



EEG Eyewear for Predicting Epileptic Seizures

1. What Problem Are We Solving?

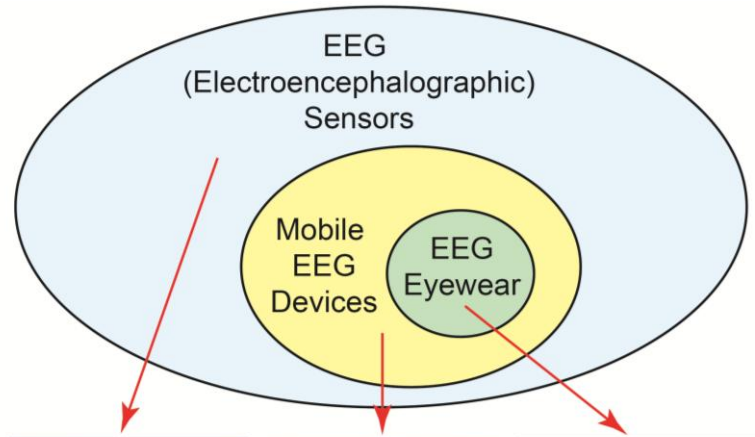
- ◆ Over a million people in the U.S. alone have epileptic seizures which are not controlled by medication. The unpredictability of seizures lowers quality of life. [1-7]
- ◆ Seizure prediction can reduce fear, prevent accidents, and enable better seizure management
- ◆ A unobtrusive wearable device for daily living would be particularly useful for seizure prediction [8-13]



Current Landscape: Competitors

2. What is Our Solution?

- ◆ People with epilepsy have expressed a desire via focus groups for a discreet wearable for everyday use to detect and predict seizures [14-16]
- ◆ Detection and prediction of seizures is feasible, but currently with wet EEG sensor arrays [17-37]
- ◆ Our solution is eyewear with EEG sensors for (close to) real-time detection and prediction of epileptic seizures. Not yet tested for epilepsy, but progress including toggling switch by thought.



Very accurate, but not mobile



Pretty accurate and mobile, but odd looking



Decent looking, but not very accurate (sensors on nose)



Despite my resemblance, this is not our design.

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Current EEG Eyewear Prototype in Action: Turn Switch On/Off by Thought

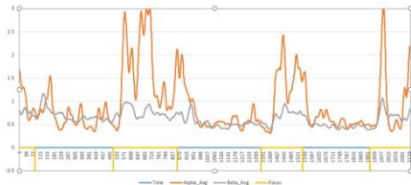
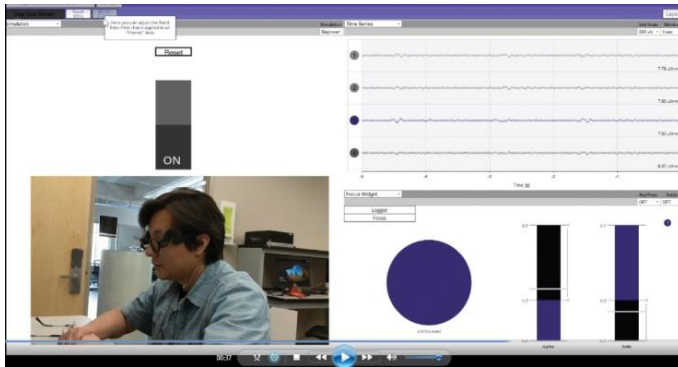
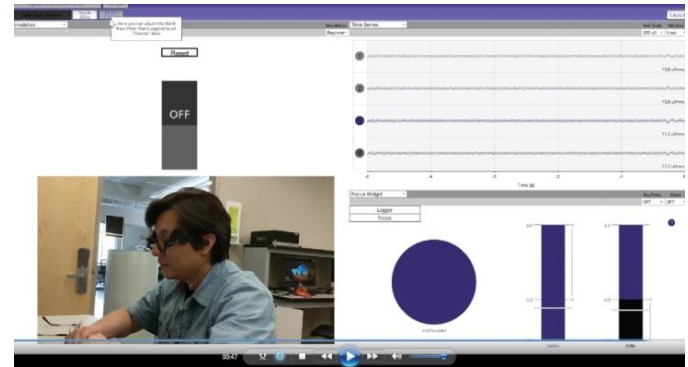


