



Image credit: Pixabay/skeeze

National Aeronautics and
Space Administration



TECHNOLOGY SOLUTION

Health, Medicine and Biotechnology

BENEFITS

- Fulfills an unmet need
- Promotes and sustains the use of biofeedback for training
- Useful for a broad variety of applications

System for Incorporating Physiological Self-Regulation Challenge into Parcourse/Orienteering Type Games and Simulations

[Incorporating physiological self-regulation challenges into games and simulations](#)

NASA Langley engineers have created a software tool that operates on a smartphone and incorporates functions of physiological self-regulation or biofeedback with other gaming, training or simulation activities such as orienteering, parcourse training. The central distinguishing characteristic is the integrating of mobile brainwave and physiological monitoring technology with mobile geolocation technology in a smartphone/tablet computer application for biofeedback training and/or entertainment purposes. It makes biofeedback training fun and stimulating to do thereby enabling mastery of the techniques.



THE TECHNOLOGY

Although biofeedback is an effective treatment for various physiological problems and can be used to optimize physiological functioning in many ways, the benefits can only be attained through a number of training sessions, and such gains can only be maintained over time through regular practice. However, adherence to regular training has been a problem that has plagued the field of physiological self-regulation limiting its utility. As with any exercise, incorporating biofeedback training with another activity encourages participation and enhances its usefulness.



Possible configuration, coupling feedback with time and GPS Location. Image credit: Pixabay/DariusZSankowski

APPLICATIONS

The technology has several potential applications:

- Parcourse training
- Orienteering
- Physical conditioning
- Combat simulation
- Flight training
- PTSD Therapy

PUBLICATIONS

Patent No: 11,141,092; 11,903,719