
The Gauntlet: The Design of a Community Challenge Platform

Daniel Hawkins

Simon Fraser University
102 – 13450 102nd Avenue
Surrey, BC, Canada
drhawkin@sfu.ca

Clarissa Ishak

Simon Fraser University
102 – 13450 102nd Avenue
Surrey, BC, Canada
cishak@sfu.ca

MaoYang Li

University of Electronic Science
and Technology of China
Chengdu, China
limaoyan91@gmail.com

Jason Procyk

Simon Fraser University
102 – 13450 102nd Avenue
Surrey, BC, Canada
jep4@sfu.ca

Carman Neustaedter

Simon Fraser University
102 – 13450 102nd Avenue
Surrey, BC, Canada
carman@sfu.ca

Serena Hillman

Simon Fraser University
102 – 13450 102nd Avenue
Surrey, BC, Canada
shillman@sfu.ca

Abstract

Many people in present culture have a desire to improve themselves in some way, be it increased physical fitness, healthy eating, better sustainable practices, etc. Yet it can often be difficult to follow through with self-improvement goals. To address this, we designed the Gauntlet, a platform for creating and sharing user-generated challenges that can be carried out in real-world settings. We describe the participatory design activity we used to inform our design followed by the final design of the Gauntlet user interface. We also propose how this platform can be used to support personal goal and community improvement.

Author Keywords

Challenges, community, groupware, locative-media

Introduction

Many people in present culture are interested in various forms of self-improvement [2,3]. This often involves increasing one's physical fitness or eating healthier. It also sometimes involves improving one's surrounding community or environment, e.g., volunteering to help the homeless, living in a more environmentally sustainable way. While there are technologies and applications to support some aspects of self-improvement, such as physical fitness or diet, we do not see any designs focused on more general self-improvement acts. Moreover, most self-improvement systems focus on the user setting goals for him or

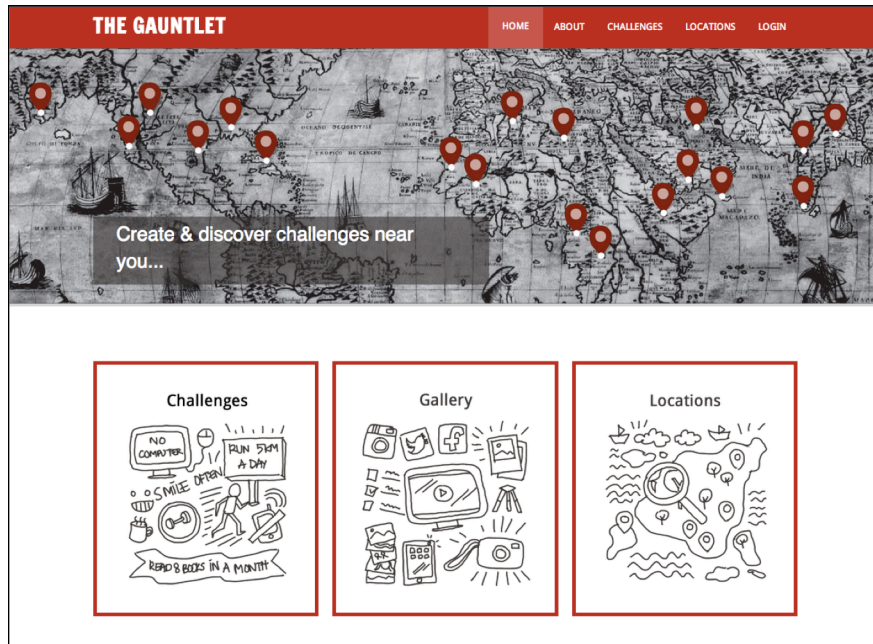


Figure 1. The Gauntlet Home Page: <http://clab.iat.sfu.ca/gauntlet>

herself. In contrast, the goal of our research was to explore the design space of a flexible tool for self-improvement and community challenges where the focus is on challenging *others*, rather than oneself. We also wanted the act of creating challenges and completing them to create better linkages between players and their community.

We designed a community challenge platform called the Gauntlet where players participate in activities and challenges in their community. These challenges are user-generated and span various themes, with an

underlying focus on self and community improvement, while making real-world settings more interesting. To design the Gauntlet, we conducted a participatory design activity with 12 users. We present this along with our final interface design based on user feedback.

