

MetaBrain Labs - Using a Brain-computer Interface to Transcend the Limitations of Traditional Mental Health Therapy



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Interview conducted by:
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CEO CFO: Ms. Day, what is the concept behind MetaBrain Labs?

Ms. Day: At MetaBrain Labs, we're pioneering a scalable, data-driven approach to mental health, leveraging cognitive restructuring, a process extensively validated by research. Our core idea is to transcend the limitations of traditional therapy, which relies on self-reporting, by using a Brain-computer interface. This technology enables us to measure and validate thoughts, providing deeper self-

insight. Our work spans across aiding individuals with various mental struggles and extends into medicine, where we aim to link emotions to genetic predispositions for certain health conditions.

This transcends helping people with mental struggles whether it is difficulty parenting, losing weight, issues with anger, or PTSD. It will also transcend into medicine because we plan to decode and map emotions to the genome so we can predict disease conditions that you may end up with if you experience the same emotions over and over each day.

CEO CFO: How does technology get inside the brain and assess what someone is thinking?

Ms. Day: Fortunately, our solution is not invasive, but simply an EEG headset to collect brain waves and now they have become affordable. You do not have to have it done in a medical facility. It is mobile, portable, and wearable. You can put it on your head, and it collects the brainwaves which are transmitted to our App using Bluetooth. Once gathered during a QA chatbot session, they are pushed to our platform for analysis. This then pushes the next question in the Chatbot session. It is an affordable headset that costs \$250.

CEO CFO: The technology is there but has the connection been made so that it is usable, and have we known for a long time that the brainwaves are readable?

Ms. Day: Well, everyone has heard about polygraphs, it detects deception but, in the past, they have always tested breathing rate, heart rate, and skin temperature. The new, modern method of testing for lie detection is brainwaves because it is very difficult to hide a lie with your brainwaves, being more sensitive and autonomous. We can control our breathing, but not our mental activity. We use this method. To start a session, a baseline is created by making true and false statements while measuring brain waves and then following, questions are measured against these baseline values. That is just how polygraph works just using different sensors.

The purpose is to discover the patterns we have which we call maladaptive thoughts that we want to change. This process of changing, reframing beliefs is found in Cognitive-behavioral Therapy (CBT). There is a process called cognitive restructuring where you can reframe your thought patterns, it will change your feelings and change your behavior. It is pretty big.

CEOFCO: *Would you give us an example of how it would work?*

Ms. Day: For example, a common fear, experienced by up to 75% of the population, is public speaking. We believe this stems from childhood “programming,” as children are taught and reminded, to be quiet, and as a result, this belief in our brain to be quiet around other people is triggered by the thought or act of public speaking. It produces what is called a stress response. Funny enough, if we could just change that belief that you have to be quiet, I feel I should speak up, changes the stress response. You will not have it anymore; it will be gone. That is what I have been doing for 40 years in my work across many maladaptive thoughts.

CEOFCO: *What type of training would a therapist or professional need to understand where they go when they find out the meaningful thought?*

Ms. Day: One of the things that we all know is that therapists are no longer available for any more business, they are maxed out and they are already treating substance abuse, and mental illnesses, so people who are struggling do not have the option to go into a therapist. What we have done is aligned with coaches because a life coach for example will coach people, they are good listeners, and then they can use our product to augment their coaching sessions. They can then provide programs. Let's say someone comes to a life coach saying that they are too shy to be a good leader, well we have a program to help people be better leaders. They can then go into the Chatbot and experience the session to help a person identify why they are shy, because everyone is unique.

This is about personal lives and mindset shifting, so the training acquired is quite little, it is just about learning to use the product and using it a few times because it is quite intuitive. Then you can assign it to your client as you coach them. Aside from MetaBrain Labs’ Chatbot, there is no process to change your mind, quickly and permanently.

“Our uniqueness lies in the 'white space' our pending patents occupy, combining chatbots with biometric sensors for brainwave analysis in novel ways. With our patented technology and ready-for-research software, our footing in life sciences positions us uniquely for success.” Alexandria Day

CEOFCO: *How receptive are the people doing coaching and how receptive are potential clients?*

Ms. Day: I think the world is yearning for a way to shift their minds, but they just do not know that a way exists. If someone who has PTSD comes back from the military and every loud noise triggers them, they would love to get rid of that trigger. A person who says things they do not want to say and beat themselves up for it, can now change the reason why they do it. It's a matter of reframing the old belief and replacing it with a more desirable belief (self-chosen). Our brain is wired. Many people, if they knew they could change a negative thought pattern, would love it.

