



SimyLife

EBV Takes Away Stress of IoT Product Development
for SimyLife

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After a successful career in rowing, Andreas Chabicosky took up sports and mental training coaching. He developed various on-site trainings to help athletes and business professionals manage stress to their advantage and use it to stir up power levels and reach wellbeing in their daily lives.

To help his clients continue practicing mental training techniques outside the class, he needed a tool that can be easily incorporated in their daily lives. To accomplish this, Andreas created a stress management device – SimyBall – with support from EBV Elektronik. It is a simple and intuitive gaming device with the concept that playing takes away stress.



CHALLENGES

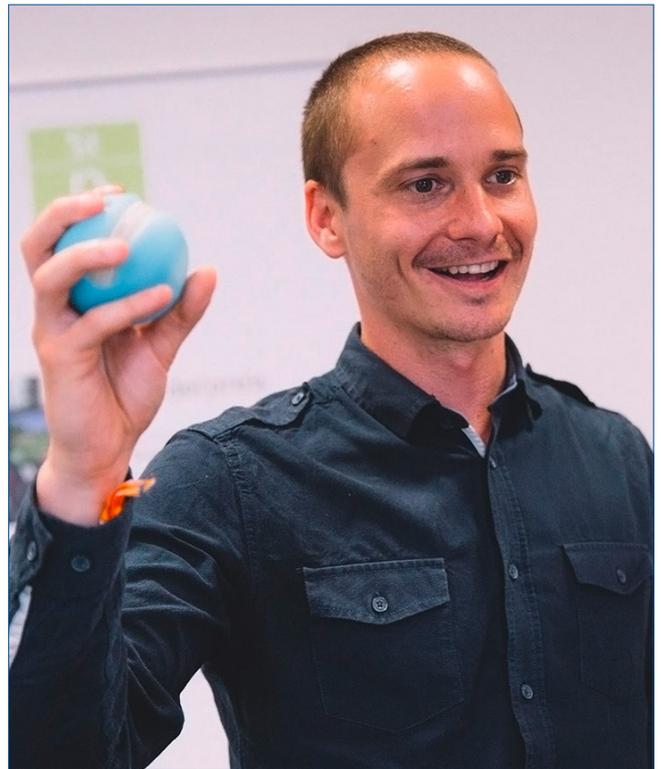
- **Incorporate stress management techniques learnt at the seminar in daily life** and help seminars participants use stress management techniques and increase body awareness outside from seminars or personal coaching.
- **Build an intuitive electronic device, which incorporates bio-sensors and gaming principles.** Having a great product idea for a high-tech device for health and wellbeing, Andreas and his team required support to transfer their technical skills and knowledge into designing, developing and launching an electronic gaming device.

SOLUTION

- **SimyBall - the gaming device for active stress management.** The sensors integrated in the ball measure current activation levels. With the help of specially developed games and a virtual coach service it then “coaches” users on how to relax, activate, concentrate or improve focus. EBV Elektronik specialists have guided Andreas and his startup company in “tuning” the product concept besides helping them with risks and cost management in the hardware development process.

TECHNOLOGY & BUSINESS OUTCOMES

- **Effective bio-sensory feedback device.** Bio-sensors integrated in the ball accurately measure activation levels in real-time. Developed with bio-medical experts from Vienna FH Technikum (University of Applied Sciences) the algorithms analysing the data offer recommendations for bringing down stress levels or activating for the needed challenge.
- **Greater customer satisfaction.** Customers can now easily use the device and practice activation management techniques at work or at home without the need for complex equipment. Their personal virtual coach is available 24/7 and fits in the palm of their hand.
- **Increased business model options – moving from purely B2B to B2C practices.** Introduction of the SimyBall has helped SimyLife extend their business opportunities. The company can now directly address the consumer market.
- **Shortened time to market.** With EBV Elektronik's support, SimyLife took eighteen months from concept to the first commercial-ready SimyBall.



ABOUT SIMYLIFE GAMIFICATION GMBH

“Play stress away” is the mission of SimyLife. Andreas Chabicovsky, inventor of the SimyBall and co-founder of SimyLife, after many years coaching IT employees and rowing teams with mental training seminars wanted to provide a mechanism for people to learn about mindfulness and practice mental training techniques outside the classroom.

