oxforderewhon #oxp @oxforderewhon

What is Erewhon?

What is Erewhon?

Research Project based at OUCS



Funded by JISC for 18 months



Collaborating with Oxford sister project BRII



Team consists of:

Sebastian Rahtz, Tim Fernando, Janet McKnight, Alex Dutton
Arno Mittelbach, Tim Pizey, Sue Fenley, Adam Marshall

Supporting Mobile Devices



What do we mean by 'support'?

Times have changed. Supporting mobile phones used to involve making sure e-mail worked on them.

To a great extent modern phones can configure themselves so new support issues are quite different.

Example:

Which platforms support MS Exchange?



Windows Mobile



iPhone



Palm



Blackberry



Android(ish)

Symbian(ish)

Emerging needs

Today, we are asked questions like:

“Can I access my lecture timetable on my phone?”

“Can I have text notification of when my exam results are out?”

“Is there a map of libraries I can see on my mobile?”

The Market

Smartphone growth

Smartphone year on year growth in 2008 -
13.9% despite economic downturn

Handsets with a compelling user experience,
namely Blackberry and iPhone showed
massive growth.

'Unlimited data' plans have also made them
more attractive to use.



Source - Gartner Statistics

Predicted Growth

131 million smartphones were sold in 2008, this is set to increase to 300 million in 2013.

1.1 Billion users are expected to be using smartphones in 2013.

Source - 7th July 2009 report by Park Associates

All mobile phones will
become “smart”

Mobile computing has only
been fractionally realised

Platforms

Android



HTC Hero

Includes a heavily improved UI, supports flash and MS Exchange out of the box.

Also brings a new concept to smartphones by linking multiple (social) networks to one contact.

WebOS

Palm Pre

UI centric design with very appealing features. Support for MS Exchange and other push services out of the box.

Shall be launching this winter.





iPhone 3.0

iPhone 3G/3GS, iPod Touch

As with previous iterations, hugely popular devices further pushed by the success of its “App Store”. Perhaps one of the most polished UIs and thus appeals to a wide cross section of users.

Expect to see hardware add-ons, especially in medical faculties.

Blackberry

Blackberry Tour & Bold



The rest

Symbian
Windows Mobile
Proprietary

m.ox.ac.uk

HTML 5

The dawn of new, powerful
mobile web services?

Offline storage of data

SQLite 

Access to hardware of a host
device, e.g. GPS



Lightweight web services

Custom
XML

RSS

Atom

JSON

Access to a selection of services

Ideas:

Contact Search

Library Search

Emergency Contact Numbers

Service Status

Read-Only Calendar

News Feeds

WebLearn

[Announcements](#)

[Search](#)

[Resources](#)

[Schedule](#)

[Tutorial Sign-Up Tool](#)

[Help](#)

Lightweight web
services makes life
easier!

Work in progress!

Erewhon Portal Brainstorm 9th July 2009

Location Aware Noticeboard


with some cols * MEALS *auth* * Nexus - delegation / calendar sharing
* Bus * OUCS status * fire eagle

* MAPS + Directions * Wake-on-LAN


* Parks *Public* * Weather *public* * events *Public* Daily

* Webcam *auth* * location-aware *auth* chat? *public*

* facebook app / integration * date of term on homef *public*

 **Mobile Portal**

Log in using WebAuth for more features



Contact search



OLIS search



Maps



Crisis contacts

Location

We think you are somewhere near
Park End St, Oxford OX1 1, UK
[This is not correct](#) [Determine automatically](#)

Using this site

[Help](#)

[Help](#)

Using this site

[This is not correct](#) [Determine automatically](#)

Lookup
OS Points Loc
Addresses
GPS

first
OS points suggestions

OS points suggestions

** facebook app / integration*
** date of term on homef*

OxPoints

Geo-spatial database for Oxford
currently containing over 1300
places including:

