

Virtual Coaching Activities for Rehabilitation in Elderly

Call: H2020-SC1-2016-2017

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D3.1 Patient communication platform and Avatar-based UI specification

Extended summary

This project vCare has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 769807.



Being vCare’s face and main point of interaction, the patient user interface (UI) is a key component with multifaceted responsibilities based on the use cases and narratives of the vCare project. This deliverable provides the specification, design and implementation approach as a base for further development in work package 3.

The UI is realized as a mobile device application and supports different representation and interaction modalities, mainly through a human-like Avatar, with additional UI-elements (buttons, text...), audio and video output, visualizations and interactive elements.

The primary interaction modality makes use of speech input and emotion recognition, enabling natural and human-like communication patterns to create a livelier and appropriate user experience. Furthermore, the UI provides necessary APIs and functionalities to handle and render arbitrary interaction requests from the coaching and knowledge mediators as foreseen by the project’s technical architecture. Finally, integrated interaction observers provide additional information by keeping track of the ongoing system-user interaction, like mis clicks, abruptions, response times and other measures that could help to identify usability issues. The gained data will be used by ML algorithms, which in turn will generate concrete UI adaptation decisions to provide a personalized and user friendlier interaction experience.

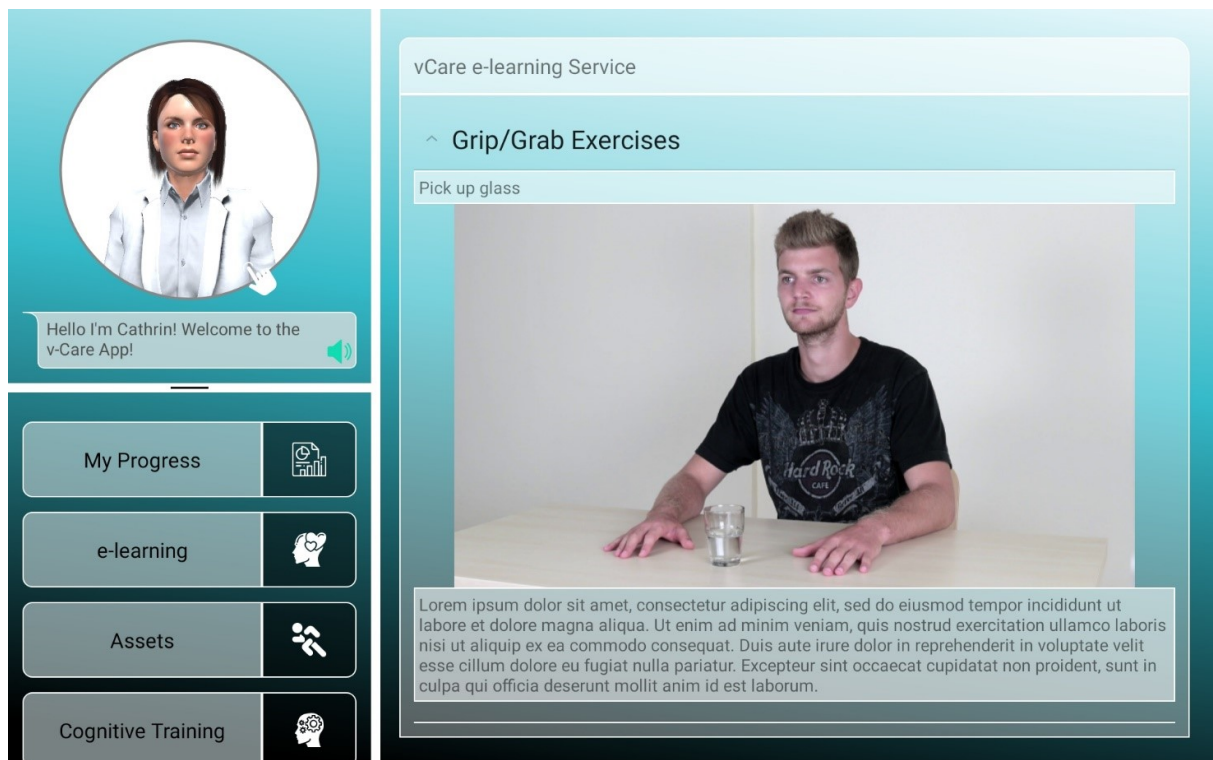


Figure 1: avatar-based UI with e-learning content

The Avatar **look-and-feel** is also described and specified in this deliverable and is based on the **outcomes of a design workshop**. It is also influenced by the UI and interaction design of the previous Avatar-based-interaction project Miraculous-Life. Furthermore, the established REHABILITATION software, provided by IMA, provides various cognitive and physiotherapeutic rehabilitation exercises for the patient.

To sum up, the UI provides the means to convey information based on the **patients' preferences, situational context and type of information** and orchestrates through a dialogue management system user- and system-initiated interactions as well as dialogue and information flows. This enables the virtual coach (VC) to provide **implicit support based on behavioral and emotional understanding** and enhances the interaction with the patient by exhibiting distinctive emotions, delivered in a human-like way, thus essentially simulating the interaction with a real-life partner.