He realized a need for a cost-effective bio-sensory feedback device that tracks current activation (stress) levels and manages them with tutorials, advices, games and motivation. SimyBall (Sensors In MY Ball) is exactly this device. SimyLife Gamification is funded by aws.

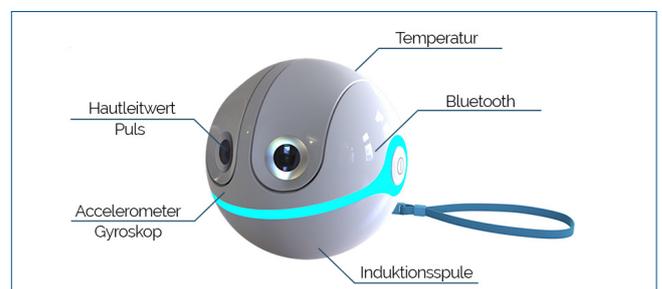


Andreas Chabicovsky, MSc
Founder & CEO SimyLife Gamification GmbH
Graduated sports and mental coach
IoT product development and project management expert

SIMYBALL FOR STRESS MANAGEMENT

SimyBall is a bio-sensory device with a mobile game controller that records stress information and combines it with educational stress management games. The vital signs (for example skin conductance, pulse, skin temperature, etc.) recorded by SimyBall are integrated into a fascinating feedback and gaming experience. By turning mental training into a game, SimyBall increases energy and performance levels by using positive activation while reducing negative stress.

SimyLife offers on-site self-learning activation & stress management seminars, and employs SimyBall as a key tool to teach relaxation and activation techniques that include elements of the Yi Gong, Thai Chi, and Progressive Muscle Relaxation, all packaged in an appealing gamified environment. This has resulted in more productive and focused employees with higher creativity and lowered stress levels. The first set of SimyBalls produced are already being used in seminars. Later this year, in November 2017, consumers can get some for themselves via the Kickstarter program.



HOW SIMYBALL WORKS

SimyBall constitutes 4 boards, 10 sensors, over 200 electronic components and 12 housing parts. Sensors in the ball include bio sensors (skin conductance, optical heart rate, infrared temperature) and motion sensors (accelerometers, magnetometer, gyroscope). Information collected from the sensors is processed in an on-board ARM® Cortex®-M4 microcontroller and passed on to a smart phone app via a Bluetooth Low Energy 4.2 connection.

Data collected from the mobile apps are sent to SimyLife's owned basic app (local or on a private cloud) for statistical analysis, coaching tips, pattern recognition and continuous calibration for providing the most accurate feedback on personal activation and stress management conditions. Algorithms that analyse data to provide recommendations and real-time advice are being created in collaboration with bio-medical experts. In addition, SimyLife plans to extend its ecosystem by offerings SDKs to external developers for more exercises in form of feedback apps, games and self-regulation skills. Stringent health data privacy and compliance requirements are considered and all regulatory needs will be met.



DESIGN CHALLENGES FOR SIMYBALL

1. Great product vision required semiconductor market knowledge and supply-chain expertise

Taking a concept and making the journey to make it a commercial product involves skills not only in hardware, software and industrial design but also in component pricing, supply chain, manufacturing, supply chain and product lifecycle management. Acquiring these skills or hiring consultants requires money, time and effort. Having a trusted advisor to help manage and guide through this process has a big influence on the overall success of the business.

2. Low product costs without compromising quality

Success and wide-adoption of SimyBall depends directly on cost. Designers faced the challenge of picking the right components, and designing low-cost/high-quality housing. Complicating this objective was SimyLife's desire to build the product in Austria rather than low-cost manufacturing locations like China.

Evolution of the SimyBall



3. Small Size

The ball's size had to be small to keep it easy and realistic for a client to use and carry around. Picking small form-factor components to designing PCBs with tight space requirements posed a considerable challenge. Signal quality, interference and other noise issues had to be minimal to ensure sensing accuracy was not affected.