Buildings

Car Parks

Colleges

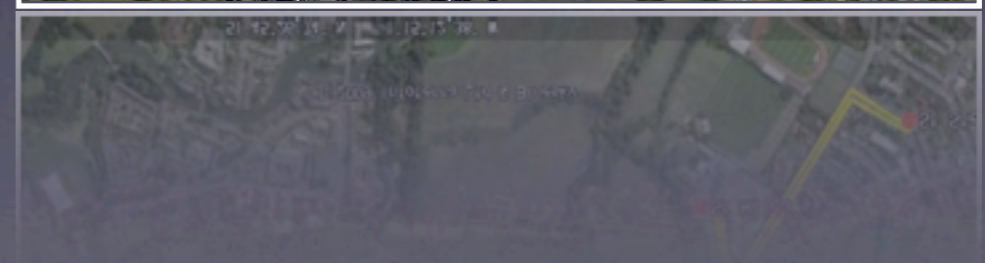
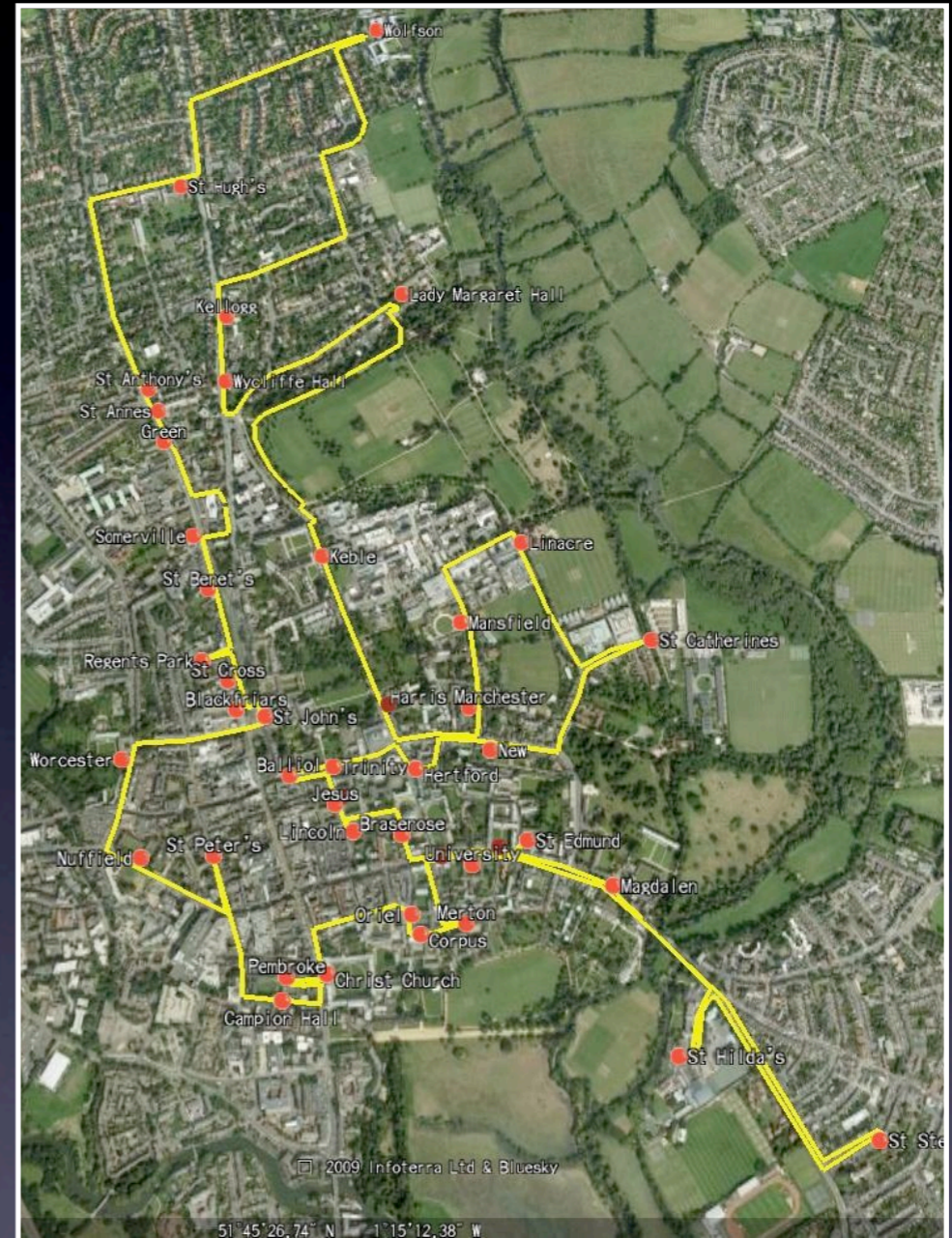
Departments

Libraries

Museums

Points of Interest

Rooms....



Open and Free

The data is available at no cost to anyone on the internet

We are talking with major mapping providers with the hope that they consume some of our data and provide it through other channels. E.g. Sat Nav devices.

System based on the “Gaboto” open source project

A comprehensive RDF store allowing for abstract relationships between entities and uniquely allows storage of temporal data

Self Updating

OxPoints will be open to all students and staff to edit and will consist of a moderated “official” data set and an unmoderated data set

Avoiding ownership problems

If others have a good store of data, we don't want to duplicate and "own" it again

Data owned by third party



- Home
- Introduction
- Parks Rules
- Closing Times
- Curators
- Superintendent
- Contacts

- Tree List A-Z
- Tree Locations
- Genetic Garden

- Historical Guide
- Crop Marks
- Gallery

- Posters
- Spring
 - Summer
 - Autumn
 - Winter

OXFORD UNIVERSITY PARKS

Trees Listed by Location in the University Parks

This list of trees is laid out by location; the letters of the code indicate which part of the Parks the tree is in; each tree bears a label showing the code. To be able to use the list you need also to look at a [map](#) of the Parks. The list is at present incomplete, as younger trees are not listed, but it indicates locations of many of the mature or semi-mature trees. If there are several trees of the same species within one area they will eventually all carry the same code number; this work has not yet been completed.

