

3 | PEGASO – A SERIOUS GAME TO PROMOTE HEALTHY LIFESTYLES FOR TEENAGERS

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CONTEXTUALIZATION

According to the World Health Organization Childhood obesity is one of the most serious public health challenges of the XXIst century. The problem is global and is steadily affecting many low – and middle – income countries, particularly in urban settings. In addition, overweight and obese children are likely to stay obese into adulthood and more likely to develop non-communicable diseases like diabetes and cardiovascular issues at a younger age. Addressing this global issue presents a continued challenge with respect to both the design and validation of interventions that seek to impact lifestyles towards healthier futures.

THEME & OBJECTIVES

The PEGASO project aims at exploring and evaluating different novel mobile services (including a food diary, wearable sensors, tailored messaging and gamification mechanisms [1]) towards the goal of stimulating lifestyle changes in adolescents aged 14–16. Within such a context, games are seen as a crucial *behavior change technique* for both stimulating healthier behaviors and motivating engagement with the overall platform services [2]. The objective of the PEGASO serious game [3] is to explore novel intervention possibilities toward healthier behaviors offered by novel mobile and wearable technologies. For example, the PEGASO serious game rewards are not only provided for the actions that the player performs in the virtual world but also for the completion of healthy tasks in the real world (e.g., doing sport, eating healthily, etc.). The “Energy” mechanic within the game provides a central system seeking to achieve this. The player consumes energy in-game levelling up and fighting enemies. This energy bar can be replenished achieving a daily target behavior that the player has to choose at the beginning of the experience. Without energy, the player’s progression and abilities are limited and unable to increase; therefore, whilst the player can continue to play and acquire nutritional knowledge, the character results are limited until the user accomplishes some specific behaviors in the real world. For instance, if the user walks more than 12,000 steps in a day, the energy bar of the character in the game will be fully replenished. As additional mechanism, a “research activity” within the virtual world is designed around a survey of nutritional knowledge, shown to correlate to healthier lifestyle and has the objective to augment the knowledge of the player about healthy alimentation.

RESULTS & PERSPECTIVE

In several occasions, the game prototype was presented to small focus groups of adolescents in 4 pilot locations: Italy, Spain, England and Scotland. Goals of these activities



were to evaluate the acceptability of mock-ups and functioning prototypes, collect feedback on user experience and evaluate aesthetical options. Users described the energy mechanism as a unique and interesting feature. Overall, the findings from these focus group activities show encouraging responses with respect to the energy mechanism and its use to promote engagement. However, more extended test sessions should be done to find a meaningful balance of entertainment, education and efforts in the real world. Additionally, via the integration of the game within an ecosystem of services, it will be possible to evaluate the impact of a serious game in cooperation with other interventions. If validated, this approach will provide an appealing alternative to encapsulating an entire behavior change model within a single game, reducing the complexity of the game design. Starting in October 2016, the PEGASO ecosystem, including the serious game, will be tested in the 4 pilot locations by 400 teenagers, for a duration of between 6 and 9 months. This pilot aims at analyzing the impact of the system on the user behavior, motivation and engagement on the long term. This research project has been supported by the European Commission under the collaborative project PEGASO (“Personalised Guidance Services for Optimising Lifestyle in Teenagers”) funded by the European Commission under the Seventh Framework Program, FP7-ICT-2013-10.

SHORT BIBLIOGRAPHY

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