Virgobit

Innovative Software Solutions
Bridging Science and Technology

www.virgobit.com

INTRODUCING VIRGOBIT

Virgobit is a software company that uses smartphones and wearable devices to collect and analyze patient data for scientific and clinical teams.

We can use our expertise to help your research team in:

- **Tracking** patients and collecting multimodal data, **inside or outside the clinic**, during specific tasks or treatments.
- Investigating patients/participants in their **daily lives** using smartphones, enhancing real-world insights.
- **Securely storing** large datasets for offline analysis on our reliable servers.
- Preparing **grants and ethical applications** for remote data collection projects.

Consider engaging with Virgobit to optimize your data collection, analysis, and application support processes.

SERVICES

Here are the advanced services we provide:

1. Advanced Data Collection:
Utilize health tracker devices to gather comprehensive data, including heart rate (HR), heart rate variability (HRV), and more.

2. Mobile EEG Beyond Laboratories:
Harness the power of mobile electroencephalography (EEG) to capture brain activity outside traditional lab settings, enabling greater flexibility and convenience.

3. Gamified Cognitive Tasks:
Enhance cognitive performance through engaging gamification techniques, making the process of completing cognitive tasks enjoyable and rewarding.

4. Customized BCI Solutions:
Provide tailored Brain-Computer Interface (BCI) solutions for both individual and clinical applications, empowering users to interact with technology using their brain activity.

5. Mobile Signal Processing and Machine Learning:
Bring the cutting-edge fields of signal processing and machine learning from desktop computers to mobile phones, enabling real-time analysis and personalized insights on the go.

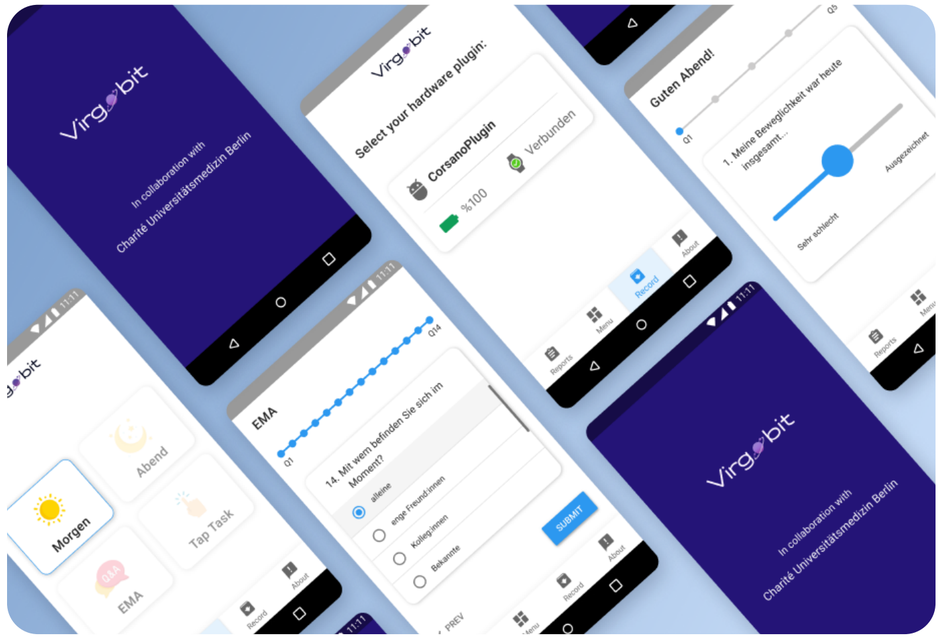
WHO WE WORK WITH

At Virgobit, we work with a diverse range of clients to deliver high-quality software development services that drive business success!

CASE STUDY

Remote data collection from Parkinsonian patients

In collaboration with the Neuromodulation and Movement Disorders Unit at the Charité University Hospital



Provided Services:

