

One Does Not ‘Simply’ Launch a Citizen Science Project: Reflections on Zooniverse, a Multi-Domain Science Platform

(Authors removed for reviewing)

ABSTRACT

Author Keywords

Citizen science, crowdsourcing, interface design

ACM Classification Keywords

H.5.m. Information Interfaces and Presentation (e.g. HCI): Miscellaneous

INTRODUCTION

Web-based “citizen-science” projects have enabled tens of thousands of untrained human volunteers to contribute to open scientific problems across a variety of domains. The handful of successful projects have demonstrated that, when designed well, citizen science projects can be doubly beneficial; for participants, these systems can serve as valuable educational tools and cognitively-stimulating puzzles, while for researchers, these systems can provide an effective method of examining complex datasets and problem spaces.

A key challenge, however, has been identifying how to design such systems well, to achieve all of these goals combined. For example, to be effective, the systems must appeal to participants with an extremely wide range of expertise, ranging from no knowledge of the field to significant background and interest. Participants naturally feature a diversity of natural competencies, which is manifested in some people being simply much more adept at some tasks than others. Finally, there are a large variety of issues pertaining to keeping individuals motivated, interested, and deriving personal benefit while participating, as well as supporting various degrees of engagement – from the “sunday scientist” to the “scienceoholic”.

In this paper, we provide a detailed case study of a citizen-science platform which offers the unique position of having expanded from one experiment focused on a single domain to more than X distinct projects spanning Y domains, including astronomy, zoology, cell and marine biology, archaeology and paleontology, over its five year evolution. These applications, though separate, have been built on top of a single unified framework collectively known as *Zooniverse*, which has been successively refined and scaled as the variety of tasks and number of participants have increased.

The purpose of this examination of Zooniverse is to both to document the experience gained from launches and iterations of the various applications, comparing these experiences against previously documented in other citizen-science projects. The observations derive from a lateral examination of the

The path from its first experimental app, Galaxy Zoo, to the more than twenty different projects that have launched on the Zooniverse project required generalising the findings from the first project to different kinds of tasks in other scientific domains.

BACKGROUND: BRIEF HISTORY OF ZOONIVERSE

For the CSCW readers, outline the history of the development of the system including a detailed description

OBSERVATIONS THROUGH ITERATIONS

I was thinking put key design observations here relating to how to cross-domain citizen science

D MYTHS OF DESIGNING FOR CITIZEN-SCIENCE

I was thinking put key design observations here

Myth X: Putting new users through a “tutorial” is a good idea

Myth Y: Gameification keeps people motivated

Myth Z: Participants become domain experts

RELATED WORK

Connect related work here with FoldIt, etc

DISCUSSION

CONCLUSION

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