We are hoping to refine and improve the list to make it more user friendly, an alphabetical list is available [here](#).

- [North Walk](#)
- [West Walk](#)
- [The Leys](#)
- [Thorn Walk](#)
- [South Walk](#)
- [Picked Mead](#)
- [Parsons Pleasure](#)
- [Old Park](#)
- [Pavilion Border](#)
- [Oak Walk](#)
- [Mid Field](#)
- [Lucas Walk](#)
- [Lazenbee's Ground](#)
- [Cox's Corner](#)
- [Coronation Clump](#)
- [Napper's Arable](#)

NORTH WALK

NW1	<i>Alnus rubra</i>	Red alder
NW2	<i>Liquidambar styraciflua</i>	Sweet gum
NW3	<i>Zelkova carpinifolia</i>	Caucasian elm
NW4	<i>Tilia mongolica</i>	Mongolian lime
NW5	<i>Sorbus sp</i>	
NW6	<i>Robinia pseudoacacia</i>	False acacia
NW7	<i>Fraxinus americana</i>	White ash

University Parks



Simple API

Example Query by Type

m.ox.ac.uk/oxpoints/

type/

College
Department
Carpark
Library
Museum

.format

Simple API

Query by Oxford code

m.ox.ac.uk/oxpoints/

hasOUCScode/
hasOLIScode/

hasOUEDcode/
hasOBNcode/

code

.format

Currently unsupported



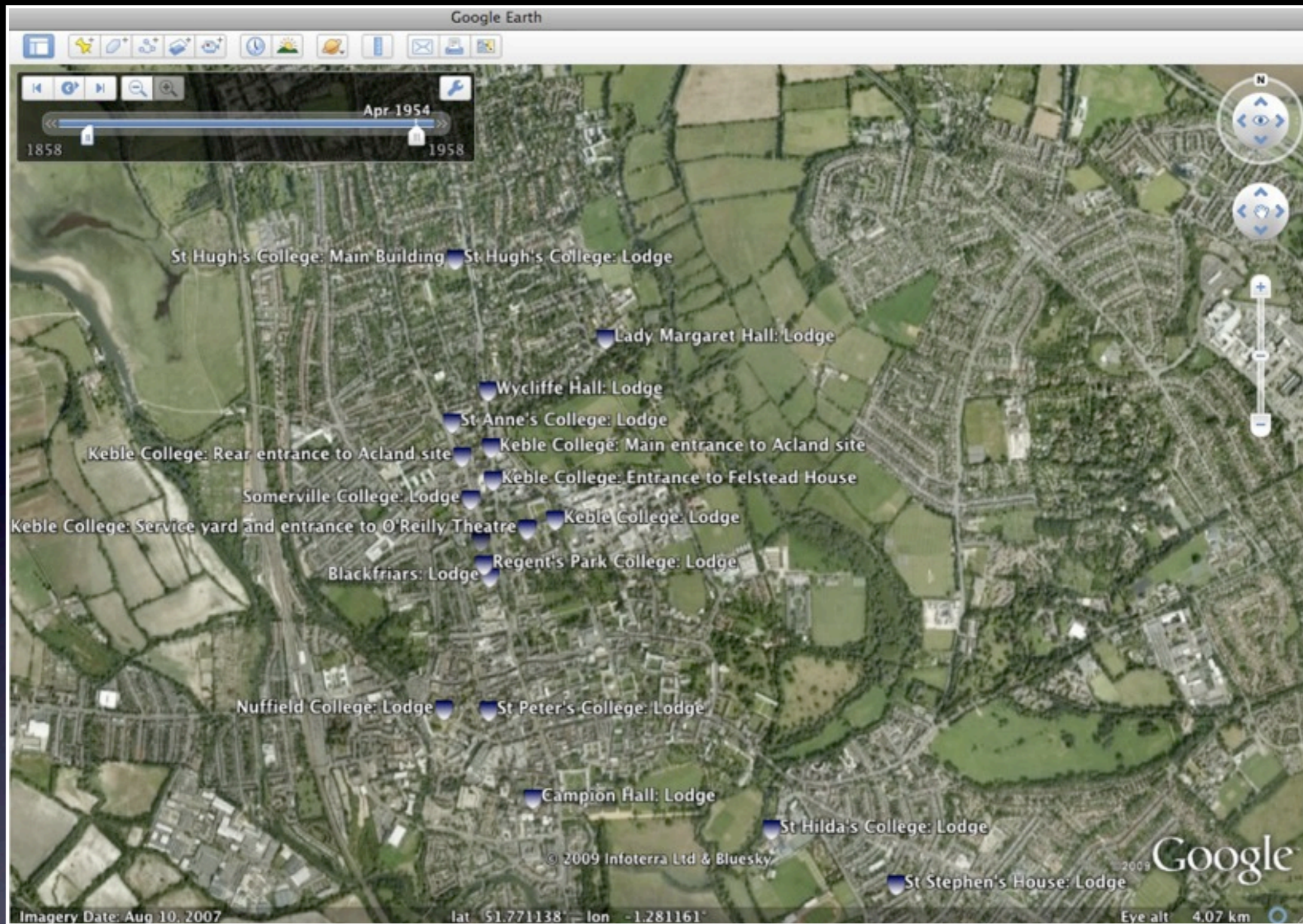
Vast number of output formats for every occasion

