CTRLCALLER: Gamification applied to a daily app, for the user's self-knowledge

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ABSTRACT

"CtrlCaller" is a mobile app for making phone-calls, keeping text notes, and logging self-assessments. It is designed following gamification strategies.

This document first presents one motive for why gamification makes sense in the current competitive "market of attention". Next, it introduces the "CtrlCaller" system, followed by a discussion of "gamification strategies" and how the app implements some. The approach here described can help in the design of similar information systems.

Keywords: gamification, market of attention, app creation, Nano Controlled Networks

1   CONTEXT, MOTIVE

Time is blatantly different from all other resources, therefore special and difficult to manage. You can buy, sell and borrow money; you can buy, sell and borrow work, but in absolute terms, you cannot do the same with time. This has nurtured much reasoning, some highlighted by the success of knowledge intensive organizations that have been able to deliver information-based products and services, less vulnerable to diminishing returns. The awareness that we long live in a "market of attention" is only natural: what is disputed by different info-products/services, is their ability to grab the consumer's attention. After all "a wealth of information creates a poverty of attention" (Simon, 1971).

Others resources will enable access to info-subscriptions/purchases, but only the attention invested in its own dedicated time will determine if the supply meets its intended demand, or not.

The "market of attention" is a fertile ground for infomediary solutions that create value by acting as attention filters, reducing vast search spaces to user-manageable portions.

Sometimes the supply side quantity and quality reaches such a state that it makes it hard to differentiate offerings using static criteria, requiring dealing with more subjective and volatile aspects: the same user, for the same info-necessity, can one time pick one solution and, in the next opportunity, opt for a different one. Reasons can vary from device formats, to the low cost-of-opportunity in trying an alternative.

Mobile apps markets are good examples of the above context. The supply side is abundant and a fragmented range of factors influence users' choices: some users prefer to run the software on tablets, others will find it better on phones; some apps will read better on a bright environment, others will read better on a dark room, etc. In general, apps that offer broader personalization opportunities and convey a greater sense of control/agency, stand a better chance of retaining the user's attention, because of the sense of control they might convey (Baronas & Louis, 1988).

Here is assumed that by persuading the users to engage in "fun" activities, it will be easier to grab and sustain their attention. Gamification strategies are tools for such persuasion (Kappen & Orji, 2017; Vries, Oinas-Kukkonen, Siemons, Jong, & Gemert-Pijnen, 2017).

2   GOALS AND HOW TO

"CtrlCaller" is being created in order to test and measure the effectiveness of some gamification strategies. Since one of the functions of the app is making phone-calls - a task for which all phones already have their own native solution - in case the software does become the preferred tool for the job, it will be possible to gather insights on why was that so, by interviewing the corresponding users in a beta test group. In either outcome (preferred app or not) the study can help in the creation of information systems wanting to have an advantage by considering gamification principles.

Since the app features other functionalities, the test group will assess the effectiveness of each gamification strategy, per feature.

One dimension of user engagement is feedback, comparison and competition. Feedback from who? Comparison and competition with who? The here envisioned scenario is with friends, family members, or a small number of peers. This social aspect is partially external to the app, supported via a "Nano Controlled Network" (NCN), a very small-scale private social network under strict control of the app's user: he controls who is in the network, which data is shared, and for how long. For evaluation purposes, this ephemeral, private and closed NCN is just a feature of the "CtrlCaller" system: a tool that assists the app.

3   CTRLCALLER DETAILS

"CtrlCaller" is a work-in-progress project to deliver a mobile app for making phone-calls, recording text notes and logging self-assessments, for the user's self-knowledge. There is also an external "Nano Controlled Network" (NCN) enabling some private interactions with others, namely getting feedback from them, and supporting comparison and competition activities.

Text notes are small written text sequences, with an optional picture.

Self-assessments for self-knowledge are pairs key/value inputted by the user. The keys, the values and the scales used in the measurements are all definable, but the app provides some defaults. Using this logging system, the user can record and track whatever he decides: for example, he can log having "70 kg of body weight on moment X" or being "very pleased with person P on moment Y", or anything else for which he can think of a descriptor and a way of measuring, namely a rating scale or a data type (e.g. "integer").

The idea behind this logging component is to create a motivation for the daily usage of the app. All the system's components, including making phone-calls, incorporate at least some elements of gamification.

3.1   Gamification in phone-calling

"Gamification" is the application of strategies, usually seen in games, to other contexts where they can contribute to user engagement and retention, by means of more entertaining activities and workflows.

While creating information systems for doing tasks for which already exist other solutions, one should ask what could work as an incentive and what could refrain the user from engaging. It was considered that creating configurable solutions for contextualizing and recording mundane data, including private data, can promote regular logging and elevate the data itself to a more interesting level, for the user. On the other hand, lock-in phenomena, where the data is locked to a specific software or device, is hard to export or import, or is even questionable to keep stored in external systems because of privacy concerns, can all be detractors of regular usage.