Related Work

The Gauntlet is most similar to pervasive games that allow people to participate in game activities in the everyday physical world (e.g., [1]) or transform settings usually not associated as being “fun” into more exciting environments [4]. It is also heavily related to the outdoor scavenger hunt of Geocaching where players use mobile technology (GPS) to hide and locate hidden treasures (or “caches”) [7]. Like the Gauntlet, Geocaching began as a simple Internet challenge in 2000 when an individual hid a geocache in the woods and challenged others to find it [7]. Geocaching is of particular interest to design work, as the game content is completely user-generated.

The presence of an online community in Geocaching produces two, almost opposing, effects: *Social Pressure* and *Belonging*, which both may explain its success. The presence of an online community can cause social pressure for players who have hidden (created) caches to properly maintain them [7]. O’Hara also reported players feeling accountable and morally obligated when they had decided to “help” move hidden travel bugs (specially-tagged geocache items that move from cache to cache) along to other destinations. Creators of the caches have also noted a sense of game reputation (online) – there is a pressure for them to create “good” or challenging caches [6, 7]. While these may sound like negative effects, they may help progress the game.

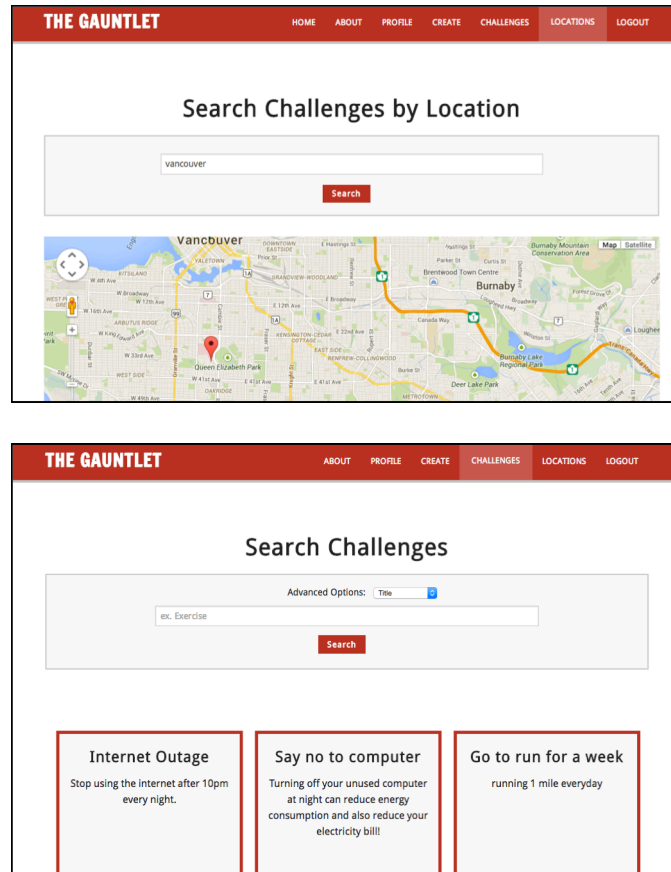


Figure 2. Finding Challenges by Location or Keywords.

To design the Gauntlet, we first conducted a participatory design activity. In the activity, we recruited 12 participants who were asked to create and design their own challenges. Each submitted details about what type of challenge they would create and

who they would challenge with it. Overall, we saw that participants created a range of challenges yet there was a clear focus on challenges that involved interacting with strangers and local environment, particularly with a positive aspect. For example, having a “meaningful interaction with a stranger on a bus”. Participants also commented that if there was a ‘challenge system’ created, they would want it to include completion dates and a reward system, as well as more room for creativity.

Following this activity, we used an autobiographical design approach to design the actual system [5]. This involved designing the Gauntlet based around the challenges and suggestions found in the design activity. We also iterated on the design’s interface based on our own experiences using it.

Final Interface Design

The Gauntlet contains three main pages, accessible in any web browser: Home, Challenge Description, and User Profile.

Home Page

The Gauntlet home page (Figure 1) allows users to view challenges, see a gallery of media posted by users relating to the challenges they have completed, and also look at challenges that have been tagged for particular locations.

