NeuralNinjas

A live Monitoring Tool for STUDENT ATTENTIVENESS

Integration Prototype for Zoom/GMeet and other online classrooms

INTRODUCTION

The benefits of online classes are unlimited, from flexibility to effective time management. The pandemic has opened up new doors to education and a lot of Edtech companies offered fruitful solutions. Though Online Education has simplified the conventional challenges of the "Chalk and Talk" method of teaching, the level of student perception has been a question.

The chances of staying motivated during online sessions and the comfort of the homes make it more challenging for teachers. This application intends to measure the activeness of students during live sessions and inform the teachers to engage them wherever required.

Mission STATEMENT

In order to promise an effective learning environment in an online classroom, the teachers should be
- actively monitor the students for their activities
- empathize if they understand the concepts clearly
- personalize their way of teaching
- intervene as early as possible to change the way of teaching difficult/boring classes
- plan their lessons according to the feedback of the previous session

Proposed OBJECTIVES

In order to understand the outcomes of the proposed system, we measure the following metrics. These are considered to be traits of an inactive student during an online session.

Yawning

In an educational context, consistent yawning or signs of drowsiness could suggest that a student is struggling to stay engaged or focused. This might be due to factors such as the time of day, the content being presented, the teaching method used, or the student's own sleep patterns.

Head Position

Educators should be cautious about making assumptions based solely on physical cues like head tilt and instead consider a holistic approach to evaluating engagement.

Wandering Vision

Lack of interest, cognitive load and distraction are commonly the reasons for wandering vision during the live online session.While wandering vision can be a sign of reduced engagement, it's essential for educators to consider the broader context and other cues of engagement.

Meaningful
INSIGHTS

01 **Engaging Content**
If educators notice consistent signs of disengagement, it's worth exploring how to adjust teaching strategies to better capture students' attention and interest.

02 **Immediate intervention**
The brain naturally cycles between focused and unfocused states. Periods of apparent wandering vision might be part of this natural cognitive rhythm.
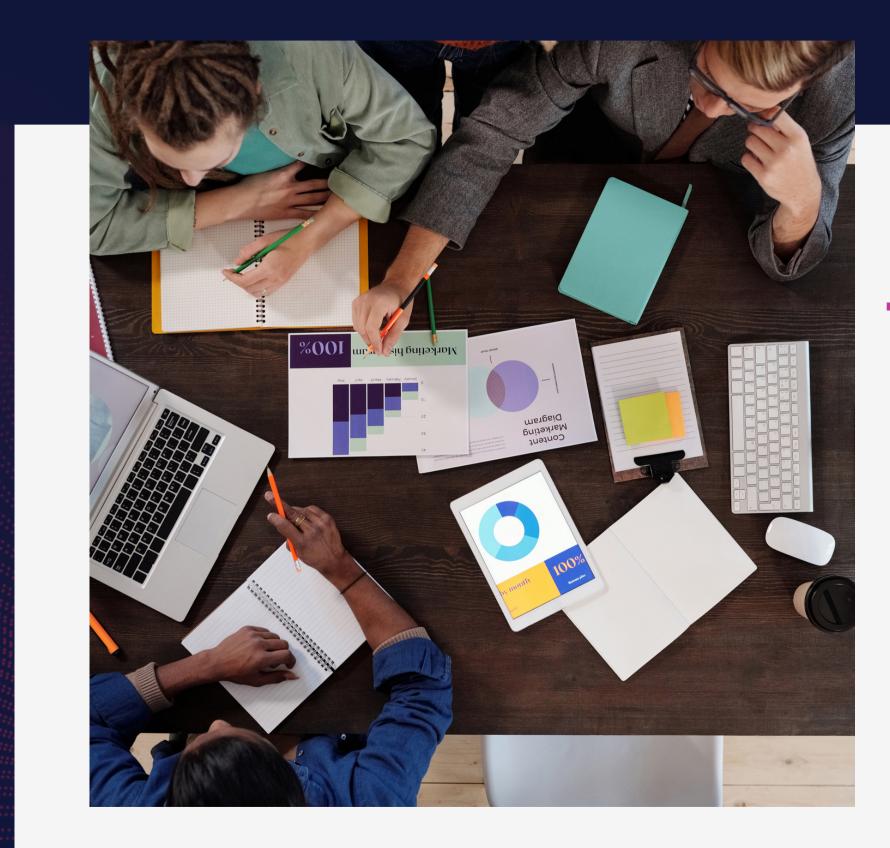
03 **Engaging into Discussions**
It's important to remember that student engagement and activity are multifaceted.

04 **Breaks between sessions**
Some students benefit from short breaks during learning to maintain focus. Looking around could be a brief mental break before returning to the task at hand.

THE SOLUTION

- Student Engagement monitoring tool - that detects the number of yawning, tilted heads and wandering vision during a session.
- Based on the count of students who have been inactive, the application will recommend the instructors plan the session with more engaging content.
- Real-time insights to instructors for altering the strategy.

Concepts

Defined

- Yawning
- Head Position
- Wandering vision

Models

Clarifai

- Visual Embedder
- Visual Classifier
- Visual Detector
- Image Crop