[? Character Separated Values \(xcsv\)](#)
[Alan Map500 tracklogs \(.trl\) \(alantrl\)](#)
[Alan Map500 waypoints and routes \(.wpr\) \(alanwpr\)](#)
[All database fields on one tab-separated line \(tabsep\)](#)
[Brauniger IQ Series Barograph Download \(baroiq\)](#)
[Cambridge/Winpilot glider software \(cambridge\)](#)
[CarteSurTable data file \(cst\)](#)
[Cetus for Palm/OS \(cetus\)](#)
[CoastalExplorer XML \(coastexp\)](#)
[Comma separated values \(csv\)](#)
[CompeGPS data files \(.wpt/.trk/.rte\) \(compegps\)](#)
[CoPilot Flight Planner for Palm/OS \(copilot\)](#)
[cotoGPS for Palm/OS \(coto\)](#)
[Custom "Everything" Style \(custom\)](#)
[Data Logger iBlue747 csv \(ibblue747\)](#)
[Dell Axim Navigation System \(.gpb\) file format \(axim_gpb\)](#)
[DeLorme .an1 \(drawing\) file \(an1\)](#)
[DeLorme GPL \(gpl\)](#)
[DeLorme Street Atlas Plus \(saplus\)](#)
[DeLorme Street Atlas Route \(saroute\)](#)
[DeLorme XMap HH Native .WPT \(xmap\)](#)
[DeLorme XMap/SAHH 2006 Native .TXT \(xmap2006\)](#)
[DeLorme XMat HH Street Atlas USA .WPT \(PPC\) \(xmapwpt\)](#)
[Destinator Itineraries \(.dat\) \(destinator_itn\)](#)
[Destinator Points of Interest \(.dat\) \(destinator_poi\)](#)
[Destinator TrackLogs \(.dat\) \(destinator_trl\)](#)
[EasyGPS binary format \(easygps\)](#)
[Embedded Exif-GPS data \(.jpg\) \(exif\)](#)
[FAI/IGC Flight Recorder Data Format \(igc\)](#)
[Franson GPSGate Simulation \(gpssim\)](#)
[Fugawi \(fugawi\)](#)
[G7ToWin data files \(.g7t\) \(g7twin\)](#)
[Garmin 301 Custom position and heartrate \(garmin301\)](#)
[Garmin Logbook XML \(glogbook\)](#)
[Garmin MapSource - gdb \(gdb\)](#)
[Garmin MapSource - mps \(mapsource\)](#)
[Garmin MapSource - txt \(tab delimited\) \(garmin_txt\)](#)
[Garmin PCX5 \(pcx\)](#)
[Garmin POI database \(garmin_poi\)](#)
[Garmin Points of Interest \(.gpi\) \(garmin_gpi\)](#)
[Garmin serial/USB protocol \(garmin\)](#)
[Garmin Training Center \(gtrnctr\)](#)
[Geocaching.com .loc \(geo\)](#)
[GeocachingDB for Palm/OS \(gcdb\)](#)
[Geogrid-Viewer ascii overlay file \(.ovl\) \(ggv_ovl\)](#)
[Geogrid-Viewer tracklogs \(.log\) \(ggv_log\)](#)
[GEOnet Names Server \(GNS\) \(geonet\)](#)
[GeoNiche .pdb \(geoniche\)](#)
[GlobalSat DG-100/BT-335 Download \(dg-100\)](#)

