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Designing a Social Snus Cessation Mobile Application with an Integrated AI Function

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Abstract. The application of artificial intelligence (AI) in healthcare is expected to be increased in the coming years. There has been little attention paid on exploring how social aspects and AI can be integrated into mobile applications to support the people who want to quit snus. Our research aims to design a prototype of a social snus cessation mobile application for university students in Sweden, incorporating an AI function. This paper presents a work-in-progress of our research.

Keywords. Snus cessation, social app, artificial intelligence, service design

1. Introduction and Methods

Several studies show snus use and its associated health risks, including increased mortality rates and potential links to cardiovascular and cancer-related deaths [1]. Despite the mounting evidence of its health risks, the increasing popularity of snus among Swedish youth [2], must be addressed with targeted interventions.

Using social media helps young adults to quit smoking [3]. Artificial intelligence (AI) has been implemented in healthcare including mental healthcare [4]. However, there has been little attention paid on exploring how social aspects and AI can be integrated into mobile applications to support people who want to quit snus. Our study aims to design a prototype of a social snus cessation mobile application for university students in Sweden, incorporating an AI function. We seek to answer, 'How can a social snus cessation mobile application be designed with an integrated AI function?'

To ensure that the mobile application's functionalities and design rightly reverberate with its intended users, service design process [5] has been adopted in our study.

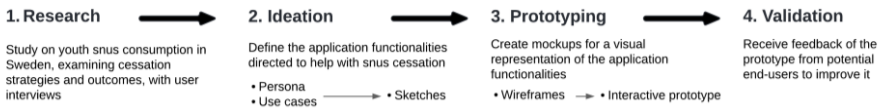

Figure 1. Steps followed in the mobile application's design based on service design process [5].

Figure 1 shows the steps our study follows. The users' needs and the application's functionalities, represented through a persona and use cases, are informed by a literature study and interviews with potential users. The features are then visualised as sketches, wireframes, and an interactive prototype. Finally, feedback of the prototype is gathered from a usability testing (questionnaire, Think aloud, System Usability Scale, and interview). The prototype is then improved by incorporating the user feedback.

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2. Results

Our study is still in progress and at Step 2. We conducted interviews with five students in Sweden which were transcribed and analysed using a qualitative content analysis [6].

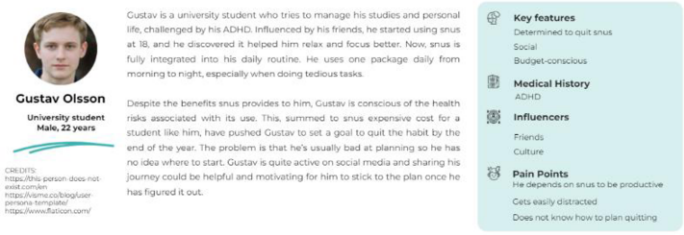

Figure 2. Persona that represents a potential user of the project's app

The results from the interview analysis and literature study were used to create a persona representing a potential user, depicted in Figure 2. We integrated an AI chatbot in our design, as it seems effective in mental health treatments [7]. Results obtained from the literature study and interviews, adopted principles of a persuasive systems design framework [8], and an integrated AI chatbot concept led to create use cases describing the functionalities of our system: 1) Create profile, 2) Record snus use, 3) Record craving overcame, 4) Visualize dashboard, 5) Visualize timeline, 6) Engage with social features, 7) Chat with AI counselor, 8) Profile management, and 9) Receive notifications.

3. Discussion and Conclusions

None of few existing mobile applications for snus cessation is a social app, neither offers an AI chatbot function. By following a service design process, adopting a persuasive design framework, and integrating an AI chatbot concept, we created a persona and use cases for a snus cessation mobile application. Our next step is to create wireframes for creating an interactive prototype which will be tested via a usability testing. Our goal is to evaluate our design in terms of education and effectiveness.

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