- Remote Data Collection
- Collecting Large Datasets
- Ethical Approval

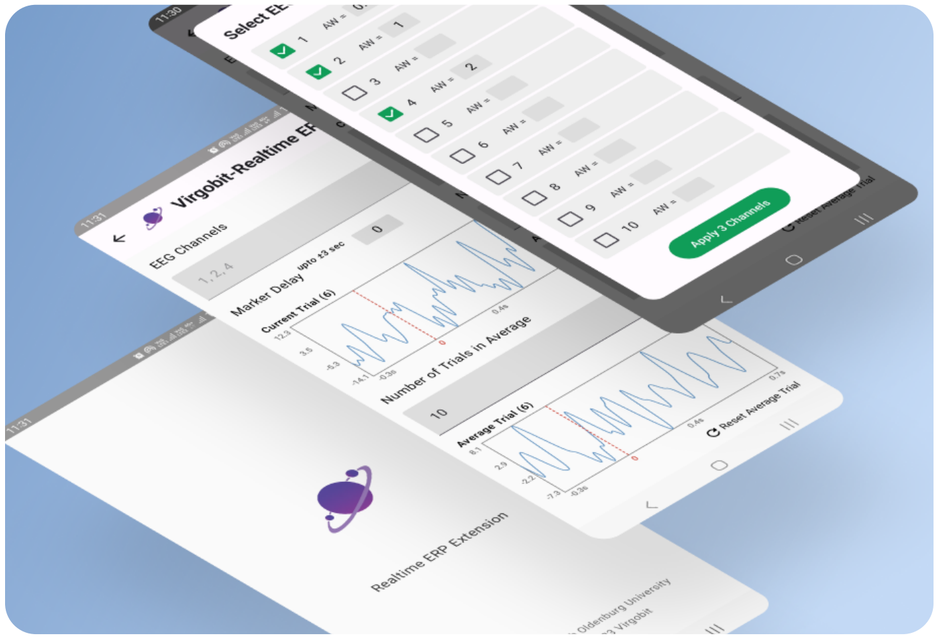
About:

Virgobit is collaborating with Charite University on an innovative project to revolutionize remote data collection for healthcare research. Our user-friendly app seamlessly integrates with CardioWatch to capture essential metrics like raw accelerometry, etc. We also incorporate several different questionnaires for behavioural data collection. By enhancing patient engagement through interactive features and rewarding notifications, we ensure higher compliance rates and reliable data. This project pushes the boundaries of healthcare research, leveraging smartphones and wearables to provide comprehensive insights.

CASE STUDY

Real-time EEG analysis mobile app

In collaboration with Oldenburg University



Provided Services:

- EEG/BCI Solutions
- Mobile Signal Processing and Machine Learning

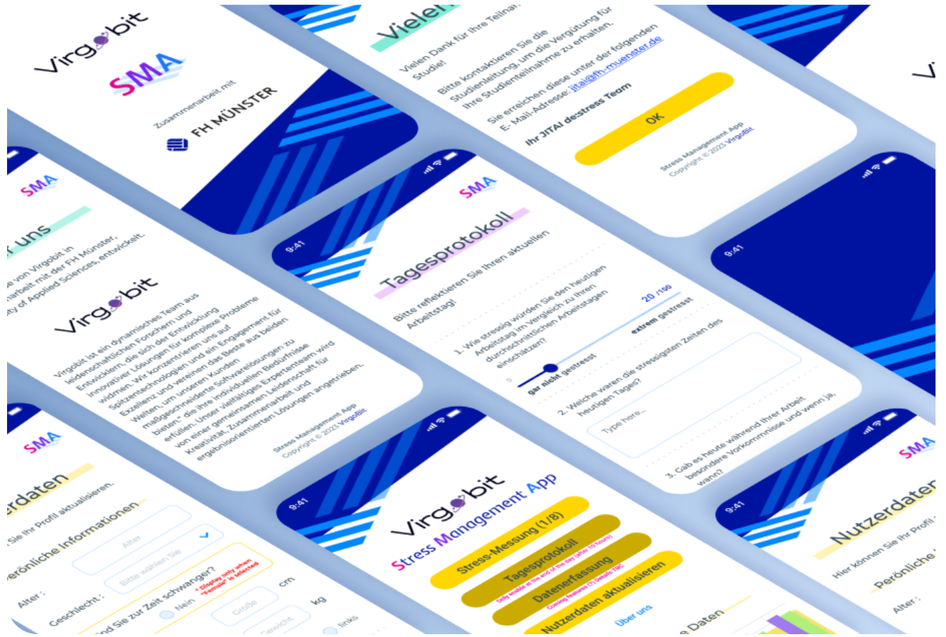
About:

Virgobit collaborates with Oldenburg University on an exciting project to develop an app for visualizing event-related potentials (ERPs). The app integrates with the Lab Streaming Layer (LSL) to capture EEG data and event markers. Through epoching, filtering, and averaging techniques, researchers can analyze and display ERPs based on selected markers and EEG channels.