[Google Earth \(Keyhole\) Markup Language \(kml\)](#)
[Google Maps XML \(google\)](#)
[Google Navigator Tracklines \(.trl\) \(gnav_trl\)](#)
[GoPal GPS track log \(.trk\) \(gopal\)](#)
[GpilotS \(gpilots\)](#)
[GPS TrackMaker \(gtm\)](#)
[GP SBabel arc filter file \(arc\)](#)
[GpsDrive Format \(gpsdrive\)](#)
[GpsDrive Format for Tracks \(gpsdrivetrack\)](#)
[GPSman \(gpsman\)](#)
[GPS Pilot Tracker for Palm/OS \(gpspilot\)](#)
[gpsutil \(gpsutil\)](#)
[GPX XML \(gpx\)](#)
[HikeTech \(hiketech\)](#)
[Holux \(gm-100\) .wpo Format \(holux\)](#)
[Holux M-241 \(MTK based\) Binary File Format \(m241-bin\)](#)
[Holux M-241 \(MTK based\) download \(m241\)](#)
[HSA Endeavour Navigator export File \(hsandv\)](#)
[HTML Output \(html\)](#)
[Humminbird tracks \(.ht\) \(humminbird_ht\)](#)
[Humminbird waypoints and routes \(.hwr\) \(humminbird\)](#)
[IGN Rando track files \(ignrando\)](#)
[iGO2008 points of interest \(.upoi\) \(igo2008_poi\)](#)
[IGO8 .trk \(igo8\)](#)
[Jelbert GeoTagger data file \(jtr\)](#)
[Kartex 5 Track File \(ktf2\)](#)
[Kartex 5 Waypoint File \(kwf2\)](#)
[Kompass \(DAV\) Track \(.tk\) \(kompass_tk\)](#)
[Kompass \(DAV\) Waypoints \(.wp\) \(kompass_wp\)](#)
[KuDaTa PsiTrex text \(psitrex\)](#)
[Lowrance USR \(lowranceusr\)](#)
[Magellan Explorist Geocaching \(maggeo\)](#)
[Magellan Mapsend \(mapsend\)](#)
[Magellan NAV Companion for Palm/OS \(magnav\)](#)
[Magellan SD files \(as for eXplorist\) \(magellanx\)](#)
[Magellan SD files \(as for Meridian\) \(magellan\)](#)
[Magellan serial protocol \(magellan\)](#)
[MagicMaps IK3D project file \(.ikt\) \(ik3d\)](#)
[Map&Guide 'TourExchangeFormat' XML \(tef\)](#)
[Map&Guide to Palm/OS exported files \(.pdb\) \(mag_pdb\)](#)
[MapAsia track file \(.tr7\) \(mapasia_tr7\)](#)
[Mapopolis.com Mapconverter CSV \(mapconverter\)](#)
[MapTech Exchange Format \(mxf\)](#)
[Memory-Map Navigator overlay files \(.mmo\) \(mmo\)](#)
[Microsoft AutoRoute 2002 \(pin/route reader\) \(msroute\)](#)
[Microsoft Streets and Trips \(pin/route reader\) \(msroute\)](#)
[Microsoft Streets and Trips 2002-2007 \(s_and_t\)](#)
[Motorrad Routenplaner \(Map&Guide\) .bcr files \(bcr\)](#)
[MS PocketStreets 2002 Pushpin \(psp\)](#)