Figure 36: Two channel alpha average and beta average in time when focus and unfocused

- ◆ Alpha and Beta brainwaves analyzed via Fourier Transform
- ◆ Remotely turn switch on or off by changes in thought



⌂ switch turned on by thought



⌂ switch turned off by thought



3. Why Solve This Problem Now?

◆ Convergence: EEG sensors, wearable tech, and AI-enabled pattern recognition

4. How is Our Solution a Business?

◆ Large market, proprietary

◆ Primary market is people with epilepsy not controlled by medication; goal 5% market. Willingness to pay

◆ Secondary market Brain-Computer-Interface (BCI) for consumer electronics applications

Multi-Year Financial Scenarios

	Low:	Middle:	High:
People with epilepsy in U.S.	3,400,000	3,400,000	3,400,000
x % uncontrolled by medication	30%	30%	30%
= People with uncontrolled epilepsy	1,020,000	1,020,000	1,020,000
x % who purchase Medibotics' EEG glasses	1%	5%	10%
= Glasses sold in U.S. for epilepsy	10,200	51,000	102,000
+ Glasses sold in U.S. for other purposes	-	20,000	50,000
+ Glasses sold outside U.S.	-	-	102,000
= Total glasses sold	10,200	71,000	254,000
x Glasses price	\$350	\$400	\$450
= Sales revenue	\$3,570,000	\$28,400,000	\$114,300,000
+ Grants and other non-sales revenue	-	\$300,000	\$1,000,000
= Total revenue	\$3,570,000	\$28,700,000	\$115,300,000
Total glasses sold	10,200	71,000	254,000
x Variable cost per glasses	\$150	\$125	\$100
= Variable cost	\$1,530,000	\$8,875,000	\$25,400,000
+ Fixed cost (Regulatory)	\$3,000,000	\$3,000,000	\$3,000,000
+ Fixed cost (Admin & Gen)	\$400,000	\$500,000	\$600,000
= Total cost	\$4,930,000	\$12,375,000	\$29,000,000
Profit(Loss)	\$(1,360,000)	\$16,325,000	\$86,300,000

◆ Also see response (**significant interest, 175,000+ views, 65+ likes**) to 2025 LinkedIn video <https://www.linkedin.com/feed/update/urn:li:activity:7347995433417261056/>



Medibotics' IP Portfolio Relevant to EEG Eyewear

Patent 10130277, 2014-12-07, Willpower Glasses: A Wearable Food Consumption Monitor

Patent 9814426, 2015-01-18, Mobile Wearable Electromagnetic Brain Activity Monitor

Patent 10234942, 2016-04-24, Wearable and Mobile Brain Computer Interface (BCI) Device and Method

Patent 9968297, 2017-03-21, EEG Glasses (Electroencephalographic Eyewear)

Patent 12310749, 2024-01-12, Eyewear (Eyeglasses) with Electrodes (EEG sensors) for Prediction and/or Detection of Health Events or Use as a Brain-to-Computer Interface (BCI)

Patent 11172859, 2018-06-29, Wearable Brain Activity Device with Auditory Interface

Patent 11662819, 2022-02-04, Method for Interpreting a Word, Phrase, and/or Command from Electromagnetic Brain Activity

Patent 11850052, 2022-04-06, Dry EEG Electrode for Use on a Hair-Covered Portion of a Person's Head

Patent 12201427, 2024-06-19, Headband with Brain Activity Sensors

Application 18902821, 2024-09-30, Electrode Comprising a Plurality of Deformable, Proximally-Diverging Electroconductive Protrusions)

Application 18944224, 2024-11-12, EEG Monitoring Headphones and Headsets)

Application 19020737, 2025-01-14, Mobile Wearable Electromagnetic Brain Activity Monitor)



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