DIGIEDUHACK SOLUTION CANVAS

Title of the solution: Kimi

Team name: Fabro Team

Challenge addressed: Education in rural zonez

Challenge category: Lack of Education

Background of the team:

(multiple selections possible in case of mixed teams)

- [x] Higher Education Students
- [ ] Researchers
- [ ] Professionals
- [ ] Teachers
- [ ] Primary School Students
- [ ] Secondary School Students
- [ ] Others (please specify)

Solution description

The proposed solution is a portable, offline AI device designed for teachers in remote, underserved areas without internet access or stable electricity. The device runs on a Raspberry Pi, using solar power, and is waterproof and durable. Its AI software provides adaptive educational content for multigrade classrooms, helping teachers manage diverse student needs.

Main Elements and Technologies:

- AI-driven software for adaptive learning.
- Solar-powered for sustainability and continuous use.
- Waterproof and compact design for resilience and portability.
- Eco-friendly materials to minimize environmental impact.

Implementation Plan:

1. Development Phase: Build the AI model, design hardware, and test software and hardware integration.
2. Pilot Testing: Deploy in a few remote locations, gather user feedback, and refine.
3. Scaling: Expand distribution to more remote schools and add more localized educational content.

Measuring Success: Success will be measured by improvements in student engagement, teacher satisfaction, and learning outcomes, assessed through pre- and post-deployment surveys and performance evaluations.
Digital Education Enhancement: The device supports digital education by providing access to adaptive, quality educational resources where traditional digital tools are unavailable, reducing educational inequalities.

Context

The project addresses the challenge of providing quality education in remote and underserved areas, aligning with the DigiEduHack 2024 theme of inclusive digital education. By creating a self-sustained, offline AI tool, we confront the barriers of connectivity, resource scarcity, and multigrade teaching limitations, directly addressing the educational disparities in isolated communities.

Target group

The primary target group is teachers in remote, low-resource areas who often manage multigrade classrooms. These teachers benefit from the AI's adaptive learning features, allowing them to tailor instruction for various ages and abilities without internet or advanced tech infrastructure.

Relevance: These educators lack resources and face significant challenges in providing individualized instruction. The device enables them to improve educational quality without additional infrastructure.

Engagement Plan: To meet the specific needs of this group, we plan to conduct initial pilot tests, gather feedback, and iteratively adjust the content and features to ensure the solution fits their unique educational challenges.

Impact

The solution catalyzes educational change by providing an accessible and adaptive learning tool where traditional methods fail. Socially, it empowers teachers, supports diverse student needs, and bridges educational gaps. Environmentally, the use of solar power and eco-friendly materials makes it a sustainable alternative to high-energy tech solutions.
Illustrative Scenario: A teacher in a remote Amazonian village uses the device to guide lessons for students aged 6 to 12. The AI adapts to each student's level, helping the teacher manage the class effectively without internet, while solar power ensures uninterrupted use, even in areas without electricity.

Describe it in a tweet

"Empowering teachers in remote areas with an offline, solar-powered AI device! No internet needed, eco-friendly, and designed to support multigrade classrooms in the most challenging environments. 🌍📚 #EdTech #Sustainability #RemoteLearning #AI4Good"

Innovativeness

Our solution stands out by combining offline AI technology, solar power, and a durable, eco-friendly design tailored for remote educational contexts. Unlike most EdTech solutions that rely on internet connectivity or stable power sources, this device operates entirely offline and is optimized for areas without infrastructure. Existing tools do not specifically address the needs of multigrade classrooms in remote areas, making this a unique, impactful approach that bridges a significant educational gap.

Transferability

This device can be adapted for other disciplines and contexts requiring offline, portable educational tools. For instance, it could be used in health education to deliver training on hygiene and disease prevention in isolated communities. Similarly, it could support vocational training or literacy programs for adults in underserved areas, providing a flexible framework that can be customized with relevant content for various learning needs.

Sustainability

Once the prototype is developed, our plan includes further refining the design based on pilot testing feedback to ensure it meets the specific needs of remote educators. In the mid-term, we aim to scale up production by partnering with NGOs, educational organizations, and local governments to distribute the device to underserved regions globally.
For long-term sustainability, we envision a model where local technicians are trained for basic maintenance and troubleshooting, ensuring longevity and usability in isolated communities. Additionally, the device's design prioritizes durability and solar charging, reducing reliance on external power sources.

Team work

Our team combines essential skills for this project:

- Alejandro García and David Saavedra (Finance): Experts in budgeting and financial planning, ensuring sustainability and scalability.
- Fabrizio Martínez and Said Valseca (Computer Science): Skilled in AI development, hardware integration, and software optimization, critical for building and deploying the device.

We're a strong, cohesive team with complementary expertise, and I would gladly work with them again due to our effective collaboration and friendship.

European Commission