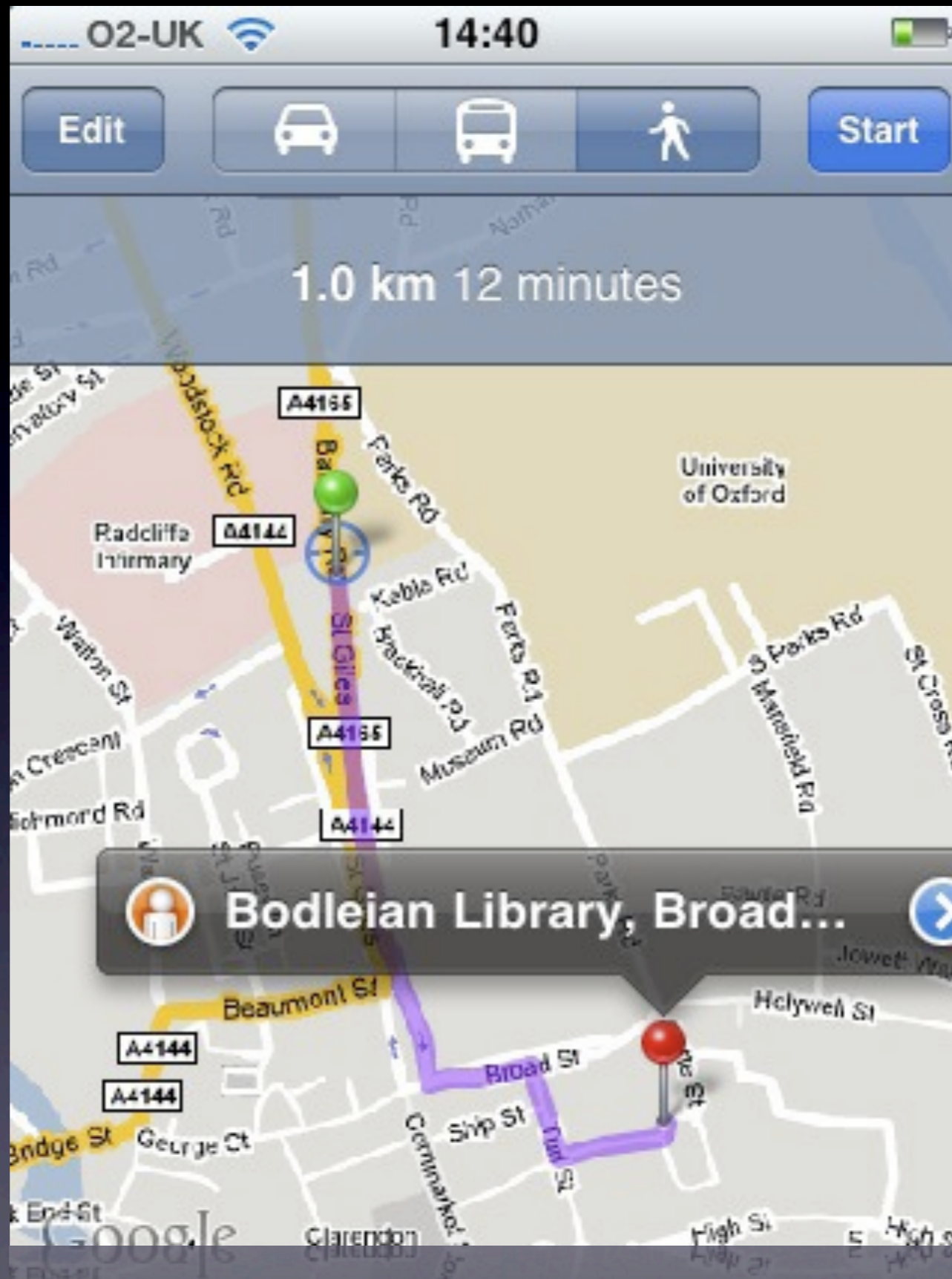
[MTK Logger \(iBlue 747,...\) Binary File Format \(mtk-bin\)](#)
[MTK Logger \(iBlue 747,Qstarz BT-1000,...\) download \(mtk\)](#)
[National Geographic Topo .tpg \(waypoints\) \(tpg\)](#)
[National Geographic Topo 2.x .tpo \(tpo2\)](#)
[National Geographic Topo 3.x/4.x .tpo \(tpo3\)](#)
[Navicache.com XML \(navicache\)](#)
[Navigon Mobile Navigator .rte files \(nmn4\)](#)
[Navigon Waypoints \(navigonwpt\)](#)
[NaviGPS GT-11/BGT-11 Download \(navilink\)](#)
[NaviGPS GT-31/BGT-31 datalogger \(.sbp\) \(sbp\)](#)
[Navitel binary track \(.bin\) \(navitel_trk\)](#)
[Navitrak DNA marker format \(dna\)](#)
[NetStumbler Summary File \(text\) \(netstumbler\)](#)
[NIMA/GNIS Geographic Names File \(nima\)](#)
[NMEA 0183 sentences \(nmea\)](#)
[Nokia Landmark Exchange \(lmx\)](#)
[OpenStreetMap data files \(osm\)](#)
[OziExplorer \(ozi\)](#)
[PalmDoc Output \(palmdoc\)](#)
[PathAway Database for Palm/OS \(pathaway\)](#)
[Quovadis \(quovadis\)](#)
[Raymarine Waypoint File \(.rwf\) \(raymarine\)](#)
[See You flight analysis data \(cup\)](#)
[Skymap / KMD150 ascii files \(skyforce\)](#)
[Sportsim track files \(part of zipped .ssz files\) \(sportsim\)](#)
[Suunto Trek Manager \(STM\) .sdf files \(stmsdf\)](#)
[Suunto Trek Manager \(STM\) WaypointPlus files \(stmwpp\)](#)
[Swiss Map 25/50/100 \(.xol\) \(xol\)](#)
[Tab delimited fields useful for OpenOffice, Ploticus etc. \(openoffice\)](#)
[Textual Output \(text\)](#)
[TomTom Itineraries \(.itn\) \(tomtom_itn\)](#)
[TomTom POI file \(.asc\) \(tomtom_asc\)](#)
[TomTom POI file \(.ov2\) \(tomtom\)](#)
[TopoMapPro Places File \(tmpro\)](#)
[TrackLogs digital mapping \(.trl\) \(dmtlog\)](#)
[U.S. Census Bureau Tiger Mapping Service \(tiger\)](#)
[Universal csv with field structure in first line \(unicsv\)](#)
[Vcard Output \(for iPod\) \(vcard\)](#)
[VidaOne GPS for Pocket PC \(.gpb\) \(vidaone\)](#)
[Vito Navigator II tracks \(vitosmt\)](#)
[Vito SmartMap tracks \(.vtt\) \(vitovtt\)](#)
[WiFiFoFum 2.0 for PocketPC XML \(wfff\)](#)
[Wintec WBT-100/200 Binary File Format \(wbt-bin\)](#)
[Wintec WBT-100/200 GPS Download \(wbt\)](#)
[Wintec WBT-201/G-Rays 2 Binary File Format \(wbt-tk1\)](#)
[Yahoo Geocode API data \(yahoo\)](#)

