Chapter 17

Tension Type Headache: IOT and FOG Applications in Healthcare Using Different Biofeedback

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ABSTRACT

Development in the field of technology is growing with a fast pace, mainly the IoT (internet of things). It is an interface between machine-to-machine, machine-to-human, machine-to-infrastructure as well as machine-to-environment. Stress, especially TTH (tension type headache), is a serious problem in today’s world. Now every person in this world is facing headache and stress-related problems in daily life. To measure the stress level, the authors have introduced the concept of EEG, EMG, and GSR biofeedback. In case of TTH, human is in a state in which one experiences pain like a physical weight or a tight band around one’s head. TTH is different from migraine as it can be affected due to everyday activities. The most common type of primitive headache is tension type headache (TTH). The focus of the research work was to compare the impression of EMG-, GSR-, and EEG-integrated biofeedback on stress due to headache and quality of life of the subjects under consideration.

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INTRODUCTION

IoT

It is a technology that has made the non-connecting appliance as a connectivity appliance. The appliances that contain technology that helps us to communicate with human and technology. Let us take some example like the GPS is the latest technology that is inbuilt in car help the driver to make it easy to travel within the road, i.e. it is that technology in which we require internet base technique. (Rubin, A., 1999)

History of IoT

IoT has evolved and has been a famous term now such as machine language, commodity analysis, etc. IoT has brought automation, control system, wireless sensor networks that are connected to the internet and helps us to make us easier to do work.

Kevin Ashton in 1999 was first who coined the term IoT i.e. “Internet of Things”. But in earlier the concept of IoT was purposed in Carnegie Mellon University in 1982 that work on the concept of Network smart devices.

Nowadays technology is increasing day by day like CISCO is introducing new technology and, in the future, the technology will replace every human work with this technology. (Rubin, A., 1999)

Applications

The application of IoT is usually bifurcated among infrastructure, industry, commercial and consumer spaces. Many technologies have been evolved in this field some are describing as-

Smart Home

It is a future upcoming home in this world. These technologies include the theory of Automation. This includes smart lighting, smart lock system, smart kitchen, even we have wireless technology to which we can speak like GOOGLE assistance, Amazon echo, SIRI in apple IOS and, many other. This technology helps to make our work easier and make an interactive home design that helps and attract the other. This technology is basically helping to upgrade our system. Many companies are now being evolving nowadays like APPLE, SAMSUNG, and LENOVO, etc. (Rubin, A., 1999)

IoT in Medical and Digital Health Care

IoT helps in the medical field to make our future bright such as, major technology has been evolved in this field such as a pacemaker. With the help of IoT, we can create digitalized health care facilities; we can connect to medical resources easily and can get medical facilities easier.

Devices enabled with IoT services are applicable for remote health monitoring and especially in emergency notification facilities. They may help us in from blood pressure and heart rate monitors and latest gadgets like pacemakers to monitor specialized implants.

Nowadays “smart beds” can be seen in the medical facilities that are another a feature of IoT. A doctor can interrogate their patient with the help of video call from far away from the place, even the