

Título de la solución:	NEUROCALM	Nombre del equipo:	Empathic
DESAFÍO ABORDADO:	Protect your mind and Digital World: Self-Care and Safety Online	Categoría del desafío:	Well - being in digital education
SOBRE EL EQUIPO:	☒ Estudiantes de educación superior ☐ Investigadores ☐ Profesionales ☐ Docentes ☐ Otros (Especi car)		

(puede hacer selecciones múltiples)

DESCRIPCIÓN DE SOLUCIÓN

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?

Solution proposal: <https://www.youtube.com/watch?v=17aIdtLsPVA>
 Prototype link:
[https://www.canva.com/design/DAG4OwPvSpI/IQKQ_etvN75b9QyCgq9kA/e/dit?](https://www.canva.com/design/DAG4OwPvSpI/IQKQ_etvN75b9QyCgq9kA/e/dit?utm_content=DAG4OwPvSpI&utm_campaign=designshare&utm_medium=link&utm_source=sharebutton)
[utm_content=DAG4OwPvSpI&utm_campaign=designshare&utm_medium=link&utm_source=sharebutton](https://www.canva.com/design/DAG4OwPvSpI/IQKQ_etvN75b9QyCgq9kA/e/dit?utm_content=DAG4OwPvSpI&utm_campaign=designshare&utm_medium=link&utm_source=sharebutton)

We propose NeuroCalmIA, an emotional AI assistant designed to anticipate, prevent, and soothe sensory crises in children with ASD/ADHD. Its key modules include sensory personalization, emotional detection through AI, empathetic virtual support, and automatic regulation of stimuli with guided breathing (goal: fewer crises, better self-regulation, reduced overexposure, and actionable insights for teachers and families). Brief plan: Pilot phase in classrooms and therapy sessions to adjust profiles and the "calm mode"; institutional integration with educational platforms; and expansion through wearables (smartwatches, headphones, wristbands) to capture biomarkers and detect stress in real time. Potential challenges: individual variability, model precision/latency, and protection of minors' data. In today's digital education, it enables preventive intervention and personalized support at school and home; success is measured by reduced frequency/duration of crises, observable improvements in self-regulation, and effective use of data by families and teachers to tailor support plans.

CONTEXTO

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

We aim to address stress, screen overexposure, and digital well-being and safety risks that impact learning. NeuroCalmIA aligns with the theme "Take care of your mind, protect your world: self-care and safety in the digital age," by promoting conscious technology use, emotional well-being, and responsible identity and privacy management. In practice, it tackles the challenge through an AI-powered solution that detects early signs of stress, adapts the environment, guides self-regulation, and provides actionable insights to teachers and families—fitting perfectly within the well-being and emerging technologies for education category highlighted by the hackathon.

Público objetivo

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?

Our target audience is children with ASD/ADHD (direct benefit: fewer crises, better self-regulation, and reduced screen overexposure), along with their families, teachers, and therapists (benefit: actionable data on sensory patterns to personalize support and strengthen the home-school connection). It is relevant because it integrates AI-based emotional detection, automatic environmental adjustments, and empathetic guidance precisely when stress signals appear—something rarely offered in a unified way today. To engage these groups, we will conduct classroom and therapy pilots, co-design sessions with educators and caregivers, and create family monitoring panels. Additionally, we will follow the hackathon's guidelines promoting digital well-being and preventive interventions, leveraging mentorship to refine the solution to real user needs.

IMPACTO

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?

NeuroCalmIA drives change in education by shifting from reactive interventions to prevention and guided self-regulation: it reduces classroom crises, strengthens socio-emotional skills, and provides actionable data for teachers and families (sensory patterns, stress moments), enabling individualized plans and more inclusive classrooms.

Social impact: fewer disruptive episodes, greater student participation and well-being, and better coordination between home, school, and therapy. Environmental impact: it decreases screen overexposure and promotes digital breaks, reducing overall device use.

Examples:

- (1) In the classroom, when early signs of sensory overload appear, the app dims stimuli and activates "calm mode," preventing crises and maintaining learning continuity.
- (2) At home, breathing routines and pattern logs help anticipate triggering situations for the next day.
- (3) Institutionally, integration with educational platforms and optional wearables allows replication of preventive protocols across multiple centers.

DESCRÍBELO EN UN TWEET

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

NeuroCalmIA is an emotional AI app that anticipates, prevents, and soothes sensory crises in children with ASD and ADHD. It detects stress in real time, adjusts colors and sounds, guides breathing exercises, and offers an empathetic virtual companion—promoting digital self-care.

INNOVACIÓN

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?

NeuroCalmIA stands out because it integrates AI-based emotional detection, deep sensory personalization, and empathetic support in a single app, with a preventive approach that anticipates signs of sensory overload and automatically adjusts the environment—rather than intervening only afterward. Although some tools exist, our analysis shows that few address emotional and sensory self-care in real time within an integrated system; therefore, our solution acts before and during a crisis, reducing episodes, strengthening self-regulation, and providing valuable data for families and educators.

TRANSFERIBILIDAD

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

NeuroCalmIA is transferable to different contexts: it can be used in classrooms and inclusive educational platforms, in therapeutic and healthcare environments, and even at home, allowing families and teachers to track patterns and adjust support strategies. In addition, its modules , emotional detection, calm mode, guided breathing, and empathetic support , can be partially integrated into existing solutions or expanded with wearables for real-time monitoring. Examples include support during classes with sensory overload, occupational/psychological therapy sessions, and self-regulation routines at home.

SOSTENIBILIDAD

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 the prototype, we'll: (1) run pilots to refine self-regulation tools, pattern tracking, and the family/teacher dashboard; (2) integrate with educational platforms and therapeutic systems; (3) add wearables for biomarkers and real-time stress detection. This enables modular replication across centers. Medium/long term: a stable assistant that reduces crises, boosts self-care, and personalizes support with data.

TRABAJO EN EQUIPO

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 NeuroCalmIA team is made up of students who support others facing difficult situations. What unites us is the desire to contribute to mental well-being. We comprise a team of developers who create safe spaces, UX/UI designers who mediate emotions and create empathetic interfaces, and specialists who rigorously validate content to ensure its accuracy. We also have a team of communicators who connect with young people through accessible language, and a mentor who has helped refine every detail. We come from backgrounds in mental health, emotional education, and socially conscious technology projects, and we want to continue working together because we share the same mission: to change the way people access emotional well-being.