
MoCoMapps: Mobile Collaborative Map-based Applications

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Abstract

This video demonstrates an experiment in crowdsourcing both map-based data and also the applications that provide the maps, and also presents scenarios of use.

Author Keywords

Mobile, location-based services, crowdsourcing, map, geowiki, collaboration, participatory urbanism

ACM Classification Keywords

H5.3. Group and Organization interfaces.

General Terms

Design, Experimentation, Human Factors.

Introduction

In this video, we present MoCoMapps (**Mobile Collaborative Map-based Applications**), an experiment in mobile crowdsourcing. The goal of the research project is to provide a mobile service for ordinary users, both to *use* and *create* mobile map-based applications (e.g., for data entry, data look-up, and collaboration). The name and attributes of each application will reflect the goals and needs of its creator. Our intended user group is citizens, business users, government employees, and NGO workers. Thus, we are designing

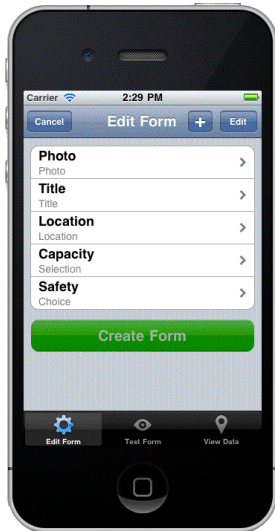


Figure 1. Creating an app in MoCoMapps, using a forms-based approach.

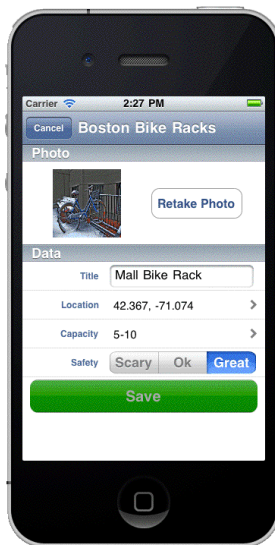


Figure 2. Contributing data to a MoCoMapps app.

to support non-programmers as both end-users and application creators.

Background

Our experiment is informed by earlier location-focused work. Other research projects have supported citizens in reporting bicycle routes/conditions [5], scientific data [6], emergency conditions [2, 4], and urban problems [1, 3]. Each of these services is limited to the features and data fields required to support a distinct purpose and domain, however, and none can be used to create a new type of data field, or a new topic of interaction.

MoCoMapps

What if a user wants to define new data categories, or entirely new map-based services? We designed our MoCoMapps project to enable ordinary people to innovate their own map-based applications, and to share them with others. We also designed a way to combine data from multiple disparate applications in a single display (i.e., mashup-by-checkbox).

In this video, we demonstrate how a layperson can easily create a new structured geo-crowdsourcing application on a mobile device, in a few minutes without programming (Fig. 1), and how other users can then use the application, contribute and consume data (Fig. 2), and mash it up with applications created by other MoCoMapps users.

Usage Scenarios

A city or business can create a MoCoMapps application to support a service, and any citizen can create an application to help other citizens find resources, or to engage with their city government. In the video, we touch upon possible everyday usage scenarios, which

include civic engagement, tourism and entertainment, citizen science, and support for mobile field workers.

Beyond these everyday scenarios, MoCoMapps also has the potential to be used for emergency management. In a crisis, the city could provide maps to shelters, food-distribution points, and medical clinics. Citizens could add their own maps of changing emergency conditions; e.g., they may know about a new fire, flooding, or storm debris before the authorities do. Also, citizens can record immediate needs, such as "chain saw needed to remove downed tree," and MoCoMapps can be used to connect the people who need help with the people who can provide it.

We envision that the wide range of possible applications—easily created and used by ordinary people through a mobile device—will ultimately make cities more vibrant, functional, and livable.

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