

Design Proposal Template:

School: Central Falls High School **State:** Rhode Island

Division: High School

Team Members' Names: Nayddelin Manuico, Ricardo Moreano, Emmanuel Sena

Project Title: Should be creative and give readers a general sense of what the project is about and want to read more. (20 word maximum)

AIVO: Aversion Intelligence for Vital Optimization - A device that uses aversion therapy to break harmful habits and identify behavior patterns.

Community Challenge Being Addressed: Describe the community challenge that you will attempt to address with your proposed solution. (75 word maximum)

AIVO addresses an issue common in our community and others, whereas many people struggle with harmful, addictive habits such as vaping, smoking, and excessive phone or substance use. For some populations, traditional behavioral support, such as therapy, can be expensive, hard to access, or easy to ignore. As a result, people continue these behaviors in silence, risking their physical and mental health. Our solution offers private, inexpensive, effective, and consistent support to interrupt these habits.

Community Research and User Identification: Explain the process used to identify the community challenge and select your user. Include any research done to identify issues in your community and understand which groups face challenges because of these issues. (150 word maximum)

We identified our community challenge by speaking to teachers and support individuals in our building. To better understand the problem, we surveyed 171 people. The most common issues we observed were excessive phone use (44.6%), smoking/vaping (42.4%), and procrastination (13%). This research showed that many adolescents in our community struggle with harmful, addictive behaviors yet lack support that feels safe, private, and always available. The 2020 National Youth Tobacco Survey shows that quit intentions were reported by 62.5% of current users of any tobacco product, 68.1% of cigarette smokers, and 63.9% of e-cigarette users, which matches up with the responses from our survey.

User Profile: Provide a detailed description of your selected user. Include information about challenges they face, how those challenges impact their lives, and specific project needs based on user feedback. (150 word maximum)

Our users are young people and adults who struggle with harmful or comfort-seeking habits such as vaping, smoking, excessive phone use, gaming, or substance use. These behaviors often start as an easy way to escape stress, loneliness, or family pressure, but gradually damage their physical and mental health. Over time, they disrupt sleep, concentration, and daily performance while straining friendships and family relationships. Many users feel ashamed or afraid to seek professional help or cannot afford it, so they try to change using willpower alone and repeatedly relapse. From user feedback, we learned they want private, nonjudgmental, inexpensive, easy-to-access, and constant support that fits into real life. They need discrete reminders, real-time interruption of urges, and compassionate guidance so they can slowly replace these habits with healthier routines and protect their future goals.

Project Goals: List your project goals and explain how these goals will address the community challenge. Project goals should define the desired outcomes, not specific features of the proposed solution. (150 word maximum)

Aligning with the needs of our users AIVO goals are:

Breaking bad habits

- Small shock or vibration offers aversive negative reinforcement of habitual behaviors.
- Reduce the frequency and intensity of harmful behaviors (vaping, self-harm, excessive screen time, substance use, etc.) over time by using proven technique - aversion therapy.
- Help users gradually replace these habits with healthier coping strategies that don't interfere with school, work, and daily responsibilities by providing affirmations and meditations.
- Help users identify patterns that trigger the behaviors by using AI to identify patterns.

Accessibility

- Our device which uses aversion therapy techniques is inexpensive, accessible and more convenient than therapy.
- One button to press when harmful urges occur makes it convenient and easy to use.
- A small wearable device that looks like a watch for discretion/privacy.
- Portable for constant and consistent use.
- Companion app to collect data, provide affirmations and identify behavioral patterns that trigger habit.

Proposed Solution: Describe your proposed solution, including any innovative and unique features, and explain how this solution will address your users' needs and the challenges they face. (150 word maximum)

AIVO is a discrete **wearable** device that is connected to an **AI-powered app** that helps students and young adults **manage addictive habits** in real time. The AI **identifies patterns** in vital signs like heart rate and skin temperature, while also allowing users to **log urges** when they feel **tempted to engage in harmful habits**. When stress or risk of relapse is detected, the device provides **immediate support** through guided breathing, grounding exercises, motivational messages, and **vibration/mild shock** as a form of negative feedback known as **aversion therapy**. **Aversion therapy is known to be helpful in breaking bad habits**. The app tracks triggers, progress, and small wins over time. **Designed to look like a normal accessory, A.I.V.O. protects privacy and offers constant, nonjudgmental support to help users interrupt harmful behaviors and build healthier coping skills.**

Initial Design: A single graphic of your first design idea with key features adequately labeled. It should be easy to understand, and the reader should have a general understanding of how the prototype functions by looking at the graphic. Max size 8.5" x 11". May contain up to 4 views of the design.

