WORKPLACE STRESS, THE AGE OF AI MANAGEMENT IS COMING

17 INSTITUTIONS IN 5 COUNTRIES ARE DEVELOPING AI-BASED WORKPLACE STRESS MANAGEMENT APPS.

2022.02.16 09:00 mikyung kim reporter

Can workplace stress and AI be the key to a new solution? ©madpixel

As the COVID-19 crisis continues, mental health care is becoming more important in countries, along with the severity of mental health issues such as depression and burnout. Accordingly, korean researchers at the Korea Electronic Communications Research Institute (ETRI) are developing "WellMind", a platform for accurate stress measurement, management, and customized solutions through international joint research. "Wellmind" is expected to usher in an era of accurate and convenient smart mental care based on wearable devices and AI, such as smartphones and smartwatches.

NEW AI MENTAL HEALTHCARE 'WELLMIND', WHAT'S DIFFERENT?

previously, there have been steady attempts to collect biometric data such as sleep patterns, heart rate, and body temperature through wearable devices that are usually worn to take care of the mental health of users. however, measuring the psychological aspects through biometric data results in significant errors depending on many factors, such as the different tendencies and circumstances, movement conditions, and environment of each user.

in addition to wearable devices, welmind measures stress at work with greater precision by comprehensively considering working hours, work schedules, work patterns, etc. through google calendar integration, as well as working environment data such as lighting, fine dust, temperature, humidity, noise, carbon dioxide, and smell in conjunction with respiratory detection sensors.


IT IS A STRESS RELIEF AND MEASUREMENT PLATFORM, WELLMINDED TECHNOLOGY CONCEPTUAL FIGURE. ©ETRI

Unlike conventional technologies focused on temporary stress reduction, Wellmind focused on long-term use of work cycles. It provides stress analysis and forecasting through AI, as well as overall management of business hours and environments. For example, if the AI that collects work information recognizes stress and work overload, it will customize the user's schedule. It also captured the accessibility and convenience of users through the form of an app.

VR CONTENT FOR STRESS RELIEF IS ALSO COMPLETED

WELMIND, AN AI-POWERED STRESS PLATFORM, WILL PROVIDE PERSONALIZED STRESS SOLUTIONS BY ANALYZING STRESS CONDITIONS AND WORK SCHEDULES MEASURED IN REAL TIME. DEPENDING ON THE LEVEL OF STRESS AND PERSONAL PREFERENCES OF THE USER, THEY OFFER A VARIETY OF SOLUTIONS, INCLUDING TEA DRINKING, LISTENING TO MUSIC, STRETCHING, AND MEDITATION.
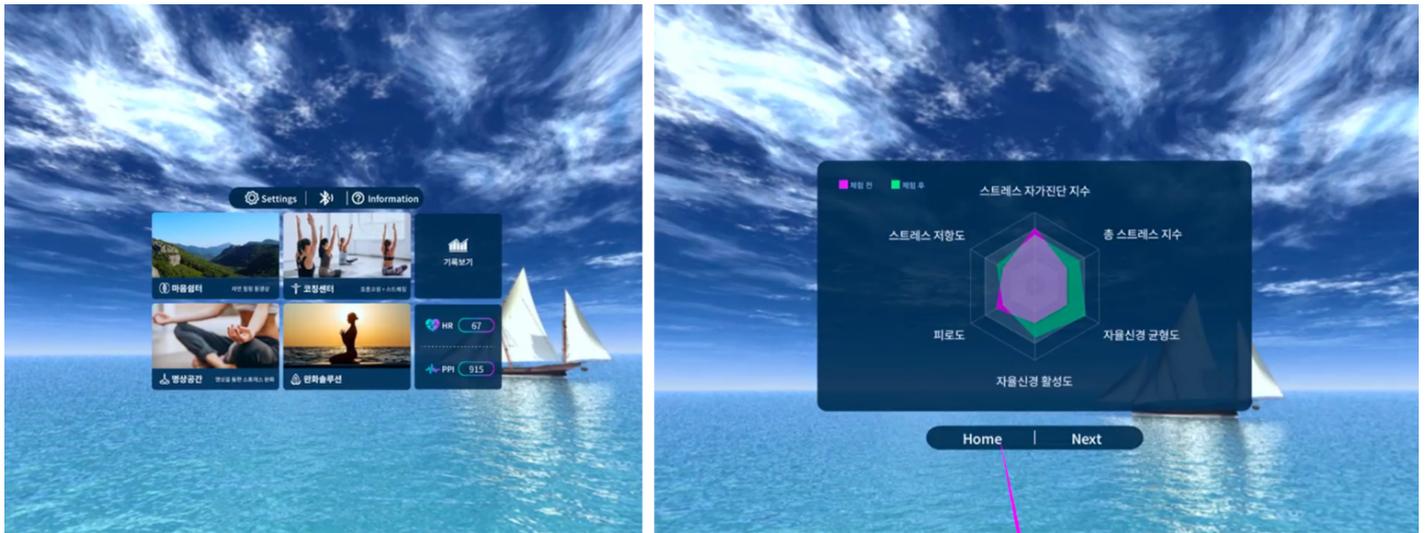
IT IS A STRESS COMPARISON BETWEEN THE INITIALIZATION SURFACE OF VR CONTENT AND THE SOLUTION EXPERIENCE. ©ETRI

