mappademia: creating, collecting, and disseminating location-based data for research, teaching, and public engagement

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5th January, 2017

Summary

mappademia is a mobile and online application currently being developed by JISC which provides an easy to use and highly customizable means of collecting location-linked data using a smartphone. Project creators define the types and number of fields of data they wish to collect and then invite selected collaborators, or any user of the app, to gather text, numerical values, categorized responses, photos, videos, or audio in the field or around the city. All data captured is geocoded to the location it was collected and automatically displayed in an interactive map and downloadable and editable for the project creator.

1. Introduction

Anyone who owns a smartphone or a satnav is now so used to using mapping applications as a part of everyday life that the idea of exploring information and data in an interactive geographic format is second nature. In conversation with lecturers, researchers, librarians, and museum staff over the last few years I have encountered a great deal of enthusiasm for map-based resources which can be used to explore a diverse array of subjects, learn more about specific locations, promote digital collections and services, facilitate teaching and learning of both skills and information, and allow us to conduct original research. Unfortunately, most of those enthusiastic conversations about using and creating new location-based resources grind to a halt when faced with three major stumbling blocks. First, that the skills required to create online or mobile mapping applications are not prevalent across the academic and related sectors, particularly amongst existing staff. Second, that the creation of bespoke data, content, websites, and applications requires time, which any lecturer or librarian will tell you they have precious little of as it is. Third, particularly in the absence of existing skills or software, significant expense is required to employ the developers, programmers, and researchers needed to deliver a project, which often requires a time consuming process of project development, application, and management.

mappademia has been devised as a way to quickly, easily, and cheaply facilitate the creation of projects which generate and/or disseminate geographically-linked content, without the need for knowledge of programming or coding. Initially submitted to JISC as part of their 2016 Summer of Student Innovation competition, the project was accepted for initial development funding and I

worked alongside JISC's developers in a week-long Design Sprint in August. Following this, the final concept was pitched to JISC executives and won further development funding. It has been picked up as a JISC product and is currently in development, with a prototype version in full operation (*by the time of the conference we should have an even more well-rounded and refined product*). Hopefully there will be a fully-operational version available to the academic community by the 2017-18 academic year.

2. Collecting Data

Any mappademia user on the mobile or online application can create a new project, which they can name and create a logo and description and instructions for. The project creator has the ability to define the number and type of data fields they would like to collect, for example short text, long text, numerical data, categorised data, photographs, video, or audio.

The project can then be shared with whomever the creator wishes. They may choose to work on the project themselves, invite collaborators, researchers, or students, or may prefer to crowdsource data collection from any individual who has the app on their smartphone.

Each project user sees a data collection form unique to that project, based on the fields defined by the creator, and is able to view the instructions and project description entered by the creator.

Data can then be gathered in the field or around the city, and by using the GPS system found in any smartphone, the data is associated with the geographic location where it is entered. Once the user has a Wi-Fi connection, the data gathered is uploaded to the project database, where all data is viewable, editable, and extractable to the project creator.

3. Disseminating Data

An interactive online map is generated linked to the data which has been uploaded in each project, which can be made publically viewable by the project creator or embedded in another website, allowing exploration of data by other researchers, students, or members of the public via the internet or the mappademia mobile application.

There is also an option using the online application to manually or bulk enter location-linked data, meaning that mappademia can be used to create, curate, and disseminate existing data linked to locations and easily generate interactive online maps with no GIS or web-coding skills for projects which can be shared or embedded into institutional or project webpages, shared through the mappademia application, or used in articles, presentations, blogs, and lectures and lessons.

4. Presentation Plan

My presentation at the GISRUK Conference would involve an introduction similar to that outlined here and then a number of demonstrations of the various facets of the application, using specific examples of current testing groups and potential future user groups.

Currently we are in discussions with a number of user groups at the University of Manchester who we would like to involve in prototype testing, including a Public Health England community pilot study mapping local community assets and the John Rylands Library who would like to use the app to build

interactive maps which encourage the exploration of underused parts of their collections. Examples of potential uses which could be explored include the use of the app to collect fieldwork data on behalf of geography researchers and students or the use by history or architecture lecturers in creating interactive maps or data gathering exercises for their students.

Acknowledgements

Biography

I have recently submitted my PhD on race and class in 1820s New Orleans, based on demographic databases and mapping. I am interested in the potential of digital technology to provide new avenues for academic research and teaching as well as engaging the wider public with research and resources.