

PRESS RELEASE

CareCam: Software from Fraunhofer

Health advice from your work computer

At DMEA, Fraunhofer IGD will be showcasing a software package that serves as a personal health assistant to office staff who spend their working day sitting at a computer. The only extra feature required is a standard webcam.

(Rostock, Germany) Sitting in front of a computer, reading a screen, typing on a keyboard and clicking a mouse – this is what the working day consists of for many people. And since the start of the pandemic, the number of hours spent at the computer – often working from home – has increased. Dimitri Kraft, a doctoral student at the Fraunhofer Institute for Computer Graphics Research IGD in Rostock, Germany, has programmed a solution for computer-bound workers which we have named CareCam.

Software advises on healthier work practices

This novel software package uses a webcam to register every movement, no matter how minimal. Dimitri Kraft: “The facial recognition system perceives the smallest changes in hue, which we can't even see with the naked eye. From this, it calculates the user's pulse.” The camera monitors the frequency of blinking and issues a timely warning to nip dry-eye syndrome in the bud. It records posture and facial expression, from which it draws conclusions about stress levels and appropriate interventions: “If the software notices that you are stressed or your posture is poor, it suggests remedial action, for example a change of sitting position, a stretching exercise or a short break for meditation.” For this part of the program, Kraft has collaborated with partners in the fields of physiotherapy and psychology.

Data kept separate from company health management systems

CareCam data remain exclusively with the users and is only stored for the purpose of observation over a sustained period of time. Other technical solutions in this area (e.g. smartwatches) collect similar data, but are more complicated to use, have to be carried around by the user and need to be

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**Fraunhofer IGD
at DMEA**

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recharged at regular intervals. Furthermore, they may have to be purchased separately. By contrast, Dimitri Kraft's solution relies on the same terminal that people with office jobs sit in front of while working anyway. By means of Artificial Intelligence, the software gets to know its user and tailors its suggestions for exercise breaks or other measures to the individual. In another twelve months or so, after various pilot tests and refinements, the program should be ready for use by larger groups of people. Employers will then be able to offer it as an optional extra to individual company health management schemes. Fraunhofer has also recognized the potential of the project and is supporting the work of the development team through the AHEAD program.

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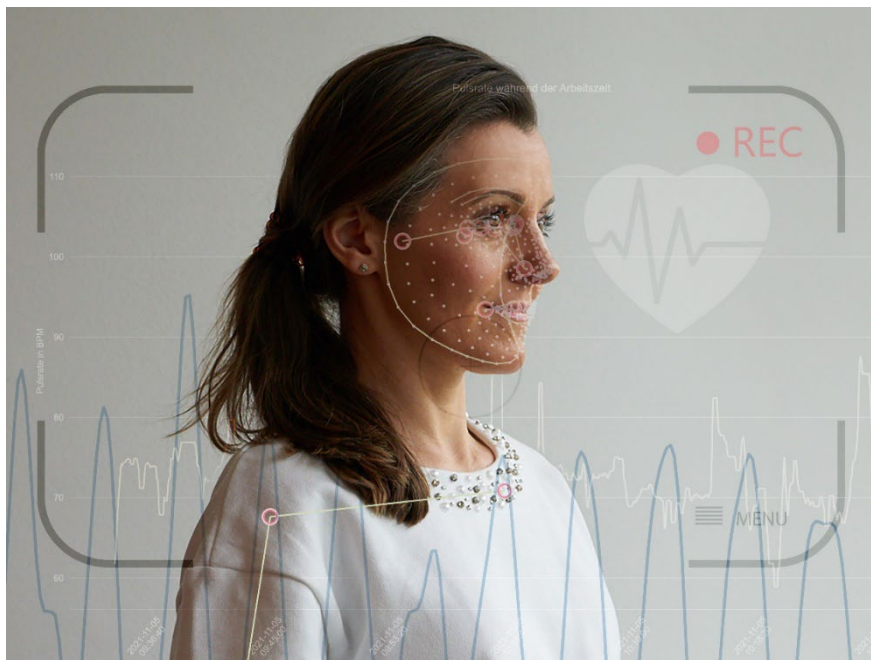


Image: Fraunhofer IGD's CareCam software employs a webcam to detect unhealthy sitting positions as well as various stress characteristics in computer users and to suggest remedial action.

For more information:

Further information on this and all other exhibits of the Fraunhofer IGD at the DMEA: <https://fh-igd.de/DMEA-en>

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About Fraunhofer IGD

Founded in 1987, the Fraunhofer Institute for Computer Graphics Research IGD is the world's leading institute for applied research in visual computing— computer science based on images and 3D models. We turn information into images and images into information. Keywords are human-machine interaction, virtual and augmented reality, artificial intelligence, interactive simulation, modeling, 3D printing and 3D scanning. Around 180 researchers at three locations in Darmstadt, Rostock and Kiel in Germany develop new technology solutions and prototypes for industry 4.0, digital healthcare and the smart city. In cooperation with its sister institutes in Graz, Austria and in Singapore, they also take on international relevance. With an annual research volume of €21 million, we use applied research to help in the strategic development of industry and the economy.

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