CASE STUDY

Stress management mobile app

In collaboration with FH Münster University of Applied Sciences



Provided Services:

- Remote Data Collection
- Collecting Large Datasets
- Ethical Approval

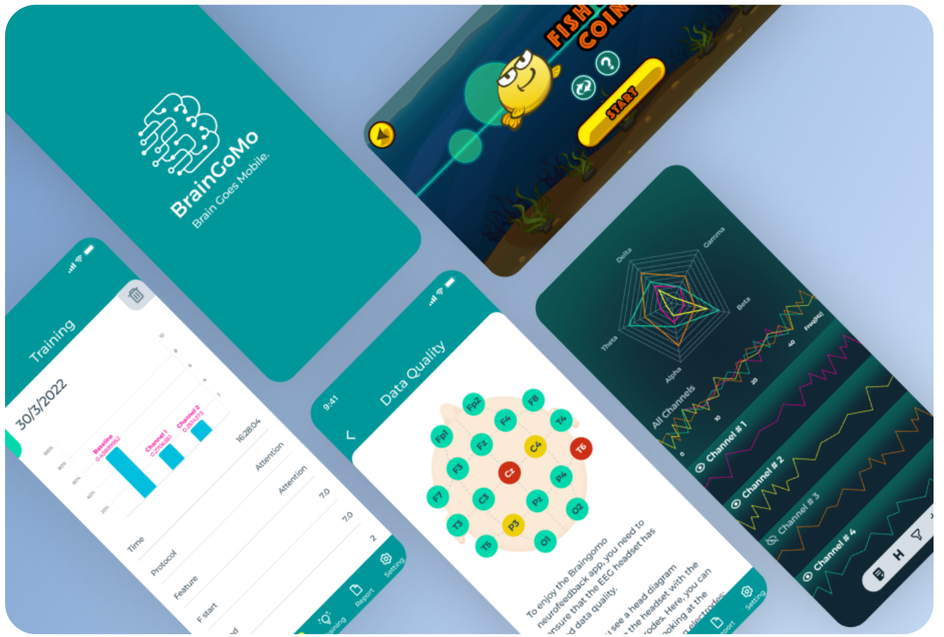
About:

Virgobit and FH Münster University of Applied Sciences are collaborating to develop a mobile app for stress detection in healthcare workers. The app uses a wearable device to record heart-rate variability (HRV) and applies signal processing algorithms to calculate stress levels. It also incorporates subjective data through questionnaires to gather users' perceptions of stress. By analyzing both objective and subjective data, the app generates personalized recommendations for stress management. This innovative solution aims to improve the mental well-being of healthcare workers and promote a healthier work-life balance, addressing the challenges they face and contributing to a more resilient healthcare workforce.

CASE STUDY

Smartphone-based neurofeedback platform

In collaboration with BrainGoMo team



Provided Services:

- Remote Data Collection
- EEG/BCI Solutions
- Gamified Cognitive Tasks
- Mobile Signal Processing and Machine Learning
- Ethical Approval

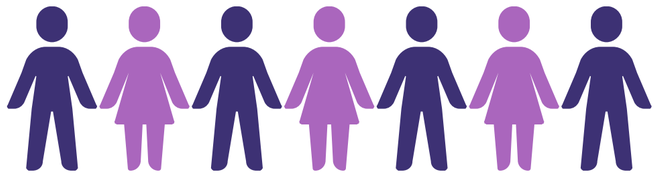
About:

At Virgobit, our expertise in signal processing, cognitive science, and related fields enabled us to collaborate with BrainGoMo in advanced wellness and clinical neurofeedback platforms. We redesigned BrainGoMo's website, creating an engaging platform that showcases their state-of-the-art services and products. Additionally, we developed a user-friendly mobile app with specially designed games, empowering users to actively participate in their neurofeedback journey.

OUR COMPANY

Virgobit develops customized software that integrates smartphones and wearable devices to capture and process multimodal data, such as behavioral, physiological, and neurological data outside of clinics.

We help scientific and clinical teams to collect and analyze data from their patients/participants according to their specific needs and preferences.



CEO & Founder

Dr. Omid Abbasi

Neuroscientist at Münster University

WHY OUR PARTNERS CHOOSE US

- Extensive experience in collecting and analysing multi-modal data
- Extensive experience in reading data from wireless wearable gadgets into software platforms
- Successful collaborations with well-known institutes and scientists

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