STRESS RELIEF AND PAIN RELIEF EFFECTS USING VIRTUAL REALITY (VR) HAVE BEEN REPORTED IN SEVERAL STUDIES, AND RESEARCHERS HAVE COMPLETED THE CREATION OF VR CONTENT TO RELIEVE STRESS AND ARE CURRENTLY VERIFYING ITS EFFECTIVENESS. THE APP ALSO PROVIDES A QUICK OVERVIEW OF THE STATE CHANGES BEFORE AND AFTER STRESS RELIEF SOLUTIONS, MAKING IT EASIER AND MORE INTUITIVE TO MANAGE STRESS.

INTERNATIONAL COOPERATION TO COMBAT WORKPLACE STRESS WITH AI

The project is the EU ITEA3 Mad@Work Project, which involves 17 institutions from five countries, including South Korea, Finland, Austria, Spain and Portugal. As an EUREKA CLUSTER project of the Ministry of Industry and Commerce, we have been in close international cooperation since December 2019. If ETRI researchers in South Korea are focused on developing wearable devices and apps, the Finnish Center for Technical Research (VTT) conducted a study measuring computer and program usage patterns, key pressures, mouse click patterns, etc. through its own development programs, keyboards, and mice, and cybersecurity firm Nixu was responsible for data security and privacy protection for the users it collected.

Mad@work project involved 17 organizations from five countries. ©ITEA4

what will happen to the status and future plans?

CURRENTLY, RESEARCHERS ARE ANALYZING THE RESULTS OF NATIONAL ONLINE SURVEYS WITH A EUROPEAN CONSORTIUM TO REFLECT VARIOUS CULTURAL DIFFERENCES IN THE COLLECTION AND ANALYSIS OF STRESS INFORMATION AND PREFERENCE FOR RESOLUTION SOLUTIONS. IN ADDITION, ACCORDING TO ETRI KIM HYUN-SOOK, RESEARCH DIRECTOR, "THE TECHNOLOGY FOR COLLECTING AND REFINING DATA IS KEY" AND IS IN THE PROCESS OF "ACCUMULATING LEARNING DATA TO IMPROVE THE ACCURACY OF THE CURRENT MODEL."

IN THE FUTURE, RESEARCHERS PLAN TO INCREASE THE COMPLETENESS OF AI ANALYSIS MODELS TO EXPAND THEIR USE AFTER OPTIMIZATION FOR EMPLOYEES. IN ADDITION, IT PLANS TO CONTRIBUTE TO THE SPREAD OF PERSONAL HEALTHCARE SERVICES THROUGH TECHNOLOGY TRANSFER TO DIGITAL HEALTH COMPANIES AT HOME AND ABROAD.

the prevention, diagnosis and resolution and rapid management of stress for workers will contribute to improving mental wellbeing and productivity in organizations and society, as well as in many digital and wellness industries. smart mental healthcare is a product of artificial intelligence, big data, and the internet of things. it is hoped that the future of modern science and technology, which is developing, will contribute to a "happy life" in the near future.

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AI   ETRI   VR   mental healthcare   wellness   workplace stress