Finding Challenges

Users can search for challenges by exploring a map that shows where challenges originate (Figure 2, top). This allows people to choose challenges that might be specific to their present location or an area they frequent. This also allows them to see what types of

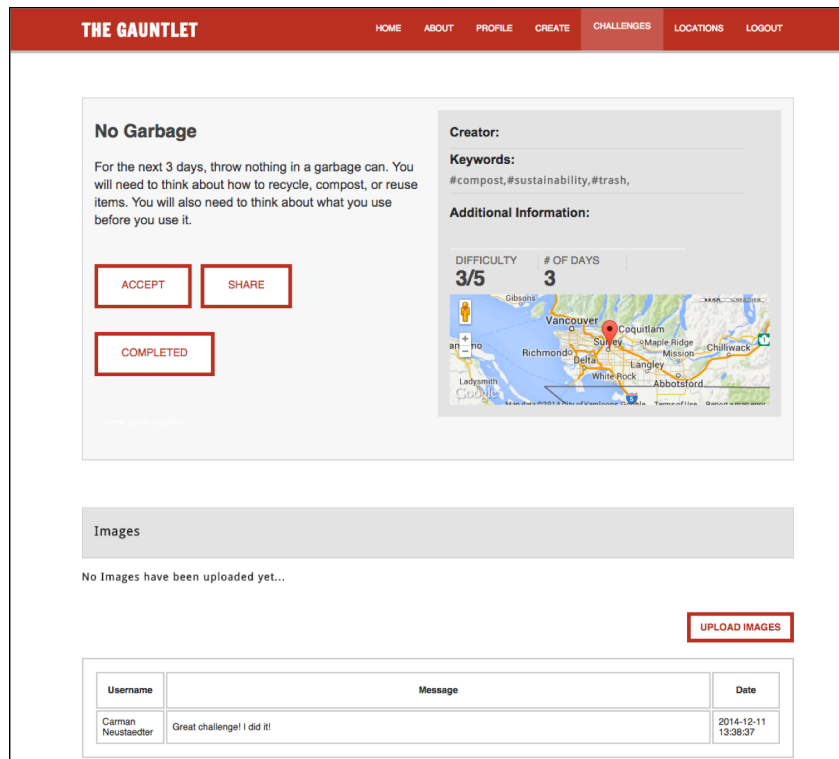


Figure 3. Challenge Description

challenges those people around them are creating and posting.

The second way to find challenges is by performing a keyword search on the challenge's title, description, or author name (Figure 2, bottom). This allows people to find challenges that relate to topics of interest. For example, a user who is interested in a more sustainable

life style could search for words like 'energy', 'consumption,' or 'sustainability.' When users click on a challenge, the Challenge Description page loads.

In addition, each challenge contains a hyperlinked hash-tag label (e.g. #exercise) to categorize the type of challenge. Each challenge also contains three different action buttons: *Share*, *Accept*, and *Save*. The Share button allows users to share the challenge on other social media platforms (e.g., Facebook, Twitter, etc.); users can 'challenge' other players with this feature.

Challenge Description Page

The Challenge Description page (Figure 3) contains details about a specific challenge. This includes the challenge's name and a description (Figure 3, top left). Users can view who created the challenge and visit their profile page. Users can also view a *Difficulty Rating* for the challenge, on a five-point scale voted on by other users (Figure 3, top right). The creator of the challenge can also propose *where* the challenge occurs. For example, the challenge could be specific to a location, such as a park or city, yet it may also not require a specific location (i.e. anywhere, set as the default option).

The creator also decides *when* the challenge must be completed by. The completion date time was inspired by participant feedback in the design activity and also from the idea that a due date would put more of an onus on the user to complete the challenge. In addition, the inclusion of a due date means that users will be completing the challenges during the same time frame. This might create further motivation to complete a challenge.

Create Challenge

Title
e.g. Stairways to Health

Description
e.g. For the next week, take only the stairs when you have the opportunity. Avoid all escalators and elevators.


Difficulty
1 (Easy)

Duration (how many days)

Additional Information (optional)
Include any other important information...

Labels (optional) Please separate tags by comma.
e.g., #office, #school

Pin a Location (optional)



Map | Satellite

Terms of Use

Create Challenge

Figure 4. Challenge Creation

Clicking the *Share* button allows one to post the details of a challenge along with a URL pointing to it on Facebook. This allows users to challenge other people within their family and friend network.

