

CASE STUDY

In Collaboration with Mayo Clinic, SPARK Neuro Built the First Portable TBI Tracker in 8 Weeks

CUSTOMER

www.sparkneuro.com/

INDUSTRY

Electronics Manufacturing

OBJECTIVES

- To create an interface for clinicians to scan the patients
- A desktop application that communicated with an existing SDK
- A launch of an MVP in 8 weeks

RESULTS

- Successful launch of MVP within the timeframe
- Seamless doctor and patient experience
- Harmonious application and SDK communication

Summary

In a partnership with a large clinic to develop the first portable TBI (Traumatic Brain Injury) tracker, SPARK Neuro's technology would be put to the test and they needed a strong team of developers to the first MVP under a short timeline.

The Business

SPARK Neuro is a neuroscience company that revolutionizes audience engagement in advertising and entertainment. Instead of relying on traditional, biased research methods, SPARK Neuro goes right to the source, measuring brain and nervous system activity. SPARK Neuro quantifies attention and emotional levels with second-by-second precision. Founded in 2016, SPARK's research is trusted by major brands including GM, Clorox, Toyota, Procter & Gamble, NBC, Universal Pictures, Telemundo, and Netflix.

The Challenge

In the development of the portable TBI tracker, SPARK Neuro had the machine learning algorithms to perform the diagnosis but needed to create an interface for clinicians to scan the patients. SPARK Neuro needed developers to rapidly create a user interface that connects to their scanning device that can display high-level data to the user and record the complete data to their database for processing. Mockups of the desired functionality and look were already created by their designers.

The Solution

The project was largely divided into two parts:

- Desktop Application created using React/Electron. This would be the users point of entry in which they would be able to see all data collected in a graphical manner and be guided through the process of collecting data from a patient
- The creation of a C program using the EEG's built-in SDK. This program was responsible for routing all the data produced by the EEG into a WebSocket which would be accessible by the Desktop Application

The team also participated in daily stand-ups with client to give minute-by-minute reports on their progress and pivot as necessary. Communication was key in this solution as there were many moving parts and all had to be able to interconnect seamlessly.

The application itself was created with the focus of ease of use. The experience for both the doctor and patient was prioritized to be as seamless as possible. The result was a simple but powerful tool that only required a one-click setup to connect to the EEG machine. It would walk the doctor through the necessary steps to have the patient perform and automatically upload the collected data to a SPARK Neuro server.

The Result

A successful MVP was launched in the required timeline, enabling SPARK Neuro and Mayo Clinic to provide rapid point of care evaluation and tracking of traumatic brain injuries, concussions, and head impacts.

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