CEOFCO: *How does the deprogramming work?*

Ms. Day: When you are in a chatbot experience, it will ask you why you think you feel or behave a certain way. Users make an answer and we measure the brainwaves while the person is answering, and if it is valid that means this is the belief that you hold that you want to change. It then goes to the next question, and it will ask what you would like to believe instead. We test again and if it is valid, it goes to the next question. Then we will dig down and ask why they believe that first point. It is a drill-down process because we do not want to be just at the behavioral level. If a person drives recklessly, the reason why they drive this way is much more important than their behavior.

We drill down a couple of layers and very often once you complete your session of what you do not want to believe anymore and what you want to believe instead, you go into a recording area within the app where you record these affirmations in your own voice. It will be something like, “I no longer feel I am shy,” and “I feel I am bold,” or “I no longer feel I am not good enough,” and “I feel I am good enough.” After recording a user pushes them to the playback session of the app and twice a day reminders indicate to play those back while sitting in a relaxed position, taking some deep breaths so that the unconscious mind gets reprogrammed.

In neuroscience, we know a lot. We know that someone cannot just decide to change their mind, they have to do something to modify it and that is what we are doing, rewiring the brain.

CEOFCO: *What is the feeling in the scientific community?*

Ms. Day: It is pretty exciting because there are many companies right now working on brain-computer technology. Some companies can use thoughts to generate thoughts-to-text. So, you think the word 'cat' and brain sensors (and analysis) can produce the word 'cat' in text. Meta, formerly Facebook, is decoding images using brain activity measurements, so if you are thinking about seeing a fence you will see on the monitor, a picture of a fence. Minds thinking movement, using new implants allow someone to think to move their leg and it will move people who have lost mobility.

The scientific community is deeply engaged in this final frontier, the brain, and our place in this domain rests within mental processes for self-discovery, measuring what we think we know vs. what is actually true. I do not know anyone yet who is doing what we are doing but in life sciences, it is extremely fascinating to see how we can harness the power of the brain, and the power of the unconscious mind.

CEO CFO: *How are you getting the word out?*

Ms. Day: Our focus is not consumer-direct although we have an MVP in the App stores and people can download and experience a self-conversation. Our target is to develop a digital therapeutic which requires research. We anticipate seeking FDA clearance after we conduct clinical trials. We are looking for partners that want to partner with us to be part of the IP development and part of the clinical trials because certainly someone will want to own a data-driven digital therapeutic. I am looking for big companies that want to own a piece of this and be part of the future because it is a big future.

CEO CFO: *How do you get a foot in the door with so many new ideas today?*

Ms. Day: Our uniqueness lies in the 'white space' our pending patents occupy, combining chatbots with biometric sensors for brainwave analysis in novel ways. With our patented technology and ready-for-research software, our footing in life sciences positions us uniquely for success. That is the basis of my invention, applying it to mental health but there are many other use cases. Because we have the patents filed, we have the software built and it is ready for research, and because it is in life sciences where all the money is, there should be no problem doing that.

What I am doing is collaborating with companies that have relationships. These companies in life sciences and medical devices know how to get something to market, their job is to commercialize products. They can introduce me to the right people.

CEO CFO: *How do you deal with some of the frustration when you have something that could be so life-changing that takes time to not only be approved from the FDA but to gain acceptance?*

Ms. Day: I enjoy the journey because a long time ago, I set a goal and reached my goal, then I thought, is that all there is? I decided to enjoy the journey. I am also 70, so I am grateful to have a project I love to do for the rest of my life and stay active. I am just enjoying the process.

CEO CFO: *Why is MetaBrain Labs important?*

Ms. Day: It is important because we are working in the last frontier. I know people call space the last frontier but that is external. I believe the last frontier is internal, within ourselves. We are either a threat to lives or we are enhancing life. I believe we are at the forefront of emotional, behavioral, and thought processes with ways to change them. We are the future of data-driven, personalized mental health and better living.