



Case Study: Smart Start Minds and Temasys Build e-Learning WebRTC Infrastructure

About Smart Start Minds

Smart Start Minds developed technology to help improve concentration skills in children, children with ADHD, adults, and high performance athletes. They developed a neurofeedback training program called Concentration Plus. Through Functional Near-Infrared Spectroscopy (fNIRS) the application monitors the amount of oxygen in the part of the brain responsible for concentration. That part of the brain is the prefrontal cortex. Smart Start Minds are pioneers in online fNIRS neurofeedback training and this has been made possible through Temasys' Skylink Software Development Kits (SDKs).

Students wear a USB enabled headstrap that measures neurological activity in their prefrontal cortex, log in to the training portal at <https://ssmlink.com>, and then perform training and tests. Students can use any Windows or Mac computer with USB functionality. Smart Start Minds can run multiple parallel sessions with many clients connected to a single trainer.

“We see a future with everyone using a wearable connected device that monitors and augments brain function to empower them to reach their full potential,” says Thomas Dannhauser, Founder and CEO of Smart Start Minds. “Temasys shares our vision and has provided a key enabling technology. The team has been very supportive and responsive.”

Temasys SDKs Key Features and Capabilities

Temasys provides real-time technology solutions and services through the Skylink WebRTC platform, enabling Smart Start Minds to embed live voice, video and data transfer features into their training portal.

For Smart Start Minds, the key functionality that Temasys provides is giving in-context interactions for their trainers and students. They can communicate in real time about their training program, discussing the data that is collected, the training that is being performed, and any other issues that may arise.

Additionally, Temasys Skylink SDKs provide the trainer with complete control over the training session and full visibility of the interactive training session from streaming data between the client browser and the training hardware.



UNLOCKING THE TRUE POTENTIAL OF THE MIND

Technical Requirements

Smart Start Minds business problem was how to scale their solution to reach more people and help them unlock their true potential. Implementing live video and voice as well as data sharing would allow them to move their service online and reach a global market.

The company started with a 1 on 1 training centre in London and wanted to help more people. To reach more people they needed a platform that was reliable, worked with many different browsers and operating systems, and could be deployed to clients around the world. Also, the Temasys Skylink SDKs make it possible to reach clients with varying broadband speeds.

Dannhauser adds, “The Temasys SDKs allow us to interact securely with clients with a familiar “Skype-like” call and simultaneously control multiple devices remotely and collect real time data. No software installation required, “Plug and Play” into any PC/Mac.”

Smart Start Minds is increasing its market share to include Seoul, Hong Kong, Switzerland, UK, Thailand, South Africa, and China by allowing children, athletes, and individuals who require healthcare consultation to use their programs online.



The Training Program

A lesson lasts between 45 minutes and 1 hour. To see significant improvement in concentration a program for non ADHD children lasts for 40 sessions spread out over several months and during that time students improve their ability to concentrate and stay focused.

For children with ADHD, 80 sessions leads to significant improvement in their ability to concentrate and stay focused.

To build the Concentration Plus training portal, Smart Start Minds used the Temasys’ SDKs that embeds video, audio and data sharing into their application. Trainers can communicate directly with their students and collect data from their headsets no matter where they are in the world.

“Thanks to the Skylink SDKs,” says Charl Wentzel of Smart Start Minds, “we could focus on the features of the training system, instead of the implementation of WebRTC.”

Smart Start Minds Case Study Overview

Industry:
E-Learning, Telehealth

Implementation timeframe:
Smart Start Minds implemented the Software Development Kits (SDKs) in less than 2 weeks. The implementation required a custom front end, the creation of the voice and video feed between the trainer browser and the client browser, and use and synchronization of the data channel for session control. Subsequently, Smart Start Minds added new features such as data streaming between browsers, additional control for voice, video, and training, and also added connection status and data transfer indicators.

Products used:
Temasys’ Voice, Video, Data Sharing SDKs

About Temasys

Temasys Communications is a leading Communications Platform-as-a-Service 2.0 (CPaaS 2.0) company with offices in Singapore, Thailand, Netherlands, and Palo Alto, California. We provide real-time communication technologies and services through the Skylink WebRTC platform, which delivers a secure, reliable, and scalable infrastructure that makes it easy for businesses and application developers to embed real-time interactive features — such as live voice and video, messaging, file transfer, screen sharing, and more — into their applications and websites.

Leading companies in the healthcare, finance, e-commerce, and e-learning industries rely on Temasys to power countless real-time interactions made daily over audio, video, and data streams. Temasys Skylink bridges the gap between pure open-source WebRTC and a complete enterprise solution that is carrier-compliant, with easy-to-use APIs and SDKs, accessible documentation, and a highly-trained customer support team.