

How Crowdsourcing Works:

A Literature Review on People's Motivations and Types of Platforms

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December 2nd 2020

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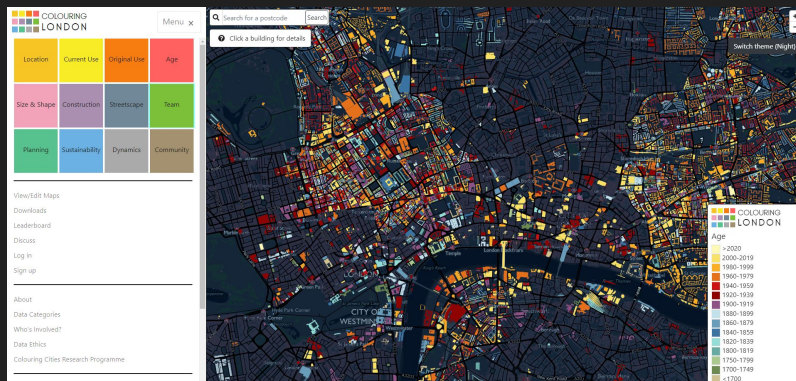
Discussion Topics

1. Discuss whether I am understanding the direct of the project clearly
2. Whether I need to decide the direction of the Literature review soon or allocate more time to read and understand the topic itself
3. Whether it is likely to to decide our Online mapping tool (e.g. deck.gl)?

What I thought Crowdsourcing was

My Prior Knowledge about Crowdsourcing

- Colouring London
- Missing Maps Cambridge/London



Findings From my First Browsing Experience

Crowdsourcing in general are grouped as:

Spatial

- OSM
- Others

Aspatial

- Wikipedia
- Social Media

Lots of definitions of spatial crowdsourcing confused me a bit though

- CGI
- VGI
- GeoWeb
- Neogeography
- Citizen Science

Definition

What is "Crowdsourcing"?

- Definition(s)
 - “A business practice where an activity is outsourced to the crowd”
 - “A participative online platform where individuals, groups, and non-profit organisations can voluntarily contribute to the aim of such a project”
- Why do crowdsourcing
 - To get new ideas for such a small cost in such a short time
 - Innovation
- How new ideas are gathered
 - Active: Participants directly upload data by themselves
 - Passive: Gathering data from Social Media

"Crowdsourcing" in the Geographic Aspect

- Crowdsourced Geographic Information (CGI)
 - Refers to the contributions from the user-generated content that is georeferenced
- Voluntary Geographic Information (VGI)
 - A similar concept which is more widely used
- What is the difference from the general term "Crowdsourcing"?
 - Contains tags with Location information
 - Photos with georeference
 - Latitude Longitude

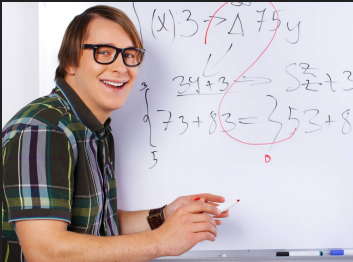
Motivations

Great Ideas come from good motivations

- Financial Reward: Prizes for the best portfolio, ideas, or paper competitions
- Development of individual skills
- Self-esteem, social recognition
- Gamification
- ...or just doing because my friend does it

Motivations can be grouped as

Intrinsic



- Love problem solving

Extrinsic



- Better career prospects

Learning



- Interesting in learning new things

(pro)Social



- Love to help others (prosocial)
- Enjoying the activity with others

Crowdsourcing is not always good



Most crowdsourcing initiatives end up with an overwhelming amount of useless ideas.

Oguz Acar (2019) City, University of London

- People tend to focus on ideas that are already familiar to them
- Compared to Social motivations, Intrinsic / Extrinsic motivations gave more contribution
- Managers therefore have to set explicitly explain the aims and tasks so that the participants and themselves do not end up in difficulty

Research Rationale

Some Existing Literature

Open Access | Published: 26 April 2018

Harnessing the creative potential of consumers: money, participation, and creativity in idea crowdsourcing

[Oguz Ali Acar](#) 

[Marketing Letters](#) 29, 177–188(2018) | [Cite this article](#)

Handling quality in crowdsourced geographic information

Laura Criscuolo*, Paola Carrara*, Gloria Bordogna*, Monica Pepe*, Francesco Zucca†, Roberto Seppi†, Alessandro Oggioni* and Anna Rampini*

Article

Crowdsourcing, Citizen Science or Volunteered Geographic Information? The Current State of Crowdsourced Geographic Information

Linda See^{1,*}, Peter Mooney², Giles Foody³, Lucy Bastin⁴, Alexis Comber⁵, Jacinto Estima⁶, Steffen Fritz¹, Norman Kerle⁷, Bin Jiang⁸, Mari Laakso⁹, Hai-Ying Liu¹⁰, Grega Milčinski¹¹, Matej Nikšić¹², Marco Painho⁶, Andrea Pödör¹³, Ana-Maria Olteanu-Raimond¹⁴ and Martin Rutzinger¹⁵

Motivation mechanism of gamification in crowdsourcing projects

Motivation
mechanism

Zhiyuan Zeng, Jian Tang and Tianmei Wang
School of Information, Central University of Finance and Economics,
Beijing, China

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Received 22 November 2016
Revised 21 December 2016
12 January 2017
Accepted 17 January 2017


Exploring the use of crowdsourced geographic information in defence: challenges and opportunities

Nikolaos Papapiesios¹ · Claire Ellul¹  · Amanda Shakir² · Glen Hart²

Received: 7 November 2017 / Accepted: 8 November 2018 / Published online: 17 December 2018
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What the Existing Literature is telling us

- Concepts
- Motivations
- What was the best motivation after all
- Suggest ways to encourage participants



The writing is heavily focusing on the terminology and features of Crowdsourcing in general, while missing the diversity of participants, introducing the cases one-by-one

Why do we need another review then?

