TU/e EINDHOVEN UNIVERSITY OF TECHNOLOGY

Join the GOAL-movement

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Join the GOAL-movement

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Our mission

Our mission is to encourage healthier lifestyles using IT solutions. Specifically, the aim is to effectively promote **physical activity** and **healthy dietary intake**. Our research aims to uncover the fundamental building blocks of mHealth tools to effectively promote these behaviors. We believe that impactful mHealth tools bring **joy**, and implement **personalisation strategies**. Hence, engagement and personalisation strategies in mHealth are the areas of our main interest.

Our challenge

Essentially, what we aim to evoke is **behavioural change**. Theory suggests that behaviour emerges when one has the ***ability***, ***motivation***, and ***opportunity*** to perform the behaviour. Hence, we try to improve your ability, motivation (by analysing your **psychosocial state**), and opportunity (by analysing your **direct environment**) to engage in more physical activity and to improve your dietary intake. At the same time, we evaluate what strategies were most effective for this purpose.

Our research tool: GameBus

We use the mHealth tool GameBus to design, implement and evaluate our health promotion campaigns. The platform allows for employing multiple behavior change strategies. At its heart, GameBus empowers users to ***share their healthiest moments with their relatives***. Additionally, the platform rewards these healthy moments in ***health challenges***, and has build-in functionality to automatically track these moments using wearables.

Our research

We conduct ***real-world***, ***large-scale***, ***semi-controlled experiments*** to objectively evaluate what behaviour change strategies work best in encouraging healthier lifestyles, within two areas of interest:

Research area: Rewards & direct feedback

We have collected empirical evidence on the impact of different frames of ***anticipated rewards*** and ***feedback messages*** on user engagement (see Nuijten et al., 2019a; and D'Hondt, Nuijten, & Van Gorp, 2019c). In future studies we will evaluate the impact of unforseen (i.e., surprising) rewards and feedback on user engagement.

Research area: Challenges & social comparison

We have gathered empirical evidence on the effective configuration of our health challenges, e.g., by exploring the ***impact of role models*** in this setting. Furthermore, we have explored possibilities for ***personalizing these challenges*** (see Nuijten et al. 2019b), and are currently running a trial on the impact of personalisation of these challenges.

Our scientific publications

- Nuijten, R., van Gorp, P., Kaymak, U., Simons, M., Kemperman, A., & van den Berg, P. (2019a). **Evaluation of the impact of extrinsic rewards on user engagement in a health promotion context**. DOI: 10.1109/EMBC.2019.8856296.
- Nuijten, R., Kaymak, U., Van Gorp, P., Simons, M., van den Berg, P., & Le Blanc, P. (2019b). **Fuzzy modeling to 'understand' personal preferences of mHealth users: a case study**. DOI: 10.2991/eusflat-19.2019.77.
- D'Hondt, J., Nuijten, R., & Van Gorp, P. (2019c, in press). **Evaluation of computer-tailored motivational messaging in a health promotion context**.

RESEARCH PROGRAM HEALTH ANALYTICS

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