
Designing for Curiosity in Citizen Science

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Abstract

In this paper we explain why curiosity is important for citizen science, we propose 3 tips for encouraging curiosity, and we present our current project Open 3D.

Author Keywords

Citizen science; curiosity.

ACM Classification Keywords

H.1.2. User/Machine Systems: Human Factors.

Introduction

Citizen science – the involvement of citizens in scientific research – is increasingly popular due to the widespread availability of the internet and mobile devices. Citizens are able to contribute to research in a variety of different ways [1]. They can donate their spare computer processing power (*volunteer computing*). They can analyse research data, e.g. tagging photos, solving puzzles (*volunteer thinking*). They can also collect research data, e.g. taking photos, recording noise samples (*participatory sensing*). But why do citizens choose to volunteer for these projects? And, given the wide variety of citizen science research topics that are available (e.g. astronomy, biodiversity, climate change, physics, history, etc.), how do citizens choose which project to contribute towards?

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Open 3D - buildings

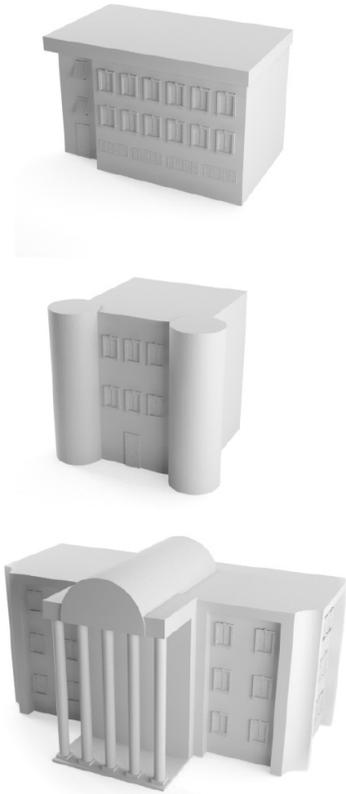


Figure 1: Images of 3D building models that were created using the Open 3D editor.

Curiosity in Citizen Science

Curiosity is commonly viewed as an internally motivated form of information-seeking [3]. In a previous study [2] where we interviewed 28 participants about their motivations for taking part in citizen science projects, we found that *curiosity* was a popular theme. Participants discovered projects through various sources - science articles, news stories, citizen science portals (e.g. Zooniverse, SciStarter). If they thought the research topic sounded interesting they became curious about it, and if they had free time they tried it out. For example, an Old Weather volunteer said "*I thought it would be mildly diverting thing to do. I read about in on the BBC website, clicked on the story, found it interesting, so decided to give it a go.*" Based on these findings, we suggest 3 tips for encouraging curiosity in citizen science:

1. *Publicity* – the more a project is advertised, the more chance of citizens finding out about it.
2. *Utilize citizen science portals* – citizens may initially visit to try out one project, but then other projects catch their attention and they try them out too (e.g. Zooniverse [5]).
3. *Make it easy to get started* – avoid compulsory log-ins (it puts off citizens from trying out the task) and provide citizens with simple tasks and clear instructions (no scientific jargon!)

Curiosity in Open 3D

In the Open 3D project, we aim to engage citizens in contributing towards a high-detailed 3D virtual model of London [4]. One of the challenges is that 3D modelling is a specialized task that requires lots of practice (see Figure 1). To attract the curiosity of citizens, and to make it easier for citizens without technical expertise to

participate, we are currently exploring different ways to break down the project into smaller simpler tasks. For example, we plan to develop a smartphone app where citizens take photos of buildings and these new images are used to improve the 3D model. Also a photo-tagging app where citizens rate the similarity of different buildings and this information can be used to make 3D modelling easier.

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