Toilet-Finder: Community co-creation of health related information

Ian Barnes,
Moray College, University of the
Highlands and Islands
Moray Street
Elgin
+44 1343 576 314

ian.barnes@moray.uhi.ac.uk

Elizabeth Brooks
University of the Highlands and Islands
Ness Walk
Inverness
+44 1343 576 400

elizabeth.brooks@uhi.ac.uk

Prof Grant Cumming
National Health Service
Dr Gray's Hospital
Elgin
+44 1343567459

grant.cumming@nhs.net

ABSTRACT
In this paper we will report on research ongoing research which is aimed at examining a community engagement with an application designed to give that community to store, comment on and search for publically available toilets.

Keywords
Health Web Science, Community Health, Toilet.

1. INTRODUCTION
As a recent House of Lords report states: Lavatory humour is rife in British culture, but the provision of public toilets is no laughing matter: public toilets matter to everybody regardless of their age, class, ethnic origin, gender, mental ability or physical ability. They are even more important to certain sections of our society, including older people, disabled people, women, families with young children and tourists [1].

Pressure on resources during the last 20 years has led to many public toilets being either closed, for example, 40% of those in London, or introducing entry charges that reduce accessibility. At the same time an increasingly mobile population has made public toilets even more necessary [2]. An unfortunate consequence of this is that it will keep many women and men on a 'bladder leash', resulting in shrinking social involvement and increased isolation. Parents with young children also find their activities being influenced by the availability or lack of availability of baby changing areas.

ToiletFinder (http://toiletfinder.org/) is a web application that allows users to share, rate and locate publicly available toilets. It is available from web browser or smart phone. The first version of ToiletFinder was developed as an undergraduate project and it is now a commercial product from OpenFinder, a company which was set up by the students after they had graduated. The launch of ToiletFinder in February 2011 was supported by the local health board, council and college.

This research forms a part of a wider research project studying the engagement of a community and individuals with health and medical information on the web. Provision of information such as the location of public toilets is moving from a centralised authority based model to a more collaborative and patient-driven model. This directly parallels the shift from Web 1.0 to Web 2.0.

The Morayshire area in Scotland is characterised by having a relatively contained population and strong links between secondary health care professionals and academics at the University of the Highlands and Islands. It thus forms an ideal test bed for new developments in health care.

2. THE APPLICATION LAUNCH
The first iteration of the application was developed and prototyped in the spring of 2010 and the findings from this were presented as a poster at Medicine 2.0 [3]. The local council, Moray College and the National Health Service became involved in the launch of the application which then took place in February of 2011.

Posters, leaflets and stickers were produced to promote the application. These were distributed through the local health centres and in the Out Patient department at Dr Gray's Hospital. The local newspaper, the *Northern Scot*, also promoted the application and a public launch was held at the College.

3. RATIONALE
This research seeks to measure community involvement in ToiletFinder and attempt to answer the question of how a community can be engaged with a health related web application. If this application proves successful it is planned that it will be followed by similar applications for other health-related information such as areas where breast feeding is catered for. The demographic target group for this would be very different to that for the Toilet Finder, which will provide an interesting insight into acceptance and use of such services across the community.

4. BACKGROUND
There are various other similar efforts underway. One of the oldest and best developed is the Australian National Public Toilet Map (http://www.toiletmap.gov.au/). This is a government initiative which is functionality rich, has thousands of registered toilets and has mobile friendly versions. This service does not incorporate the Web 2.0 aspect where ordinary users can add, edit and rate the toilets listed on the site. Instead, the site is maintained by paid professionals.

Find a Toilet (http://www.findatoilet.co.uk/) claims to be the UK's largest database of public toilets, but searching on Elgin and Inverness show zero results. It lacks a map interface.

Need a Loo (http://www.needaloo.org/) concentrates on toilets with disability access. The site is fairly basic, but lists 27 toilets in the Moray region. It doesn't have a map search, but if you select a toilet it links to http://streetmap.co.uk/.

