Personal Electronic Anxiety Control and Education Device
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INTRODUCTION

Background:
- Up to 33.7% of population is affected by anxiety disorder in lifetime\textsuperscript{5}
- 80% of people with anxiety do not seek treatment\textsuperscript{6}

Problem:
- Current anxiety treatment is expensive and inaccessible
  - Average cost of therapy in the U.S.: $100-$200+ per session\textsuperscript{7}
  - Average cost of antidepressants for 30 day supply: $10-$30 generic brand, $200-$500+ brand-name\textsuperscript{8}
- No current technology exists that actively detects onset symptoms for mitigation by prevention

Need Statement:
An accessible and affordable way to effectively track and predict physiological symptoms of anxiety in young adults in order to increase self-awareness and mitigate these symptoms.

MANUFACTURING COST, MARKET ANALYSIS, PATENT, REIMBURSEMENT

Manufacturing:

<table>
<thead>
<tr>
<th></th>
<th>Parts Cost</th>
<th>Labor Cost</th>
<th>Total Cost/Unit</th>
</tr>
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<tbody>
<tr>
<td>Start-up\textsuperscript{*}</td>
<td>$195.71</td>
<td>$135.26</td>
<td>$331.04</td>
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<tr>
<td>Large Scale</td>
<td>$199.92</td>
<td>$35.75</td>
<td>$235.67</td>
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\textsuperscript{*}Includes R&D

Retail:

<table>
<thead>
<tr>
<th></th>
<th>Price/unit</th>
<th>Subscription/week\textsuperscript{*}</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peace</td>
<td>$120.00</td>
<td>$120.00</td>
<td>$240.00</td>
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<tr>
<td>Feel Emotion Sensor</td>
<td>$199.99</td>
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</tbody>
</table>

\textsuperscript{*}Estimated subscription duration is 4 weeks

Patentability:
- Our device is similar to 3 patents on market
  - Cognitive state alteration system\textsuperscript{9}
  - Physiological monitoring garments\textsuperscript{9}
  - Unobtrusive emotion recognition system\textsuperscript{9}
- Novelty is the anxiety-specific detection & symptom mitigation by prediction

Reimbursement:
- Likely not reimbursable by Medicare/Medicaid\textsuperscript{10}
- Low upfront cost and high durability will still allow for an affordable and accessible product

COLLECTED DATA

PROPOSED SOLUTION

Hardware:

Wearable: Wrist Band & Patch

Machine Learning Algorithm:

Mobile Application

data displayed in graphs + charts

customizable to user

CONCLUSIONS

- This product allows users to take control of their mental health at a more affordable price than the competitors
- It targets anxiety and promotes a stress-free state of mind in order to aid in the overall well-being of each individual
- Model Prediction Analysis
  - Accuracy in identifying anxiety versus other emotional states
  - Minimizes false positives

Future Work

- A major aim is to fine tune and improve the machine learning algorithm with additional data and ensure that the algorithm will be personalized for a user.

Limitations
- Difficult to acquire sufficient data to train the algorithm due to volunteer scheduling and limited potential subject pool.

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REFERENCES