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# Let's Gamify Open Government Data Portals! The GamOGD prototype

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## ABSTRACT

Government policies focused on Open Government Data (OGD) often aim to stimulate the provision of public, interoperable data towards any user, including lay citizens, through online portals. However, these OGD portals are primarily developed for expert users. This hinders the realization of transparency, empowerment, and equality of access. This system demonstration paper presents GamOGD, an OGD portal prototype tailored to lay citizens that implements fifteen gamification design propositions.

## CCS CONCEPTS

• **Requirement Analysis**; • **e-Government**; • **User Studies**; • **Additional Keywords and Phrases: Open Government Data, Gamification, Citizens, Portals**;

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## 1 CONTEXT: OPEN GOVERNMENT DATA AND GAMIFICATION

Open Government Data (OGD) policies often aim to stimulate the provision of public, interoperable data towards all potential users: lay citizens, developers, researchers, public agents, and other stakeholders. Governments publish this data through OGD portals. A distinction can be made between expert re-users, i.e., having technical expertise and domain knowledge, and lay citizens re-users, i.e., not having this expertise or knowledge. OGD portals are mostly developed for expert users [1]. Indeed, Janssen et al. [2][2] consider that the entry barriers of portals are too high for lay citizens.

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In this paper, we suggest investigating gamification mechanisms as a promising way forward to make OGD portals more usable for lay citizens. Gamification refers to “*a design approach of enhancing services and systems with affordances for experiences similar to those created by games*” (Koivisto & Hamari, 2019, p. 193). By using engaging elements found in games, gamification can increase users’ motivation to perform some tasks by making them more fun and improving the user experience [4]. Due to the lack of engagement of lay citizens with OGD, our objective is to apply gamification to the tasks entailed by OGD use (in particular, the interaction with the OGD portal) to make the process more enjoyable and thus improve their user experience.

## 2 SYSTEM DEMONSTRATION: THE GAMOGD PROTOTYPE

The GamOGD prototype implements eight gamification mechanisms from (Koivisto & Hamari, 2019): Quiz (G1), Badges (G2), Voting (G3), Notifications (G4), Competition (G5), Collaboration (G6), Rewards (G7), and Storytelling (G8). The portal is composed of a welcome page, an exploration page referring to several dataset pages and to the search engine, a quiz page, a scoreboard, a notification tab, and a profile page, all accessible from the navigation bar (Figure 1).

## 3 RELEVANCE FOR RESEARCHERS AND PRACTITIONERS AT DG.O

The GamOGD portal is directly relevant for practitioners (i.e., portal developers, public servants, political representatives). Through the design propositions integrated into GamOGD, we show that gamification can effectively highlighting the relevance of the portal and introduce proactive feedback mechanisms. Practitioners can use these findings, our gamification design propositions, and our open-source solution, as a basis to improve their own portal to make it more attractive to lay citizens. Researchers can use this system to examine in-depth the relationship between gamification and OGD portals and test alternative implementations of gamified OGD portals. The demonstration will consist in the presentation of:



Figure 1: Navigation bar of GamOGD

A traditional OGD portal (the OGD portal of Namur<sup>1</sup>) to illustrate the problems related to the use of traditional OGD portals for lay citizens.

The GamOGD prototype, to highlight how the gamification mechanisms can help tailoring portals to lay citizens. Specifically, we will show how the eight gamification mechanisms can help tackle key requirements for lay citizens regarding OGD portals.

The evaluation results of GamOGD in terms of ease of use and usefulness. Indeed, we evaluated in-depth the GamOGD prototype with ten lay citizens and identified that, amongst other findings, badges were useful to highlight portal relevance. The full evaluation results can be accessed in [5]

## REFERENCES

- [1] R. P. Lourenço, “An analysis of open government portals: A perspective of transparency for accountability,” *Gov. Inf. Q.*, vol. 32, no. 3, pp. 323–332, 2015, doi: 10.1016/j.giq.2015.05.006.
- [2] M. Janssen, Y. Charalabidis, and A. Zuiderwijk, “Benefits, Adoption Barriers and Myths of Open Data and Open Government,” *Inf. Syst. Manag.*, vol. 29, no. 4, pp. 258–268, 2012, doi: 10.1080/10580530.2012.716740.
- [3] J. Koivisto and J. Hamari, “The rise of motivational information systems: A review of gamification research,” *Int. J. Inf. Manage.*, vol. 45, pp. 191–210, 2019, doi: 10.1016/j.ijinfomgt.2018.10.013.
- [4] L. E. Nacke and S. Deterding, “The maturing of gamification research,” *Computers in Human Behavior*, pp. 450–454, 2017, doi: 10.1016/j.chb.2016.11.062.
- [5] A. Simonofski, A. Zuiderwijk, A. Clarinval, and W. Hammedi, “Tailoring open government data portals for lay citizens: A gamification theory approach,” *Int. J. Inf. Manage.*, vol. 65, no. March, p. 102511, 2022, doi: 10.1016/j.ijinfomgt.2022.102511.

<sup>1</sup><https://data.namur.be/pages/accueil/>