"I knew that if SimyBall is somewhat bulky my clients won't be using it and we would be back to square one"

Andreas Chabicovsky recalls saying during the design phase

4. Future-proof design

SimyLife's experienced Industrial Design partners (Edelweiss Industrial Design) had to ensure that the product has flexible interfaces and the overall design allowed for easy upgrades and feature enhancements. SimyBall needed to be built such that new technologies, protocols and standards could be easily integrated with minimal redesign and effort.

5. Build in scale

Andreas and his startup team were well aware of the need and challenges for constant improvement of supply-chain, component lead times, management of outsourced manufacturing entities and pricing optimisation.

BENEFITS OF PARTNERING WITH EBV

EBV has been SimyLife’s strategic partner from the very beginning. SimyLife founders met Mario Arh, the EBV Technical Sales Manager, at a startup event in Vienna, Austria. Mario quickly became a trusted technology advisor to the SimyLife team. With Markus Vogt, EBV segment director for healthcare and wearables, the team helped the SimyLife optimize their supply chain, go-to-market approach (B2B vs. B2C), and supported a commercial-ready product from a proof-of-concept design. EBV also provides SimyLife a platform to market through various channels – at industry conferences, at EBV events and at the Innovation World Cup Series, the world’s leading Internet of Things innovation competition.

Markus Vogt has over 12 years of experience in the healthcare and startup market and his coaching and advice on product strategy and go-to-market approaches were invaluable to the SimyLife team. “As a startup company with limited financing it’s important to make the right choices and decisions about the product from the very beginning”, says Markus Vogt. By involving him early in the product definition phase, the SimyLife team took advantage of his insights in the wearables market and extensive experience with startups. Inspiration and advice given by Markus has sent SimyLife down the path of initiating and preparing for the launch of the SimyBall on the Kickstarter platform in November, 2017. This program will further increase visibility for SimyLife mental training and stress management solutions and raise awareness of SimyBall.

For cloud services, Markus educated SimyLife on the criteria to be used for cloud partner selection - tradeoffs between large players like AWS or Azure vs. local providers who host data in Europe, privacy and other regulatory requirements for gathering personal health data, and other considerations required for the medical/personal healthcare market.

On the hardware front, EBV helped identify components for the entire signal chain that met cost, size and accuracy requirements. All selected products were guaranteed to be



Markus Vogt, Director Healthcare Segment, EBV Elektronik

available for at least two years. EBV introduced SimyLife to local EMS partners so the product can be built in Austria, a goal of SimyLife founders. Further, Mario and the team provided updates on latest product releases and roadmaps, and educated the SimyLife team on technology trends and emerging standards. This unbiased technology advice enabled SimyLife engineers make the right design choices to meet current requirements and future-proof the product for enhancements.

“Keeping the costs down not only at the mass production level, but at the prototype phase too, was a challenging task... And EBV have supported us well in it, along with the piece of mind regarding the components’ origin and authenticity which we enjoy.” –Marcel Aberle, Co-Founder, SimyLife

Another benefit with the EBV partnership is the opportunity to co-market and be associated with a known brand. EBV partnered with SimyBall to demonstrate the product in many industry conferences and at internal EBV events. Recently, SimyLife signed up for an EBV sponsored design challenge, the Innovation World Cup Series. By providing a platform, EBV is helping to raise awareness of SimyLife solutions in the healthcare and personal wellness markets.



SIMYBALL CUSTOMER TESTIMONIALS



“SimyBall could become the crucial factor for mental training to get the ticket to the Mars”

Günther Golob, one of the last 100 selected for the “Mars One” project



“SimyBall is the greatest innovation in the Bio-Feedback market since the last 20 years.”

Peter Hauschild, Psychologist, Bio-Feedback expert, a founder of HeartBalance Innovations company in preventive health promotion. In 2011, Peter Hauschild was invited by Sigmund Freud Private University of Vienna to establish his own Department of ChronoPsychology and ChronoMedicine.

REFERENCES AND PRESS RELATED TO SIMYLIFE

www.simyball.com

[Watch Now – Trailer of the SimyPenguin game](#)

[EBV IoT Hero: EBV Elektronik’s new initiative in partnership with the Innovation World Cup Series](#)

[YouTube Channel SimyBall by SimyLife – various games and videos](#)

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