

DIGIEDUHACK SOLUTION CANVAS

Title of the solution: DORY AI

Challenge addressed: 28h - transforming education

Team name: Team 25 - Arizona

Challenge category: Emerging technologies for education

Solution description

"Dory IA" is a pioneering proposal in university education, conceived in response to the diversity of learning styles among students. This innovative chatbot, in this initial prototyping phase, is cost-free. Additionally, it aims to address the educational gap by providing personalized information tailored to each student's individual preferences. Inspired by the philosophy that not everyone learns the same way, "Dory IA" offers educational material in various formats, whether through videos, audios, or texts, ensuring that each student can absorb the content in the way that best suits their learning style. This project not only seeks to improve academic performance but also to foster student autonomy and create an inclusive and accessible learning environment. In essence, this prototype represents a first step toward the broader vision of what we aspire Dory to be—an all-encompassing educational tool that adapts to the individual needs of each student to enhance their academic success.

Context

What is the problem you are facing?

The development of "Dory IA" faces challenges such as resistance to change in traditional educational environments and concerns about data privacy.

What is the challenge that you are solving?

"Dory IA" tackles the central challenge of diverse learning styles among university students, countering standard educational approaches. The solution aims to enhance learning effectiveness by delivering personalized content in various formats, fostering student autonomy, and creating a more inclusive educational environment.

Target group

Who is the target group for your solution?

"Dory IA" is specifically designed for university students who are looking for educational resources that cater to diverse learning styles. This group includes not just traditional learners but also those who might be non-traditional, such as adult learners, students with disabilities, or those who may struggle with conventional instructional methods.

Who will this solution affect and how?

The solution will impact students who require a more individualized approach to learning. By offering various formats of educational content, "Dory IA" is set to assist those who might find standard text-based learning inadequate. For example, visual learners can benefit from videos and infographics, while auditory learners might find audio resources more effective.

How will they benefit?

Students will benefit from a more personalized learning experience that can lead to better engagement with the material, improved retention, and potentially higher academic achievement. By accommodating different learning preferences, "Dory IA" can help students study more efficiently and effectively, fostering greater confidence and independence in their educational journey.

Impact

What is the impact of your solution? How do you measure it?

"Dory IA" represents a significant leap forward in university education, designed to cater to the varied learning styles of students. As an innovative chatbot still in its prototype stage and offered at no cost, it aims to narrow the educational divide by delivering personalized information in alignment with each student's learning preferences. Recognizing that learning is not one-size-fits-all, "Dory IA" provides an array of educational content across multiple formats, including videos, audio, and written texts. This allows students to engage with material in the way that suits them best, which is likely to enhance comprehension and retention.

Moreover, the project's commitment to fostering student autonomy is a move towards empowering learners to take control of their educational journey, promoting a sense of responsibility and self-direction. The inclusive and accessible learning environment that "Dory IA" seeks to create is not just about academic achievement; it is about shaping a more equitable educational landscape where every student has the tools they need to thrive. As a harbinger of a more adaptive educational ecosystem, "Dory IA" is poised to transform the academic experience by personalizing education and, in turn, unlocking the full potential of each student.

Describe it in a tweet

"Dory IA revolutionizes university education with a personalized chatbot. Free and versatile, it delivers educational content through videos, audios, or texts, catering to every learning style. Empowering academic success, fostering autonomy, and creating an inclusive environment. Dory, the future of adaptive education!"

Innovativeness

What makes your solution different and original?

Can anything similar be found on the market? How innovative is it?

"Dory IA" differentiates itself with a unique approach to personalized learning, offering materials in various formats tailored to individual learning styles, a feature not commonly seen in educational chatbots. While there are adaptive learning tools on the market, "Dory IA" innovates by combining this adaptability with a chatbot interface, potentially enhancing user engagement and mimicking personalized tutoring. Moreover, its free access at the prototype stage underscores its commitment to inclusivity, setting it apart from cost-barrier educational products. Its true innovation lies in its potential to offer a highly customized learning experience, a promising advancement in educational technology.

Transferability

"Dory IA's adaptable features extend beyond education. Tailored content, interactive chatbots, varied formats, inclusivity, autonomy, and continuous improvement can enhance experiences in professional training, customer service, and beyond. Versatility for diverse contexts!"

Sustainability

What is your plan for the implementation of the solution and how do you see it in the mid- and long term?

The implementation plan for "Dory IA" involves initial development and targeted testing within select university campuses, followed by integration into learning management systems through strategic partnerships. The mid-term goal is to expand the user base, refine the AI, and utilize data analytics to enhance personalization. Long-term, "Dory IA" aims for full integration into academic institutions worldwide, with ongoing updates to maintain relevance and potential expansion into other educational and professional training markets, becoming an essential tool for personalized learning at various educational levels and contexts.

