Team Name - The Silicon Savants

Project Title – WellNest: Smart Mental Health Capsules
Innovative Pods for Enhancing Student Well-being in Hostels

Date – 26-01-2025

Problem Statement

Key Problem:
In shared hostel environments, students often struggle with mental health challenges due to the lack of personal, quiet spaces for self-care and stress management. High academic pressures, social dynamics, and a lack of privacy contribute to anxiety, reduced focus, and burnout among students.

Studies highlight that over **75% of hostel residents report difficulty finding stress-free zones**, negatively impacting their productivity and overall mental well-being. While advancements in hostel construction focus on physical infrastructure, there remains a gap in addressing the mental health needs of students.

Target Audience

The **primary beneficiaries** of this solution are **all hostel residents**, with a particular focus on:

1. Students undergoing high academic pressure during exam seasons.
2. Individuals facing emotional challenges or burnout.
3. Those seeking privacy for relaxation and mental rejuvenation.

Solution Overview

Introducing WellNest Capsules:
WellNest is a smart mental health pod designed to provide students with a private space for relaxation and stress relief. These soundproof capsules integrate cutting-edge technology to create a calming environment based on individual preferences.

Key Features:

1. **AI-Driven Mood Personalization**:
    - AI algorithms analyze user inputs (e.g., mood via app or voice) and customize the capsule's **lighting**, **temperature**, and **soundscapes** accordingly.
2. **Guided Relaxation through VR**:
    - Preloaded VR experiences include guided meditation, virtual travel, and mindfulness activities.
3. **Equitable Access**:
    - Students book sessions through a mobile app, and a **timer system** ensures fair use.
4. **Compact Modular Design**:
    - Capsules are portable, space-efficient, and can be placed in common hostel areas or unused corners.

Impact:
This solution ensures that students can de-stress and recharge in a safe, immersive, and tech-enabled environment, boosting mental well-being and focus.

Technical Feasibility

Implementation:

- **IoT Integration**: Smart sensors regulate lighting, temperature, and airflow.
- **AI Systems**: Pre-trained models analyze mood data from voice tone and app inputs.
- **VR Technology**: Affordable headsets provide immersive relaxation experiences.
- **Infrastructure Compatibility**: Capsules are modular and can be set up in existing hostel spaces without major modifications.

Scalability:

- The design is modular and plug-and-play, enabling installation in any hostel.
- Easily scalable to hostels of various capacities, from small to large.

Economic Feasibility

Cost Breakdown:

1. **Initial Setup**: Approx. ₹1–1.5 Lakh per capsule, including VR headsets, sensors, and soundproofing.
2. **Maintenance**: Low-cost regular cleaning and software updates.
3. **Sponsorship Opportunities**: Mental health organizations and CSR funds can help subsidize costs.

Cost-Effectiveness:

- Minimal maintenance and long-term durability make it a sustainable investment.
- Capsules can reduce stress-related productivity losses, indirectly benefiting the institution.

Social and Ethical Feasibility

Social Impact:

- Provides students with a much-needed mental health resource, encouraging self-care and reducing stigma.
- Accessible to all students, regardless of gender or physical ability.

Ethical Considerations:

- **Data Privacy**: Mood-related data is processed on-device and not stored externally, ensuring student confidentiality.
- **Inclusive Design**: Capsules are designed to be welcoming and easy to use for everyone.