3.2 Contacts under control

In "CtrlCaller" the user doesn't have to use the system's contacts, which are "promiscuous" in the sense that they are shared for reading and writing by other apps. The app keeps its own contacts isolated, but enables their import/export, on demand, for example via properly formatted email messages.

Phone calls originate from graphical buttons with a configurable presentation. Each contact has its own button and each button can present an optional picture, and/or the destination's number, and/or the destination's name. This way, the user can simultaneously have image-based, textual and numerical associations.

Contacts can have categories (e.g. "work", "family") and these categories are completely open: the user creates, deletes and assigns them. While browsing the contacts, categories and other metadata can be applied in real-time to filter in/out matching entries.

3.3 Manual and automatic logging

For each initiated phone-call, the app automatically records the moment (date and time) and the destination's contact. Optionally, the user can log his "sentiment" before the conversation and a "goal status" for the reason motivating the call.

When the call ends, the app automatically records the moment and computes the duration. Optionally, the user can log his "sentiment" after the conversation and the "goal status", post call.

For the "sentiment", by the default, the app uses a five levels rating scale = {very displeased, displeased, neutral, pleased, very pleased}. The purpose of this measure is to create awareness of sentiment changes resulting from certain categories of calls, or to certain persons, or even at certain moments.

For the "goal status", by the default, the app uses a binary scale = {not achieved, achieved}. The purpose of this measure is to create awareness of the effectiveness of calls for which a goal descriptor was set.

The descriptors and scales are customizable, so the user should feel in control of these self-assessments.

Representations of the self-assessments, for example in a calendar view, can highlight valuable personal knowledge and constitutes an incentive for the regular usage of the app.

3.4 Emerging self-knowledge

As described, the app features a "notes keeper" and a "self-assessments log". The user must explicitly enter notes and self-assessments. Each "note" is a text sequence and a moment, with an optional picture and an optional "self-assessment" record.

Self-assessment systems are collections of pairs key/value. The app comes pre-configured with a self-assessment system for logging "body weight" and "overall feel". Since the values, the keys, and the scales are configurable, this component is a personalized tool for the user's self-knowledge. One can imagine a system for tracking "relationship with person P1", "relationship with person P2", "confidence in investment X", "satisfaction with event E", etc., to grasp how private and revealing this gauging can be.

4 GENERIC GAMIFICATION STRATEGIES

Personalization is one valid strategy for user engagement, persuasion and incentive. Other gamification strategies are the setting of goals and challenges, offering rewards, and enabling mechanisms for feedback, comparison and competition.

4.1 Setting goals and challenges

Self-challenges come in two dimensions: by setting a time limit for achieving something, and/or by setting a quantity limit. One example of a challenge with a time limit is "to become very pleased with my relationship with person P1 by august". One example of a quantity challenge is "to read 3 biographies". It is also possible to combine time and quantity, as in "to read 3 biographies in 2018".

Once goals and challenges are set, the app can help keep track of their fulfillment.

4.2   Rewards

For congratulations on goals achieved and challenges won, one common solution is offering the user virtual artefacts, such as digital cups, goblets, and medals. The reproduction of appropriate media is also usual, e.g. imagine playing the classical "song of joy".

These rewards are classified as "extrinsic" because they do not derive directly from the actions that satisfied the goals. "Intrinsic" rewards, which do derive directly from the satisfying actions, are the feelings felt upon achievement and/or their physical or tangible consequences on the user (e.g. fitter, slimmer, more muscled), or in his world.

One way the "CtrlCaller" system tries to also link to intrinsic rewards, albeit under the user's control, is by inviting persons in the user's NCN to follow and react to the goals set: their reactions can be expressed digitally, but also in the real world.

This Nano Controlled Network component (NCN) is a list of contacts allowed to read whatever data the user decides; for example, they can be allowed to follow the user's progress regarding his goal "G1". At any moment, the user can add or delete members to a NCN or set an expiration date on a permission. When allowed, upon changes on the goal status, these network members will be notified of the change, and are free to input their feedback. The NCNs are so called because they are intended to be small, as in "family small", and the underlying idea is to have a very light communication solution for very specific topics, under total control of the user.

4.3   Feedback, comparison and competition

Using the NCN, the network members can share their own status on a comparable goal, and/or they can raise challenges. Competition is still one form of comparison, but one where all the participants are expected to be actively engaged.

5   CONCLUSION

"CtrlCaller" is applying gamification strategies to the very mundane tasks of phone-calling, taking text notes and logging self-assessments. A combination of personalization tools, digital rewards, and controlled networking with close peers, are expected to make these activities more fun, hence retaining the user, for a long-term experience. Results will follow.

6   REFERENCES

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