



The Health and Environmental Monitoring System: Improving User Engagement Through the Use of Gaming Elements

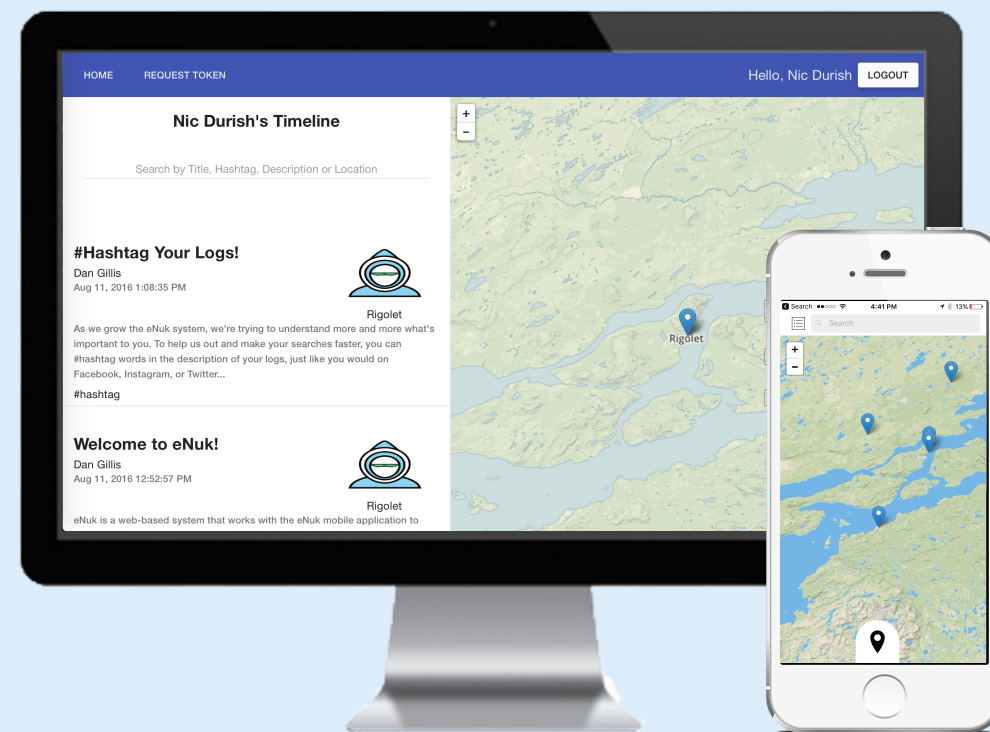
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The eNuk Application

The eNuk mobile and web application allows users to track and analyze changes in weather, climate, environment, wildlife, and plants, as well as the resulting cultural, physical and mental health impacts.

- Decision-makers and members of communities in Northern Canada are calling for the development of tools to help collect and share data relating to climate change and resulting impacts.
- eNuk is a community-led project being designed in partnership with the Rigolet Inuit Community Government, the Nunatsiavut Department of Health and Social Development, and a team of Inuit and non-Inuit researchers, with a focus on participatory design methods.



Engagement & Gamification

The long-term success of eNuk is reliant on its ability to remain relevant and engaging to community members, or as community-members might say, not just "another program, it has to be part of our community".



- The use of game elements in a non-game context has been an increasingly popular method for increasing user interest, engagement, and participation (Deterding, 2011).
- Adding some interactivity to a set of stairs in the form of a piano in Stockholm, Sweden increased its usage by 66% over a week's time (Volkswagen, 2009).
- To leverage the power of gamification, we must use the appropriate methods and elements for a given problem or context.



Mastery

Some users are interested in self-competition, gaining achievements and overcoming challenges. They are generally looking to feel accomplished by completing difficult challenges, appropriate for their skill.

Open-houses and focus groups within Rigolet have been identifying badges and trophies that reflect local skills and knowledge.



Community

Some users are interested in interacting and relating to others. They are often in search of social connection, competition or status.

Through a partnership with RightMesh,TM eNuk hopes to introduce the first accessible wireless communication to Rigolet community members.



Autonomy

Many people want freedom and not to feel stifled or confined by a system. These users are often looking for a means of innovation or creativity and seek the ability to control or customize their playing or learning styles.

Each feature offered within eNuk has been designed with this in mind, we hope to offer variety and total freedom throughout the application.

Development & Future Work

- Focus groups, on-going community discussions, design workshops, and in-depth interviews have been successfully developing sets of engagement pieces that utilize the three core gamification elements.
- We have been exploring concepts such as badging within a community passport, or branching skill trees outlining local skills and knowledge.
- Our team is continuing to refine the engagement and design of eNuk with community members before we begin implementing and testing the strategies within the application.

References

Deterding, S., Sicart, M., Nacke, L., Ohara, K., & Dixon, D. (2011). Gamification: using game-design elements in non-gaming contexts. Proceedings of the 2011 annual conference extended abstracts on Human factors in computing systems - CHI EA 11. doi:10.1145/1979742.1979575
Volkswagen Group Sverige AB 2009, Sodertalje, accessed 21 January 2013 <<http://www.thefuntheory.com/piano-staircase>>