Use Examples



Map of Colleges in Oxford

Shown in Google Earth - Includes Timeline



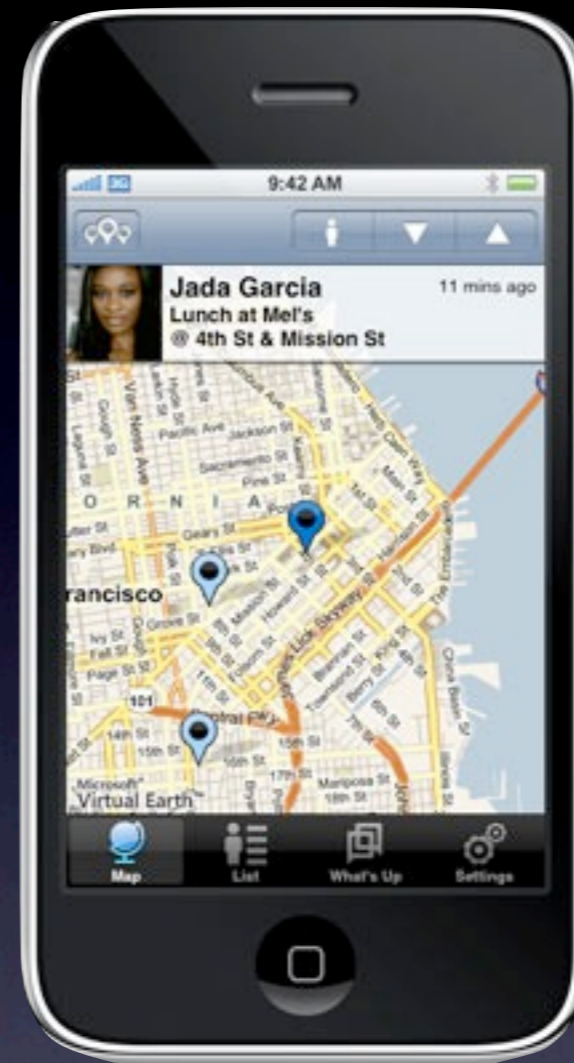
Where we are now and the nearest Library



Oxford University Car Parks

Displayed on TomTom 930T

<http://m.ox.ac.uk/oxpoints/carparcs.tomtom>



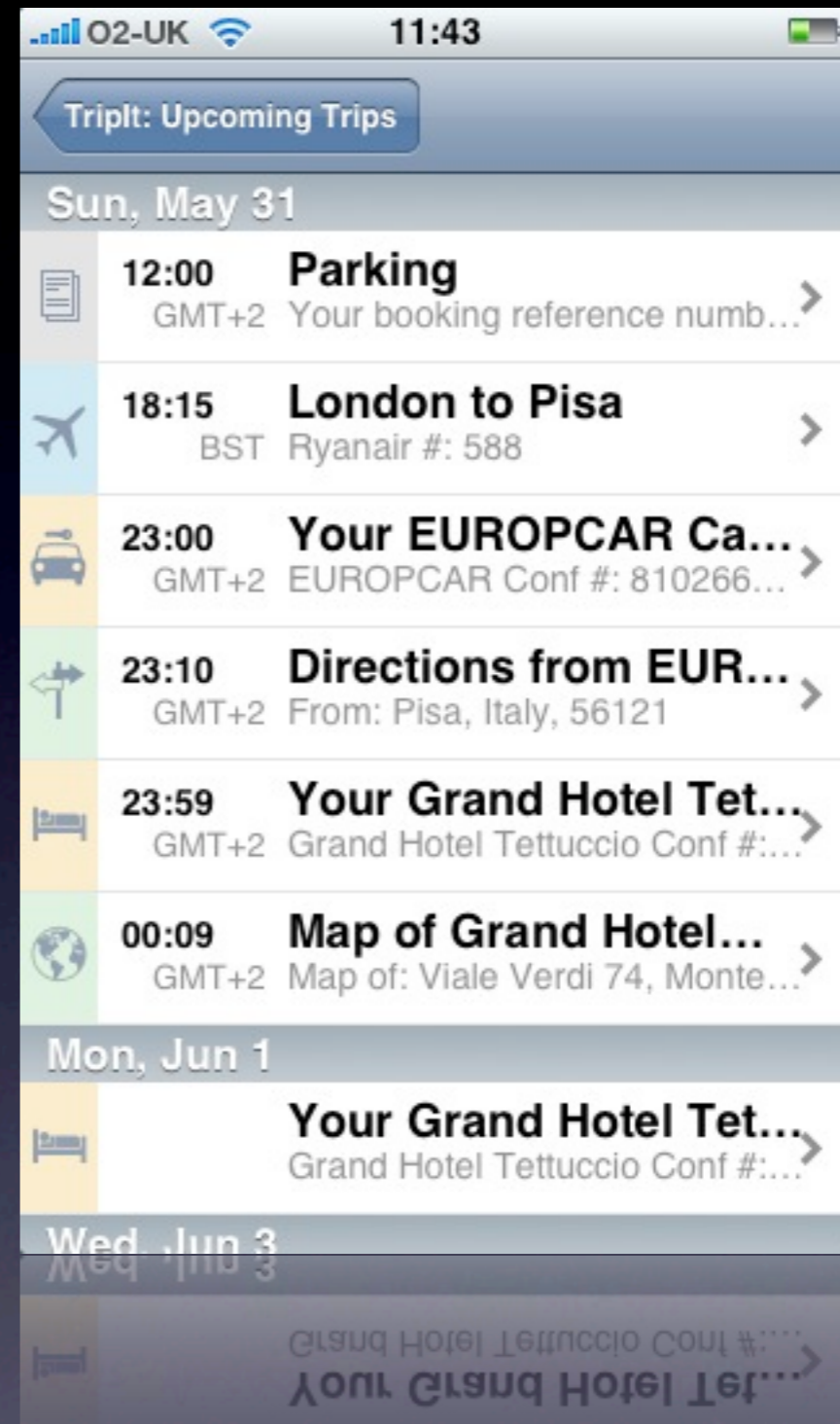
Location Based Social Apps



dopplr.com



tripit.com



Travel Management

What

When to All day

Repeats:

