CO-DESIGNING A PERSUASIVE APP PROMOTING A LESS CAR-DEPENDANT COMMUNITY: INTRODUCING THE BELLIDEA LIVING LAB

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1. INTRODUCTION

Cities seek to improve mobility alternatives to car to counteract local and global problems associated with traffic and energy-intensive lifestyles. Usually, they primarily target the development of new infrastructures, such as for example biking lanes, or the improvement of public transport offer. However, frequently structural and regulatory tools alone are not sufficient to break car-dependant habits and produce tangible reductions in car use at the community level. To favour adoption of more sustainable mobility patterns, soft policy measures [1] can strengthen traditional urban mobility management. In particular, novel possibilities are offered by the growing diffusion of ICT tools and smart city programmes, which favour adoption and effectiveness of cognitive-motivational tools [2]. In line with recent understandings of the smart city concept (smart technology, smart people, smart collaboration [3]), the City of Bellinzona (Switzerland) activated the BELLIDEA living lab process. Such a living lab aimed at engaging citizens in co-designing and testing the Bellidea persuasive app, which rewards sustainable mobility choices, thus motivating changes in individual mobility behaviour and supporting the whole community in the transition from car-dependency to car-alternatives.

2. THE BELLIDEA LIVING LAB

Living labs are “user-centred, open innovation ecosystems based on a systematic user co-creation approach, integrating research and innovation processes in real life communities and settings” [4]. With this definition in mind, in early 2017 we teamed up with the City of Bellinzona and launched a public campaign inviting citizens to join the Bellidea living lab. In particular, we targeted both car-drivers and public transport users, in order to guarantee sufficient diversity and enhance creative discussion. We also explicitly targeted students, elderly people and citizens from foreign communities, with the aim of preventing risks of exclusion of such social categories from effective use of the Bellidea app. On average twenty citizens attended the monthly lab meetings, held from April 2017 to February 2018, with a summer break. First meetings were mainly shaped as participatory workshops, dedicated to the exploration of already existing apps, the identification of the key functionalities to include in Bellidea, and the discussion on the gamified rewarding mechanics to be activated. Later meetings were instead organized as test-beds for the prototype versions of the app, which were step-by-step released. A website and online forum further supported discussion and reporting errors.

3. THE BELLIDEA APP

The outcome of co-creation in the lab is an app that performs automatic mobility tracking, provides users with eco-feedback on their individual mobility patterns, stimulates them with mobility-related challenges and invites them to collect points, which are proportional to the weekly percentage of travelling time by public transport, bicycle or walking. Points can be redeemed for prizes such as discounts on energy bills and vouchers for local stores and public transport tickets.

Since real prizes are offered, detection of the mode of transport is crucial. Requesting users for a
validation, as in many mobility tracking apps, would leave room for cheating. However, current automatic detection capability is limited, with peaks in detection accuracy only reaching 75% of trips [5]. Improved algorithms based on a previous app we had created [6] were thus developed, to implement a mixed configuration: a short training period requires validation for all trips, providing no points; then, validation is only asked when estimated likelihood of the mode of transport falls below a certain threshold. The underlying assumption is a relationship of trust between the app and its users. Lab participants decided to introduce community prizes as well. To this purpose, Bellidea also offers community challenges, to be periodically launched throughout the year, such as «This month, let’s use the bicycle for at least 20% of our overall travelling time». If app users achieve such a challenge, the community as a whole gets a prize, such as for example discounts on public transport season tickets, public transport excursions for school classes or cargo-bike transport services for elderly people. We expect that such a mechanics further motivates people to keep level of activity high, since it builds on both their feeling of belonging to the local community and on their desire for attractive prizes.

4. CONCLUSIONS

Co-design of the Bellidea app was completed by Autumn 2017, while its computer development is currently ongoing; launch to the whole population is planned for Spring 2018. If we manage to obtain a wide diffusion of Bellidea, we expect reductions in mobility-related impacts, at least for systematic trips, as suggested by preliminary results of a similar experiment we run in the same area [6]. Positive impacts will however go further. In fact, Bellidea will provide the City of Bellinzona with real life data on the citizens’ mobility patterns and create new channels to interact with them: analyzing and discussing such data with the citizens themselves will bring new ideas and points of view in the design of future mobility scenarios. Moreover, if the approach proves successful, the City will be endowed with a new set of governance practices, to refer to also for future decision-making processes.

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REFERENCES