Team work

We are the ideal team for this project due to our joint commitment to improving our environment and the firm belief that our project will generate a substantial positive impact on education. Each member brings strengths that complement and offset our individual weaknesses. I admire Evelin's dedication, who always seeks to accomplish each task, even if it involves learning something new. Likewise, I highlight Carlos's confidence and practical ability to absorb knowledge quickly. The incorporation of José has been fundamental, since his programming skills are harmoniously integrated with his patience and willingness to explore new ideas. In my case, Bethy, I consider that my organizational, research and creativity capacity in presenting solutions comprehensively complement this exceptional team. Despite episodes of tension during the development of our project, we have demonstrated an exceptional ability to overcome obstacles, demonstrating our unique personalities that, in critical moments, translated into direct communication, words of encouragement, jokes and serenity, thus driving success of the project. We recognize the possibility of having deficiencies and differences, but we have learned to put them aside for the sake of this project that transcends any obstacle imaginable.

TEAM 25 - ARIZONA

Project: Dory AI



28 H - DigiEduHack 2023

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Introduction

In the midst of the 21st century, higher education faces continuous challenges globally. As industries globalize, scientific and technological advancements set higher standards for teaching. The Peruvian University of Applied Sciences (UPC) is not indifferent to these demands and constantly strives to meet the circumstances. Hence, this 28-hour Innovation Marathon emerges, seeking to contribute to the development and inclusion in our academic environment.

Objectives: We aim to ensure equitable and enriching access to knowledge, leveraging the benefits of augmented reality and the assistance of artificial intelligence.

Mission: Support and guide students' learning, facilitating their adaptation to the university environment, and improving the efficiency of our academic services through technology.

Issues:

Currently, according to INEI, there are 7,867,500 young people aged 15 to 29, of which 24.6% are studying. The third biennial report on university reality indicates that in 2020, 27.4% face problems of attention and concentration. University education faces the challenge of adapting to the diverse learning needs of its students. Not all students process information in the same way; some may be visual, others auditory, and others may require tactile or interactive means. In addition, there is the additional challenge of adapting to students with different abilities, who may have specific barriers to accessing conventional educational content. The traditional educational system, based primarily on reading and listening, is not always flexible or inclusive enough to address these individual differences.

Product Description:

Product Name: Dory AI



Tweet: Connect to Knowledge: Your 24/7 Learning Companion.  

Solution Description: Dory is an advanced chatbot designed to transform educational content and make it accessible through multiple sensory modalities. It relies on artificial intelligence technology and image processing to interpret and adapt academic content submitted by users. Also, "Dory IA" is a pioneering proposal in university education, conceived in response to the diversity of learning styles among students. This innovative chatbot, in this initial prototyping phase, is cost-free. Additionally, it aims to address the educational gap by providing personalized information tailored to each student's individual preferences. Inspired by the philosophy that not everyone learns the same way, "Dory IA" offers educational material in various formats, whether through videos, audios, or texts, ensuring that each student can absorb the content in the way that best suits their learning style. This project not only seeks to improve academic performance but also to foster student autonomy and create an inclusive



and accessible learning environment. In essence, this prototype represents a first step toward the broader vision of what we aspire Dory to be—an all-encompassing educational tool that adapts to the individual needs of each student to enhance their academic success.

Key Features:

- **Content Upload:** Users can upload images of academic content, such as book pages, presentation slides, or handwritten notes.
- **Generation of Reference Images:** Once the capture is uploaded, Dory generates reference images that highlight and visualize key concepts, facilitating visual understanding.
- **Generation of Explanatory Text:** For those who prefer reading-based learning, the chatbot transforms the capture's content into explanatory text, highlighting main ideas and providing definitions or contexts when necessary.
- **Generation of Explanatory Audio:** For auditory learners or those with visual difficulties, the bot provides audio explanations, narrating the content clearly and concisely.
- **Accessible Interface:** Designed with web accessibility principles, ensuring that students, including those with different abilities, can interact with the tool without barriers.
- **Customized Mode:** Users can select and customize how they want to receive content, ensuring a learning experience tailored to their preferences and needs.

Effectiveness:

Dory's adaptability allows each student to access content in the way that best suits their needs, increasing the retention and understanding of the material. Being sustainable, this system minimizes the need for physical resources, such as books or printouts, and promotes inclusion by ensuring that all students, regardless of their abilities or capacities, have equal opportunities in their education.

Furthermore, by focusing on the importance of inclusion for people with different abilities, Dory will not only level the playing field for all students but will also raise awareness about the need to adopt more inclusive and sustainable educational practices in the future.