[Check guest and resource availability](#)

Where [map](#)

Calendar

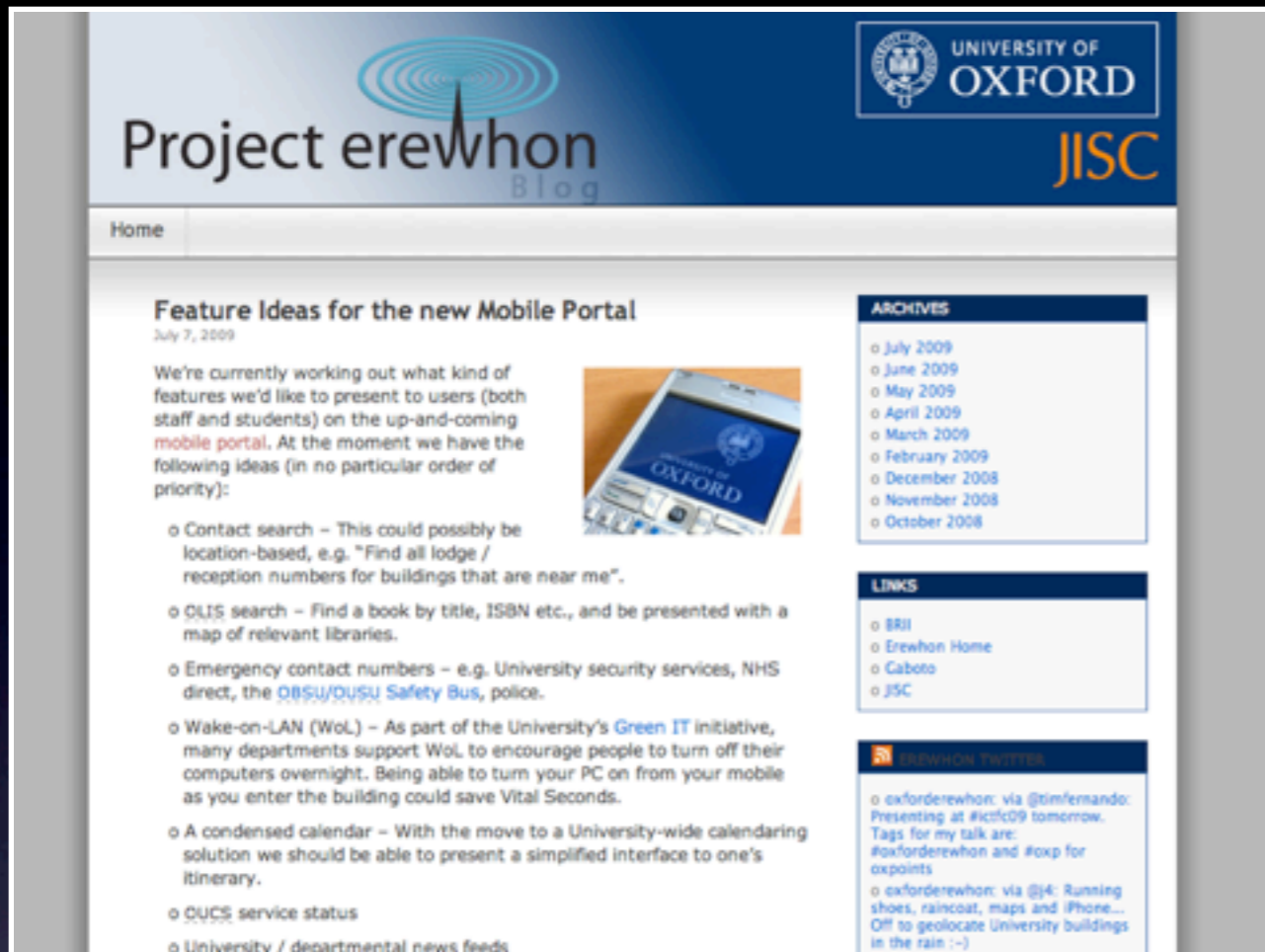
Description

Calendar Integration

Other Applications

- Disability uses
- Augmented Reality
- City Tours via Podcasting
- Estates management
- Campus visualisations e.g. mapping research centres or to show which colleges specialise in certain subjects





Blog

<http://oxforderewhon.wordpress.com>

Twitter

[@oxforderewhon](https://twitter.com/oxforderewhon)

E-Mail

erewhon@oucs.ox.ac.uk

OxPoints

www.oucs.ox.ac.uk/oxpoints/

[#oxp](https://twitter.com/oxpoints)

More Information