

DIGIEDUHACK SOLUTION CANVAS



Title of the solution:	EduMetria	Team name:	AI-GUIDE
Challenge addressed:	Supporting Student Well-being and Readiness to Learn	Challenge category:	AI for Student Well-being and Personalized Learning
Background of the team: (multiple selections possible in case of mixed teams)	Higher Education Students Teachers Others (please specify)	Researchers Primary School Students	Professionals Secondary School Students Undergraduated Student

Solution description

What is the final product/service/tool/activity you're proposing? What are its main elements, technologies and objectives? Could you please include a brief implementation plan with some key overall milestones, resources required and eventual barriers foreseen?
How could your solution be used to enhance digital education nowadays? How could its success be measured?

Product: We are proposing EduMetria, an AI-powered platform designed to support students' emotional well-being and readiness to learn.

Elements & Technologies: The system uses classroom cameras with computer vision (OpenCV, MediaPipe) for anonymous emotion detection and smartwatches for biometric tracking (heart rate, stress levels). This data is processed by a machine learning model to generate insights.

Objectives: Our primary goal is to provide school guidance counselors with actionable, real-time data to identify students who may be struggling emotionally, allowing for proactive support.

Implementation Plan: Our MVP will involve: 1) Developing a prototype using a webcam for emotion analysis and simulated smartwatch data. 2) Creating a simple dashboard for counselors to view student emotion/alert history. 3) Building a basic ML model to predict an "attention level" score.

Barriers: The main barriers are data privacy and ethics. We will address this by processing data locally, fully anonymizing reports, and designing the system to be compliant with data protection laws like GDPR/KVKK.

Enhancing Digital Education: EduMetria uses technology not just for content delivery, but to understand and support the learner's emotional state, creating a more empathetic and effective educational environment.

Success Measurement: Success will be measured by counselor adoption rates, qualitative feedback on the usefulness of insights, and improvements in student engagement metrics in pilot schools.

Context

What is the current or future problem you're trying to solve? How does your solution align with DigiEduHack 2024 annual theme?
How does your solution confront the challenge posed by the hackathon organiser and how does it address the challenge category?

The problem we are solving is the growing mental health challenge among students, compounded by the heavy caseloads of guidance counselors which prevent early and personalized intervention.

Our solution aligns with the DigiEduHack theme by using digital technology to create more inclusive, supportive, and human-centric learning environments. We are not replacing counselors but empowering them with AI.

Our solution confronts the challenge by providing a scalable tool that offers deep, data-driven insights, enabling schools to move from a reactive to a proactive model of student well-being support.

Target group

Who is/are the target group/s of your solution and how will they benefit from it? Why is your solution relevant to them? How do you plan to engage these groups so you fully meet their specific needs?

The primary target group is school guidance counselors. Secondary groups include teachers and school administrators. The ultimate beneficiaries are the students.

Counselors will benefit by receiving objective, real-time data that helps them identify students in need of support more efficiently, allowing for proactive rather than reactive intervention. This is highly relevant as it helps them manage large caseloads effectively.

We plan to engage them through co-design workshops for the counselor dashboard, ensuring the tool is practical and integrates seamlessly into their existing workflow.

Impact

How will your solution catalyse changes in education and what impacts will it have at social and environmental level? Could you provide examples or scenarios illustrating how such changes and impacts might unfold?

Our solution will catalyze a shift in education from focusing solely on academic outputs to prioritizing the emotional well-being that underpins them.

Social Impact: It will lead to earlier mental health interventions, potentially reduce bullying by identifying distress, and foster more empathetic and aware school communities. It empowers students by making their emotional state a visible and important factor in their education.

Scenario: A counselor receives an alert from EduMetria that a student's stress indicators have been consistently high for a week. The dashboard shows this correlates with math class. The counselor proactively schedules a check-in, discovers the student has severe math anxiety, and arranges for tutoring and coping strategies before it impacts their grades and self-esteem.

Describe it in a tweet

How would you describe your solution in a short catchy way with maximum 280 characters?

EduMetria is an AI-powered system using cameras & smartwatches to monitor student well-being & learning readiness. We provide real-time, data-driven insights to guidance counselors, fostering a more supportive and empathetic school environment. #AIinEdu #StudentWellbeing #DigiEduHack

Innovativeness

What makes your solution different and original? Are there similar solutions or approaches currently available or implemented by education sector practitioners? If so, why and to what extent is your solution better?

What makes EduMetria original is its holistic approach, combining non-invasive visual emotion analysis (from cameras) with personal biometric data (from smartwatches). While other solutions might focus on one data stream, our platform integrates multiple inputs for a richer, more accurate picture of a student's state. Unlike systems that track academic performance, EduMetria focuses on the emotional prerequisites for learning. It is better than existing approaches because it provides objective, continuous data to support the intuitive observations of counselors, enabling earlier and more effective interventions before issues escalate. The self-improving machine learning model also ensures its long-term accuracy and relevance.

Transferability

Can your solution partly or fully be used in other education/learning contexts or disciplines? Could you provide any example?

Yes, the solution is highly transferable. The core technology for monitoring emotional and physiological states can be adapted for various contexts.

Example: In corporate training, it could be used to gauge employee engagement and stress levels during workshops, providing feedback to trainers. In special education, it could serve as a vital tool to help educators understand the non-verbal emotional cues of students with communication challenges, leading to more tailored support.

Sustainability

Once you have a prototype, what are your plans for a further development, implementation upscale and replication of the solution? How do you see it working in the mid- and long term?

After developing the initial prototype at the hackathon, we plan to seek pilot partnerships with schools to refine the platform with real-world feedback and data.

Mid-term: Our goal is to develop a scalable, secure, cloud-based platform and pursue a B2B SaaS (Software as a Service) business model, offering subscriptions to school districts. We will focus on robust data security and privacy features to build trust.

Long-term: We envision EduMetria becoming a standard tool for data-driven student support, integrating with existing school management systems and expanding its predictive capabilities to identify students at risk of burnout or other long-term issues.

Team work

Present the members of your team.
Why are you the perfect team to develop this work and what are the competencies you all bring in so the solution is developed successfully? What is your expertise within the thematic field concerned? Are you planning to continue working as a team in the future? If so, why?

Our team is a multidisciplinary group of professionals and students with expertise in AI/Machine Learning, software development, UX/UI design, and educational psychology. This unique blend of technical skill and deep domain knowledge makes us the perfect team to develop a tool that is both technologically advanced and pedagogically sound. Our expertise lies in computer vision, wearable sensor data analysis, and creating user-centric dashboards. We are incredibly passionate about this project's social impact and are fully planning to continue working together post-hackathon to develop EduMetria into a real-world solution.