French developers BeTomorrow (http://www.betomorrow.com/) have created a free iPhone and Android application also called ToiletFinder. They work on a user contribution model and claim to have over 60,000 toilets around the world in their database.

SitOrSquat (http://www.sitorsquat.com/) is similar. The counter on their site says that they have over 105,000 toilets. They have iPhone and Blackberry apps, plus an SMS service. The service appears to be sponsored by Proctor and Gamble.

5. RESULTS

Table 1 shows data from the server logs for the Toilet Finder web site.

Table 1. Traffic on the toiletfinder.org web site

Month	Unique Visitors	Visits
February	132	214
March	304	3855
April	239	8545

The ToiletFinder application has 10 toilets in Elgin and 8 in surrounding environs, reflecting the geographic spread of population in the area. This was the area which received the promotional materials. 6 of the toilets in Elgin have ratings. The comments which have been noted are from 3 individuals who have rated more than one toilet.

Activity on social networks was also tracked using Viral Heat however traffic was mainly new or existing international sites such as www.toiletmap.co.uk. One comment was received from Twitter in Italy about toiletfinder.org. The comments appear to be from computing enthusiasts who have found apps. This is reflected in them being described as 'cool' and 'great' for example rather than useful. The target community does not appear to be talking about the site on social networks.

6. ANALYSIS AND DIRECTIONS FOR FURTHER RESEARCH

This is only a first preliminary report on the progress of the Toilet Finder project. We hope to have more results to present at the conference, and anticipate further work in future.

However the figures shown in Tables 1 and 2, and the numbers of toilets appearing on the site are far from impressive. It appears that the Toilet Finder has failed — so far — to capture the interest

and trust of its target audience. This leads us to ask several questions about the community engagement in with this

application:

- Is there a problem with the implementation of the site or with its design? We aim to investigate this by carrying out usability testing on the site, following the guidelines set out by Jakob Nielsen [5].

- Was the advertising and publicity for the site adequate appropriate?

- Is a web and mobile application like Toilet Finder simply unsuitable for our target demographic group? Perhaps a group of predominantly older women don't trust such information sources or don't use the web regularly?

- Is there perhaps a threshold effect, where people won't trust or participate in a community-based project like this until it reaches a certain size?

- Are people in general, or people in the target demographic, fixed in a role as passive consumers of information on the web, or of information about health, and thus reluctant or unable to cross the Web 1.0 to Web 2.0 barrier and become active contributors?

- Are people confused and having trouble finding the site or ending up on one of the other toilet finder sites?

We will try to address these last five questions by carrying out two surveys: one of people in the street in Elgin, the main town of the Moray region, and another restricted to patients with incontinence problems at Dr Gray's Hospital.

7. CONCLUSION

In the film *Field of Dreams* Kevin Costner's character builds a baseball park on his farm after being told "build it and they will come". We built the Toilet Finder and they didn't come. Just having a cool technological solution to a problem isn't enough. We need to engage with our target population and build something that they want, will trust and be willing to use and contribute to.

8. ACKNOWLEDGMENTS

9. REFERENCES

[1] House of Commons, 2007-8.*The Provision of Public Toilets*, Twelfth Report of Session, London, The Stationary Office Ltd.

[2] Stanwell-Smith, R. R. (2010). Public toilets down the drain? Why privies are a public health concern. *Public Health (Elsevier)*, 124(11), 613-616. doi:10.1016/j.puhe.2010.07.002

[3] Cumming, G. Nedkov, S. Mcconachie, M. Brooks, E. Beattie, P. (2010) *ToiletFinder - Utilising the Wisdom of the Crowd* Medicine2.0 Congress Maastricht, NL

[4] Cumming, G. Currie, H. Moncur (2011)*The effects of urinary incontinence and availability of publically accessible toilets: an online survey* Menopause International 2011;17:14-15

[5] Nielsen, J. and Loranger, H. 2006. *Prioritizing Web Usability.* Thousand Oaks, CA: New Riders