# ICTs & cultural heritage institutions: Benefits for citizens

Gillian Oliver, Victoria University of Wellington, New Zealand

- Benefits and successes
- A cautionary tale
- Learnings

### Outline

- Sharing of information
- Broader community/public education
- Social capital
- Inclusivity citizens included in decisionmaking/development of new knowledge
- Responsiveness to governmental aims
  (adapted from Conrad and Hilchey, 2011, p. 282)

#### Benefits

- Plenty of them!
  - Creation of a 'human computational network' to scan satellite images to locate the lost tomb of Genghis Khan <a href="http://natgeotv.com/uk/lost-tomb-of-genghis-khan/videos/citizen-scientists">http://natgeotv.com/uk/lost-tomb-of-genghis-khan/videos/citizen-scientists</a>
  - What's the score at the Bodleian <a href="http://www.whats-the-score.org">http://www.whats-the-score.org</a> asks for volunteers to help describe their digitised sheet music collection

# Impressive success stories

- Susceptibility to sabotage e.g. "of the 200 balloon sightings received by the MIT team in DARPA's Network Challenge, just 30 to 40 were accurate. Some of the fake reports were utterly convincing, including expertly photoshopped photos" <a href="https://medium.com/backchannel/how-a-lone-hacker-shredded-the-myth-of-crowdsourcing-d9d0534f1731">https://medium.com/backchannel/how-a-lone-hacker-shredded-the-myth-of-crowdsourcing-d9d0534f1731</a>
- in crowdsourcing competitions malicious behavior is the norm, not the anomaly (Naroditskiy et al, 2013) <a href="http://arxiv.org/abs/1304.3548">http://arxiv.org/abs/1304.3548</a>
- Malicious behaviour in subsequent DARPA challenge lone hacker, but crowd unable to self correct (Stefanovitch et al, 2014)<a href="http://link.springer.com/article/10.1140/epjds/s13688-014-0013-1/fulltext.html">http://link.springer.com/article/10.1140/epjds/s13688-014-0013-1/fulltext.html</a>

### **A Cautionary Tale**

- Success stories reported, hear little or nothing about problems
- Anecdotal evidence only.

# Cultural heritage sector experiences

- "A few interviewees were interested to upload data in a quick, user-friendly, transparent way, but only where the volunteers were acknowledged and could see their contributions" (Johanson et al. 2013)
- Concerns that contributions are anonymous, no feedback or acknowledgement provided (Ellis and Waterton, 2004; Lawrence and Turnhout, 2005)

#### **Barriers to participation**

# WHAT CAN WE LEARN FROM THIS?

- Although we may think, and report in terms of "the crowd" (the bigger the better?)
- The crowd is made up of individuals, likely to have different motivators

# Remember we are dealing with individuals

- Potential variety of motivations of participants
- Motivations may change over time
- Motivational types:
  - Egoism (goal is to increase own welfare)
  - Altruism (increase welfare of others)
  - Collectivism (increase welfare of own group)
  - Principalism (upholding e.g. justice, equality) (Rotman et al., 2012)

#### Motivations

- Clarify institutional/project objectives
- Be aware of potential for mismatch with motivations of participants
- Monitor for signs of disjuncture

### **Objectives**

- Guidelines, protocols developed for working with volunteers
- Participatory research protocols, ethics, guidelines
- Community informatics discipline emphasis on partnership

# Draw on the experiences of others

- Remember the individual
- Approach from a partnership perspective treat participants with respect
- Be aware of possible unwanted consequences of incentives/competition
- Be prepared to exchange experiences of what hasn't worked
- Be alert for the unexpected

#### Conclusion

- Conrad, Cathy C., and Krista G. Hilchey. "A review of citizen science and community-based environmental monitoring: issues and opportunities." *Environmental monitoring and assessment* 176.1-4 (2011): 273-291.
- Ellis, R., & Waterton, C. (2004). Environmental citizenship in the making: the participation of volunteer naturalists in UK biological recording and biodiversity policy. *Science and public policy*, *31*(2), 95-105.
- Johanson, G., Williamson, K., & Kennan, M. A. (2013, October). Multiple communities: botanical data from citizen scientists for digital repositories. In *CIRN Prato Community Informatics Conference*.
- Lawrence, A., & Turnhout, E. (2005, August). Personal meaning in the public space: the bureaucratization of biodiversity data in the UK and the Netherlands. In *annual conference of the Royal Geographical Society*.
- Stefanovitch, N., Alshamsi, A., Cebrian, M., & Rahwan, I. (2014). Error and attack tolerance of collective problem solving: The DARPA Shredder Challenge. *EPJ Data Science*, 3(1), 1-27.
- Naroditskiy, V., Jennings, N. R., Van Hentenryck, P., & Cebrian, M. (2013). Crowdsourcing dilemma. *arXiv preprint arXiv:1304.3548*.
- Rotman, D., Preece, J., Hammock, J., Procita, K., Hansen, D., Parr, C., ... & Jacobs, D. (2012, February). Dynamic changes in motivation in collaborative citizen-science projects. In *Proceedings of the ACM 2012 conference on Computer Supported Cooperative Work* (pp. 217-226). ACM.

#### References

### QUESTIONS, COMMENTS?

Gillian.oliver@vuw.ac.nz