1. To clarify similar notions mentioned in the literature
2. Too many papers that review the basic concepts without targeting a topic
3. Better understand different motivations of participants by demographic groups
4. The need to understand the state-of-the-art platforms
5. Need a deeper understanding about User Experience by demographic groups



Seek ways to encourage **active** participants to
get involved in our research

Objective of this Review

- Review various cases and platforms (whether academic or non-academic)
- Review different motivations by types of crowdsourcing
- Review with a focus on platforms that mentioned demographic groups
- Suggest a proof-of-concept Crowdsourcing framework

Next Step

Proposed Direction 1

Navigation Focused Review

Navigation Experiences
by demographic groups



Current Crowdsourcing
platforms for different
navigation purposes



Opportunities and
Challenges

- Concept Introduction
- Review current crowdsourcing platforms that provide demographic information
- Write pros and cons

Proposed Direction 2

Platform Review

Crowdsourcing platforms
for navigation services



Introducing Tools and
Platforms

- Methodological Review
- Introducing Tools and Platforms
 - Amazon Mechanical Turk
 - Website of their own
 - Apps
 - Surveys

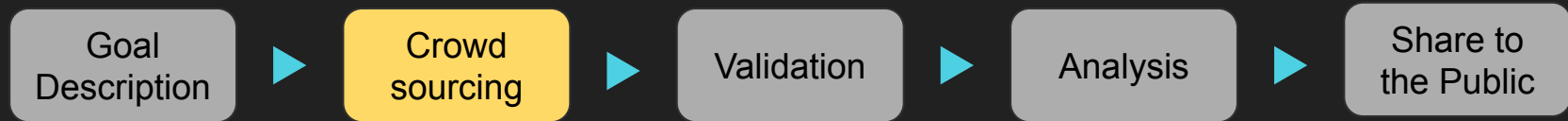


amazon mechanical turk™
Artificial Artificial Intelligence

I am currently documenting my slides into a more formal style writing, but I can introduce some cases if the discussion ends early

Cases

Where does Crowdsourcing take place



- Successful Crowdsourcing will happen only when all the stages are firmly constructed
- Types of Crowdsourcing
 - Project-based
 - Competition-based

Project based

1. COVID Sound



Upload short recordings of cough and breathing and report symptoms to help researchers from the University of Cambridge detect if a person is suffering from COVID-19. Healthy and *non-healthy* participants welcome.

- The aim of this research is to collect data to inform the diagnosis of COVID-19 by developing machine learning algorithms, based primarily on **sounds of their voice, their breathing and coughing**.

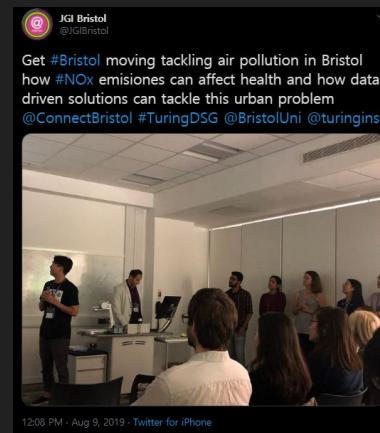
Project based

2. Waze



- Users actively report on live events happening on the road
- Users passively relay information about driving speed and traffic conditions whenever they have the app open in the background
- A network of 500,000 volunteers who constantly edit the maps used in the app

3. Turing DSG



- Competition to secure a position
- Work on a real-world task
- Gain knowledge for yourself but most importantly learn how to work collaboratively

Project based

4. mySoil



- Provides basic information on soil across Europe
- Habitat, soil texture, organic content, temperature, depth and pH
- Users can upload and share their own observations and photographs of soil - Converted to Smartphone optimised screen

5. WOW-UK

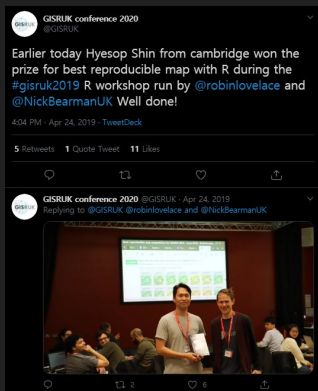


Kirk et al. (Oct, 2020) Weather Observations Website, Weather (Journal)

- WOW is also being used to combine crowdsourced data with observations from the Met Office's official network of automatic surface stations, the Meteorological Monitoring System (MMS).
- Meaningful for better understanding of urban climate (urban heat islands) and the occurrence of extreme meteorological events.

Competition based

1. Hackathons



2. LEGO



- LEGO provides the consumer a platform to share their creative ideas.
- Lego picks the best idea and provides compensation once product releases.
- By keeping the consumer engaged, the brand continues to keep its loyal customer base and continues to keep the products fresh and entertaining

Joy of Learning (Intrinsic)

1. Mapillary



- Mapillary is a service for sharing crowdsourced geotagged photos and videos
- Now acquired by Facebook

2. Colouring London



3. Missing Maps



4. Gamification

