



NEUROPRO

THE DREAM•MACHINE

An immersive experience for
mindfulness training

neuropro.ch

THE DREAM MACHINE is an immersive awareness, focus, and relaxation training device, that aims to help improve and accelerate your ability to focus by combining state of the art neuroscience and Virtual Reality techniques.

Today, society is **more digitally connected than ever before**, and in so many ways. There is fierce daily competition for time and attention, from work and personal interactions, to attention grabbing headlines. Information is in abundance.

Many people feel overwhelmed at times when trying to manage everyone's expectations. This constant demand is causing a processing deficit and contributing to the **rise in stress, anxiety, depression, addiction and an attention deficit**.

Mental disorders affect 1 in 4 people

One in four people in the world will be affected by mental or neurological disorders at some point in their lives. Around 450 million people currently suffer from such conditions, placing mental disorders among the leading causes of ill-health and disability worldwide.

WHO, Geneva, 4 October 2019

mindfulness /'mʌɪn(d)ʃ(ʊ)lnəs/
noun

A mental state achieved by focusing one's awareness on the present moment, while calmly acknowledging and accepting one's feelings, thoughts, and bodily sensations, used as a therapeutic technique.

Oxford Dictionary

In recent years studies have demonstrated the benefits of mindfulness training not only in the treatment of physical and mental health conditions, but also for everyday wellbeing. Latest findings in research suggests that **mindfulness training can help people focus their attention and sustain it**.

NeuroPro has invented and developed a convenient, gamified, new-age **mind gym** for those who lack the time, means or privilege to practise mindfulness training in a natural, pleasant setting.

The Dream Machine is an application that uses advanced signal processing techniques to monitor and analyse in real-time brain and other bio data, extracting relevant features that tells us the mind state of the observer and uses these features to curate the virtual environment.

The combination of Virtual Reality and Neurotechnology can **democratise nature's experiences** in a beautiful, immersive way with a strong feeling of presence, and also seamlessly connect the nature created with the mind of the observer.

THE DREAM MACHINE BY NEUROPRO



“ Mindfulness is about awareness and acceptance; it allows users to increase their mental capacity, enhance concentration, and relieve stress. Virtual reality paves the way towards the development of the next generation of focus training platforms.”

Jamil El-Imad (Chief Scientist, NeuroPro)

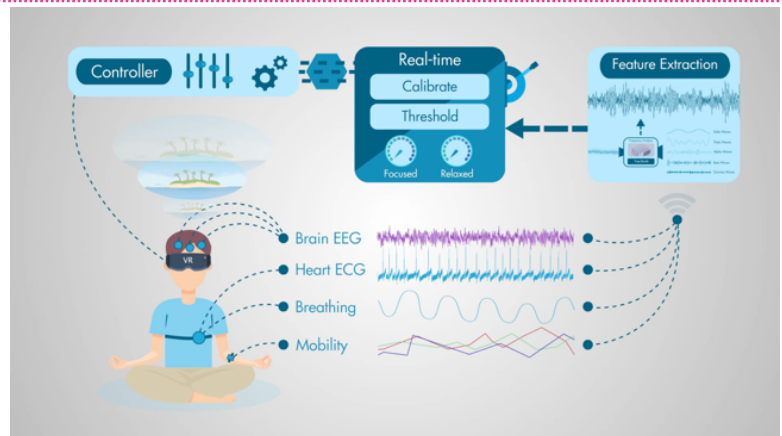
THE DREAM MACHINE is an easy to use awareness and focus training experience which provides real time audio-visual feedback based on the users physical and mental state.

THE DREAM MACHINE

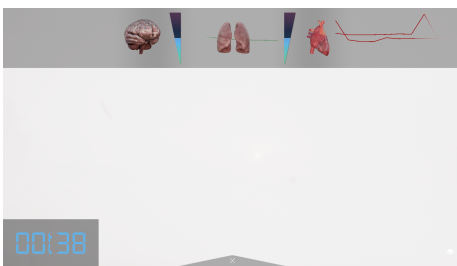
BY NEUROPRO

This technology provides mindfulness meditation using a Virtual Reality device combined with a mobile EEG headset (electroencephalography) to monitor brain activity in addition to other wearable sensors for ECG signals, breathing patterns, and physical activity

The EEG brain signals are processed using advanced feature extraction algorithms to gauge the level of user concentration and relaxation in real time.



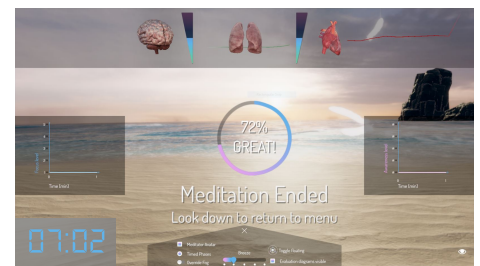
The Dream Machine - a Virtually created, customizable, and bio-feedback controlled system



Diagnostic Monitor - User entering the dream



Diagnostic Monitor - User focusing on clearing the fog



User's score at the end of a session

The outcome is fed into a central control unit that adapts visual and audio stimuli for the user, whereby the clarity of displayed imagery is maximised when the concentration level of the user is high and the clarity is decreased as the user loses concentration.

This closed loop system works autonomously and dynamically to provide positive real time feedback to "train" the user's mind to improve mindfulness experience and mental wellbeing. It also keeps a scorecard on the users' progress so they can measure improvement over time.

The technology created for the Dream Machine encourages the user to relax by rewarding them instantly with a dynamic evolving experience, based on the users' physical and mental state.

The Dream Machine demo platform is configurable and scalable to support a broad range of environments for virtual focus training.

The Dream Machine integrates elements of focus training into a virtual, adaptable and biofeedback-controlled environment that brings the tranquility of nature to your home.

Collaboration Projects with



NeuroPro AG

"Virtual Reality is beginning to come into its own, and this is where Jamil El-Imad is doing work that could change society."

Computer Weekly (March 2018)

Patent No. 2567506



NEUROPRO

Who We Are

NeuroPro incorporates specialists from the fields of computer science, neurophysiology, bioengineering, and product and user-interface design. The combination of different skills allows us to adopt an informed inter-disciplinary approach to the specific challenges facing those working in brain science.

Our tools for monitoring and analysing brain activity will contribute to accelerating brain research by supporting researchers, clinicians and innovators in pushing the boundaries of brain science and its applications.

Our tools provide an advanced platform for the development of a wide range of health and wellness applications from supporting the development of brain observatories to remote tele-monitoring, patient led research, neurofeedback and cognitive wellness. Additionally, NeuroPro's tools are relevant to innovative entertainment, lifestyle and interaction solutions driven by brain computer interface technologies.

How we work

Partnership is a key element in the way we work. We collaborate with global leaders in the design, development and implementation of our products and welcome new collaborations.

Contact Us

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