Once users have completed a challenge, they can click the *Completed* button. While there is no way to supervise if someone has *actually* completed a challenge, the focus of the Gauntlet is on users challenging others based on intrinsically motivating factors, and not on how many challenge users can complete. Thus, users are left to an 'honor' system and social etiquette when completing challenges. At the same time, users are encouraged to share media of their experience while completing the challenge (which, for some, can serve as a proof of completion).

Lastly, each challenge page includes a forum board where other users can comment on a particular challenge. Here users can give feedback to the creator and other users who are considering doing the challenge, such as how difficult the challenge was, what they thought of the challenge, and post questions to other users. Users can communicate and coordinate completing challenges together, or collaborate on creating something unique to the challenge (either from different locations across the world, or together in the same location).

Use Profile Page

Social connection between players is further facilitated through personal user profile pages. On this page, users can view each other's *Completed*, *Accepted*, *Created*, and *Saved* challenges. Users can also view and catalogue media documents that they have uploaded for each specific challenge.

Creating Challenges for Others

Creating challenges for others is at the core of the Gauntlet. This is done by filling out a web form with the details for each challenge (Figure 4). There are no restrictions placed on what types of challenges users can create. Our goal was to allow the Gauntlet to be a flexible platform that could support a variety of user-generated challenges and initiatives.

Usage Scenario

The following describes a usage scenario between two friends, Eric and Lisa.

Eric is interested in connecting more with his local community. He visits the Gauntlet homepage and browses different challenges to find one that meets his interests. Using keyword searches of "community" and "interaction," he finds the challenge "Stranger Hi" created by Lisa that asks: "For the next 7 days, have one meaningful interaction with a stranger each day (e.g. discover more about them through questions, such as their name). Record what you learned."

Eric clicks on the Challenge Description page, and reads more details about the challenge, including what other users had to say about the challenge on the forum.

Eric completes the “Stranger Hi” challenge after seven days, and shares his experience (on the Challenge Page) through documentation and his reflection, and then presses the Completed Challenge button, which is then added to his list of completed challenges.

Eric then visits Lisa’s Profile page to see what other challenges she has created and completed in the past, and discovers that she is interested in being more healthy and eco-friendly. Eric is then inspired to create a challenge “EscaLATER” which ask users to “Stop using escalators for the next 2 weeks”. Eric then challenges Lisa directly (i.e. “Throw Down The Gauntlet”) to attempt to complete EscaLATER. Lisa accepts the challenge and records her experience.

Conclusion and Discussion

The system design presented in this paper creates a platform in which users generate and accept challenges in real-world environments. We also hope the Gauntlet will be fun and interesting for users to explore as they complete challenges and test their abilities. Lastly, we believe that challenges created and completed by users can help individuals to feel more connected to and engaged with their community.

In future work, we plan to explore how players make use of the Gauntlet for self-improvement. We also plan to study how the Gauntlet could be used to facilitate positive change in local and global communities, including mass collaborative initiatives (e.g. Flash Mobs).

References

[1] Benford, S., Magerkurth, C. and Ljungstrand, P., Bridging the physical and digital in pervasive gaming. *Communications of the ACM*, 48, 3 (2005), 54-57.

[2] Li, I., Dey, A. K., and Forlizzi, J., Understanding My Data, Myself: Supporting Self-Reflection with Ubicomp Technologies, *Proc. Ubicomp*, Springer (2011).

[3] Lin, J., Mamykina, L., Lindtner, S., Delajoux, G., and Strub, H. Fish’n’Steps: encouraging physical activity with an interactive computer game, *Proc. Ubicomp*, Springer (2006).

[4] Linehan, C., Kirman, B., Lawson, S. and Doughty, M., Blowtooth: pervasive gaming in unique and challenging environments. *Proceedings of the 28th of the international conference extended abstracts on Human factors in Computing Systems*. ACM, 2010, 2695-2704.

[5] Neustaedter, C. and Sengers, P., Autobiographical design: what you can learn from designing for yourself. *Interactions*, 19, 6 (2012), 28-33.

[6] Neustaedter, C., Tang, A., and Judge, T. The Role of Community and Groupware in Geocache Creation and Maintenance, *Proc. CHI*, ACM Press (2010).

[7] O'Hara, K., Understanding geocaching practices and motivations. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. ACM, 2008, 1177-1186.