



Growing healthier communities through focus & care

Exploring how students can stay engaged and focused during lectures.

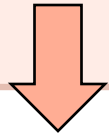
The Silent Crisis on Campus

Students are slipping through the cracks

- Students frequently zone out during lectures
- Focus drops silently over time
- Lecturers and students rarely notice in the moment



The Gap We're Addressing



No Early Detection of Disengagement

- Students often lose focus during lectures without realising it.
- There is no simple way to spot disengagement as it happens.
- By the time it's noticed, key content is already missed.

Missed Content Becomes Extra Work

- Disengagement creates learning gaps.
- Gaps lead to catch-up pressure, higher workload, and stress.

Loss of Motivation Over Time

- Constant catch-up makes studying feel overwhelming.
- Students feel behind and less confident.
- Motivation drops, making disengagement more likely in future lectures.



Introducing Canopy

What is a canopy?

In a Forest

The canopy is the upper layer formed by the tops of trees. It's where everything connects, grows, and shows the overall health of the forest.

We use it as a metaphor for collective focus - when students are engaged, the canopy grows; when focus drops, it thins.

In our Community

Canopy takes this idea and turns it into a focus-support system for students. A smartwatch detects when a student's focus starts to drop and gives a gentle cue, such as a vibration or flash, to help them refocus in time.

The app tracks each session, shows progress over time, and uses AI summaries to highlight any content that was missed.

As students stay focused, they collect forest coins to grow their virtual forest, turning attention and effort into visible progress.

How Canopy Works

01

Connect and Start a Session

Students connect their smartwatch to the Canopy app and start a lecture session. The watch begins tracking signals linked to focus, such as heart rate, movement, skin temperature, and EDA.

03

Focus Back...

When disengagement is detected, the watch gives a subtle cue, such as a vibration or screen flash. This helps the student refocus before they miss important content.

02

Detect Disengagement

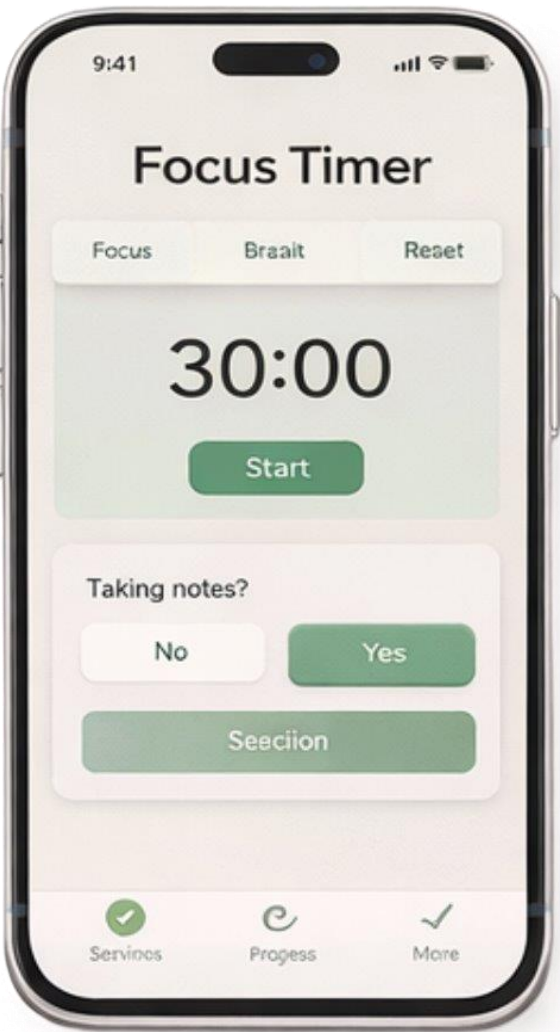
During the lecture, the smartwatch continuously monitors these signals. When patterns show that focus is dropping, the system detects early signs of zoning out.

04

Support, Track, and Reward Progress

The app logs the session, shows focus progress over time, and uses AI to highlight or summarize any missed parts. Staying focused earns rewards that help grow the virtual forest, turning progress into something visible and motivating.

Technology Stack



- 1 Start Focus Session and send to watch Via Bluetooth .
- 2 Read Sensors EDA, HRV, Temp, ACC, Gyro in real time and use ML algorithm to detect zoning out or not.
- 3 If Zone out sends to watch request to vibrate or flash to user.
- 4 Data is sent back to app to be tracked (in "Progress" section) .

PPG/HRV Sensor
Measures heart rate + Heart Rate Variability
High HRV= Focus
Low HRV = Disengagement

EDA Sensor
measures the quick sweat gland activity (attention changes)
Higher EDA = engaged
Lower EDA = Zoning out



[Source](#)

Skin Temperature Sensor
Tracks wrist temperature
Drops during Zoning Out
Support EDA classification

How?



Flashing

Vibration Alerts

The smartwatch uses built-in haptic technology to create a gentle vibration. This gives the user a subtle physical reminder without interrupting the lecture.

Visual Flash Alerts

The smartwatch briefly lights up the screen to create a flash. This visual signal works as a quiet reminder to help the user refocus.

How Users Interact with Canopy

1. Connect & Start

Link the smartwatch to the app and start a lecture session.

2. Track Focus

The watch monitors attention during the lecture and sends a gentle vibration or flash when focus drops.

3. Capture Missed Content

Users can take notes, with optional AI summaries highlighting anything missed.

4. Review & Get Rewarded

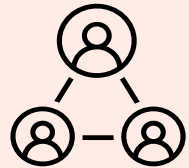
Sessions are logged, progress is shown, and users earn coins.

5. Grow Your Forest

Coins are used to grow and customise the virtual forest, turning focus into visible progress.

Community Impact

Connect



Shared focus during lectures

Support



Early signs of zoning out

Empower



Students motivated, engagement visible

Future works

- Share students' focus trends with lecturers to provide insight into engagement levels.
- This can help lecturers identify which parts of a lecture cause disengagement and adjust their teaching approach.
- May be added to a university based application/app for engagement tracking of modules and improvement of teaching methods