MINT (Medical Innovation in NeuroTechnology) is an undergraduate amateur research group under BEST (Biomedical Engineering Student Team). We explore affordable neuroscience. Our latest achievement is a proof-of-concept app that diagnoses ADHD with an accessible EEG headset, the MUSE. Currently, objective measurements of mental illness only reach a predictive power of ~60%, so diagnostics are dated and subjective. One potential solution is to test longitudinally (repeatedly over time); but that is not possible for neuroscience, as even low-cost tools (such as EEG) cost thousands of dollars. Do they?

A renaissance of neurohacking created a non-clinical market for neuroscience, producing a range of affordable EEG systems such as MUSE. Due to clinical regulations, it is illegal to distribute medical services without approval, so the products target lifestyle and meditation.

We wanted to push further. We developed an ADHD diagnostic app using the MUSE and the Flanker task, invented in 1974. All the relevant neuroscience papers and coding guides were available online, and have been for decades. Of course, it would be irresponsible to distribute it as a clinical tool, but as a neural attention test and lifestyle product, we could post it publicly online.

There is a gap between what affordable medical technology can do, and what is actually being done. Now, the conservatism in clinical regulations essential to restrain rampant medical misinformation. But how do we keep it from limiting innovation? I am just a spiteful undergrad, so I just went and built it. Hopefully, that’s a start.

Themes:

Check (highlight) the most applicable theme according to the abstract.

| Innovation and Technology | Health and Wellness | Culture and Society | Sustainability and Conservation |

Comments:

This is a really cool project. The abstract, especially at the end, is much less formal than a traditional conference abstract. This is fine, and attracts attention. The abstract does come across as a little bit cynical, saying things with unsaid implications "it would be irresponsible to market this as medical, so we found a loophole, but people will totally use it for medical purposes". I recommend you think about what you want to say. If you want this talk to be a criticism of the medical industry, great, if you want it to be a technical presentation on your technology, also cool, but you have to take the presentation seriously and with professionalism. I’m not saying you won’t, but the abstract leaves that possibility, so I recommend you maybe tweak the messaging a bit.