

Newsletter no.3 (April 2018-July 2018)

Seminar on eHealth at Vitalis April 24th

April 24 2018

The project coordinator of E-care@home (Professor Amy Loutfi) is holding a seminar at Vitalis in Gothenburg on April 24th 13:15-14:00 in R17/18.

The session is part of the eHealth course at CHALMERS UNIVERSITY OF TECHNOLOGY. A limited number of seats are open for Vitalis/MIE delegates.

During the lecture, Amy will discuss the possibilities for AI to enhance the function of intelligent systems that can be used to increase the possibility to age in place. Artificial Intelligence is on the rise and the possibility to apply these technologies to a wide variety of applications is increasing. AI techniques in particular when combined with physically embedded systems such as robots or sensor networks can endow these systems with the possibility to be more adaptive, interactive and suitable for a diverse group of end users. This lecture will provide an overview of the possibilities for AI to be integrated into future technologies that are used in home environment for ageing in place. It will give an introduction to AI in this application area, an overview of the some of the emerging applications and also describe the difficult process of evaluating methods with end user groups.



Click on this link for [more information](#) on all seminars at Vitalis.

Spring project meeting

May 14, 2018

On May 3rd, Örebro University hosted the biannual project meeting. Apart from following up on the progress in each work package, the day provided an opportunity to discuss:

- A permanent E-care@home demo at Ängen
- The upcoming workshops with elderly and healthcare representatives on May 30th. The workshops will be organized together with Mistel in Västerås.
- How WP2/WP3 get data



Professor Martin v. Butz

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In addition, Professor Martin v. Butz from University of Tübingen, Germany, gave a guest talk on “An Integrative, Event-Predictive Theory of Cognition: Behavioral Evidence and Artificial Neural Network Models”.

Half-time review

May 14, 2018

On May 7th, representatives from all partners and the project coordinator participated in the half-time hearing in Stockholm. The meeting was held in the KKS-facilities. We anticipate that feedback will help steering the E-care@home project forward. The feedback, that is yet to be received, will be discussed during the fall.

E-care@home system video

May 28, 2018

In order to prepare for two workshops with potential users of an E-care@home system that are to be held in Västerås on May 30th 2018 in cooperation with Mistel, a video featuring the E-care@home visualizer has been recorded. Acting in the video is: Marjan Alirezaie, a researcher from Örebro University.

We are currently working on creating a more advanced demonstrator of the E-care@home system. Therefore, additional videos can be expected later on in the project.



This video features some of the current capabilities of the E-care@home system May 2018. The system can show that a person is:

- watching TV
- leaves the living room to go to the bathroom
- comes back to the living room to exercise (heart rate increases during the exercising)
- goes to the kitchen to boil some tea
- goes back to the living room and rests
- is alerted about the boiling tea
- drinks tea (heart rate is increasing due to stress)

For the recording, the following sensors were used:

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- light sensor (TV+stove)
- motion sensors in living room, bathroom and kitchen
- pressure sensor in kitchen and living room

For this scenario, heart rate is simulated due to the difficulty of causing an increase due to stress. At the current moment, E-care@home can also measure heart rate using a Shimmer sensor.

Click on the following links to watch the video with:

- Swedish text: <https://youtu.be/1n7mU9YdUQI>
- English text: <https://youtu.be/CI3JsOwGkp4>

Focus groups with potential E-care@home users

May 31, 2018

On May 30th, two 2.5h long workshops were organized in Västerås by Mistel, and researchers from ORU and MDH. Mistel is Västerås testbed.

The first workshop “Nytt E-hälsosystem under utveckling – vi behöver din expertkompetens!” had three participants representing home care services and homemaker services.

The second workshop “Ett nytt sätt att få koll på din hälsa” collected eight participants, two of which were both elderly and relatives to others with more needs.

The aim of the workshops was to: “Understand which activities elderly perform everyday and more about their habits in order to make a system around them which can measure what needs to be measured.

During each workshop, the participants saw the Swedish version of the newly recorded movie illustrating some of the current E-care@home capabilities and answered some questions during very engaging discussions.

Click on the following links to watch the video with:

- Swedish text: <https://youtu.be/1n7mU9YdUQI>
- English text: <https://youtu.be/CI3JsOwGkp4>

Questions that we tried to get answers to included:

- What are you/elderly doing in their daily life? (e.g. exercising/rehabilitation, take medicine, remember birthdays, take a walk)
- Which daily activities are most important?

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- In which situations is it most important to stay independent?
- In which situations are they afraid or worried?
- How should we approach the problem?
- What solution is needed to improve their life?

The staff were also asked about:

- What work tasks are there during a day?
- What work tasks take the longest time? Which is the reason for most visits?
- What measures are taken?
- What measures that could be valuable are not taken today?
- Which data would you like to access at distance?
- Which of the demonstrated sensors feel relevant?
- Are any measures/support missing?

Mistel will summarize the results of the two workshops in a report that will provide us with insights for the continued development of the E-care@home system during the upcoming autumn.

Maria Lindén received the Laura Bassi Award

June 5, 2018

E-care@home wishes to congratulate Professor Maria Lindén from Mälardalen University for receiving the prestigious Laura Bassi Award 2018 on June 3rd during the World Congress on Medical Physics and Biomedical Technology in Prague, Czech Republic.

The Laura Bassi Award for Outstanding Female Researcher in Medical and Biological Engineering is presented by IFMBE every three years at the World Congress. The Laura Bassi award is given to a senior female biomedical engineer for outstanding research contributions in the field of medical and biological engineering. The criteria for nominations include innovation and outstanding research contributions to medical and biological engineering. Nominations may be made by IFMBE entities, affiliated member societies, or any individual member of the constituent societies. Nominees must be members of an IFMBE affiliated organization. Source: <http://2016.ifmbe.org/announcements/awards/>



Photo: Jonas Bilberg

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– To receive the Laura Bassi Award is inspiring and we feel that we are on the right track. This is a confirmation that we are doing the right things, says Maria Lindén.



Photo: MTF

Towards extending the E-care@home demo

June 21, 2018

On June 1st, researchers from Örebro University, Mälardalen University and SICS ICT participated in a workshop aiming at extending the E-care@home demo at Ängen.

The workshop focused at:

- activity recognition for exercising with the Shimmer sensors
- detecting general activity level of a person (e.g., by using motion sensors)
- manual input of data, and
- working on collecting data with the new Contiki application layer.