Video Link:

Video 1: <https://youtu.be/yg7Ww1HPWG8>

Presentation Link:

https://www.canva.com/design/DAFyqKb6S-o/5ymEvPwWZbg0BacU_GuosA/edit?utm_content=DAFyqKb6S-o&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton

DORI AI Real-Time Link:



<https://chat.codegpt.co/?agent=7f4d0a2a-028b-4d14-b65a-fa6940e26d73&pincode=rj586g>

Prototype Link:

<https://youtu.be/k1-RB16J4IY>

Evidence:

Initially, various programs were tested, but due to having a basic programming level, they did not respond to the proposed initial objective. Therefore, several GPT AI prompts were used and adapted according to the project's needs. Finally, we have utilized generative AI such as:

- For audio generation, we used Eleven Lap.
- For the generation of the Chatbot avatar, Heygen was employed.
- For content adaptation, we utilized Chat GPT version four.
- For the deployment of our BOT, we used a platform called Code GPT, which is based on the consumption of the Open GPT API and Voiceflow for the base API.

Instruction Manual:

Below is a default conversation to follow. Due to time constraints, prompts from different AIs have been used to verify their functionality. This can serve as a guide for other students to delve into this experience more deeply.

· Follow the highlighted questions:

User: Hi, what is Dory?

DORI AI: Hi! I'm Dori, your educational assistant. My purpose is to adapt educational content to your needs and make your learning more personalized. Are you in college?

User: Yes, I am a college student.

DORI AI: Perfect! Do you have any special needs to access the content?

User: I have a visual impairment.

DORI AI: Understood. I can adapt the content for you by narrating it, converting it into audio formats, and highlighting key concepts. Would you like me to adapt it this way?

User: Yes, that would be very helpful.

DORI AI: Let's get started! What topic would you like to explore today?

User: Physics.



DORI AI: Physics is fascinating. Is there any specific physics topic that interests you?

User: I want to learn about Newton's Laws.

DORI AI: Of course! Newton's Laws are essential in classical mechanics. Let's break them down:

1. First Law (Inertia): An object remains at rest or in uniform motion unless acted upon by an external force. For example, if you throw a ball into the air, it initially goes up due to the force you applied, but eventually, it stops and falls due to gravity.

2. Second Law ($F = ma$): The force applied to an object is equal to its mass multiplied by its acceleration. When you throw a ball into the air, the force of gravity (acting downward) causes the ball to accelerate toward the ground at 9.81 m/s^2 .

3. Third Law (Action-Reaction): For every action, there is an equal and opposite reaction. When you throw the ball, you exert a force on it (action), and the ball exerts an equal and opposite force on your hand (reaction).

When you throw a ball into the air, these three laws interact simultaneously. The ball goes up due to the force you applied (First Law), accelerates toward the ground due to gravity (Second Law), and exerts an opposite force on your hand when thrown (Third Law).

User: A ball falls when you throw it.

DORI AI: Exactly. When you throw a ball upward, gravity starts acting on it immediately, decelerating it until it stops and then accelerating it downward. This is a direct manifestation of Newton's Second Law. Moreover, the ball wouldn't move at all if it weren't for the force you applied to throw it, bringing us to the First Law. And, of course, while the Earth exerts a force on the ball to make it fall, the ball also exerts a force on the Earth, although it's so tiny compared to the Earth's mass that we don't notice any effect, leading us to the Third Law.

User: Not for now, but thank you very much.

DORI AI: You're welcome! I'm always here to help. Until next time, happy learning! 😊📖



DORI AI: I hope this version is what you were looking for. Let me know if there's anything else I can help you with!

User: Not for now, but thank you very much.

DORI AI: You're welcome! Before you go, I'd like to give you some tips and a brief summary of your progress:

Review Tips:

1. *Basic Concepts:* Before delving into Newton's Laws, it's essential to have a good understanding of basic concepts like force, mass, and acceleration.
2. *Practical Exercises:* Performing practical exercises will help solidify your understanding. Try applying Newton's laws in different everyday scenarios.
3. *Visualization:* There are many videos and online simulations illustrating Newton's Laws in action. These resources can be especially helpful for you, as I can adapt them to descriptive audio formats.

Summary of Your Progress:

- You've shown interest in physics, specifically in Newton's Laws.
- You've understood the three laws and how they apply to throwing a ball into the air.
- Through our interactions, you've demonstrated a solid foundation in classical mechanics, positioning you well to explore more advanced topics in the future.

Remember, learning is a continuous journey. I'm always here to help whenever you need it. Good luck with your studies, and until next time! 😊📚