



DigiEduHack Solution

Monterrey - DigiEduHack Tec de Monterrey 2021

Challenge: Monterrey - DigiEduHack Tec de Monterrey 2021 Challenge 2021

DICTANCE

Brainy School: Intellectual and Emotional IA Guidance Avatar



"A new Educational Model "DICTANCE" on a new environment that helps students to develop their cognitive skills and to be effectively autodidactic, with an Avatar made with AI that will be personalized to guide the student in an academic and emotional way ."

Team: FUTURISTIC

Team members

Grace Aviance Silva Aróstegui & Sofía Cantú Talamantes

Members roles and background

ROLES:

- Grace: Dictance model, avatar and data analysis
- Sofia: Sustainability Report

BACKGROUNDS:

- Grace

Engineer in Data Science and Mathematics, Applied Sciences

SAS Visual Analytics Program Viya Basics 2021

Data Analyst Bootcamp by SKILLS.FOR.INDUSTRY 2020

ITESM Scholarship for academic excellence

-Sofia

Bachelor of Science in Computer Science and Technology Engineering (ITC)

International Baccalaureate Diploma Programme

ITESM Scholarship for academic excellence

Human resources of a programming group called "Fifth Dimension", 2019.

Team leader of an ecological group called "Breathe", 2020.

Contact details

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Solution Details

Solution description

We propose a radical change in education with 3 important bases: the educational model "Distance", the use of data analytics on the profile of each student, and an Avatar created with Artificial Intelligence and personalized based on the collected and analyzed information from the student

1) DISTANCE

In this system there's no exams, grades, and no academic grades.

The objective is to develop the ability to be self-taught at an early age, but this requires self-knowledge as a basis, but it is difficult at an early age to have the maturity to carry out this development without support.

In this model, we want their capacities to be strengthened, to discover diverse areas of knowledge and to promote their development in those that are of interest to be their better performance. There will be a certain number of subjects, but the focus is not that the student master all of them, it is that they master at least one and for the rest achieve an acceptable and valid level of knowledge and development. If they want to master many more areas better, but not exactly necessary, the requirement is at least one.

For example, if we have a student who has strong learning abilities in music, it is not necessary for him to master at the highest level all other areas such as Mathematics, History, Geography, Finance, Psychology, but he must complete the standard level of them. Even if the student does not have a taste for music, even if it is good, but he is interested in the area of Sciences, the Avatar will help and guide him to be competent in this area, to be sure of himself, understand the theory, know how

to solve real problems and the avatar shows the world of science which is so diverse, so that the student can discover what their particular interests are, and make a better informed decision when choosing their university career.

2) DATA ANALYSIS

Each student will be given 3 exams upon entry, one psychometric, one cognitive and one of knowledge. This information will be collected, analyzed, optimized and applied in the construction of a personalized avatar.

During your academic journey at this school, their performance and areas of opportunity will be analyzed. It doesn't matter what level they enter; it matters that there is a major improvement when they finish.

1. A) Test de personalidad

To know the contexts that hinder or facilitate learning.

Motivations and demotivations

Reactive and behavioral tendencies

Psychometric diagnosis

1. B) Test de conocimientos

To measure the level of their fluid intelligence and crystallized intelligence.

To know previous knowledge

1. C) Test de habilidades cognitivas

Measure preferences in study methods: visual (readings and graphs), auditory (narrated explanations) and kinesthetic (models, games, tangent representations).

3) AVATAR

The avatar will be the student's guide, and he will be able to design the appearance of this to his liking.

The Avatar will accompany them both academically and emotionally.

An analysis will be made of the data obtained and the student's curriculum will be customized so that it can be adapted and develop the student's skills to the maximum.

The succes of the solution will be measured firstly with data analysis to demonstrate de

improvement of cognitive development, low levels of stress, confidence and amazing academic results. Also it would be measured with the level of the certification and the exams applied on the student's country to validate their level.

And undoubtedly, the benefits provided by our solution will radiate in societies and the world

Solution context

Students are not advancing at the pace they would like, nor are they accustomed to learning on their own and solving problems autonomously. The intellectual abilities of students are not being used and exploited to profile them to their interests and better cognitive and performance areas.

Solution target group

Anyone interested can take part, but the specific market and focus is all young people who are already in high school, and since most of them are looking to prepare themselves academically for the future, the demand is constant. By helping them develop autodidactic skills, their learning experience will be improved.

Solution impact

- Students learn different study methods
- The habit of self-study is instilled in them.
- Through the avatar, cognitive and emotional development is stimulated.
- Instead of focusing on grades, students focus on authentic learning.
- Since the curriculum is personalized, it adapts and makes the most of each student's abilities. Including that of groups with difficulties such as those with dyslexia, autism and asperger's syndrome.
- It adapts to the type of life the student leads.

Solution tweet text

A new Educational Model "DISTANCE" on a new environment that helps students to develop their cognitive skills and to be effectively autodidactic, with an Avatar created with AI that will be personalized to guide the student in an academic and emotional way .

Solution innovativeness

Artificial intelligence

Virtual Reality

Metaverse applied in Education

Integrated emotional support

Personalized content

Solution transferability

- People with diseases without the opportunity to attend a physical school
- Adults who wish to learn and develop better studying habits
- Economically unstable family/person whose country does not provide education
- Even younger students that realized the importance of study and cognitive development, who wants to start earlier

Solution sustainability

The business model occupies four stages before reaching its desired state:

1.- BETA version, user collection:

The BETA version of the site will be released, all the feedback received will help to polish the details of the site. The site will be completely free, no income will be received at this stage as priority will be given to building a user base. Subjects that would be included in this stage would be Literature, History, Chemistry, among others. Subjects such as mathematics and global politics will be omitted as they require more precision and care in the way they are taught. Only English and Spanish are used.

2.- Integrate pending material and paid version:

A paid subscription is included (more details in finance) and advertisements for the free version. All the essential subjects expected to be taken by a high school student are covered. Implemented avatar add-on for VR.

3.- Global expansion and increase of additional material:

Content will be translated into different languages so that it can be accessible to people globally. Possible cultural clashes will be taken into consideration and additional material will be included (history of underrepresented cultures, sustainable development, business and management, among others).

4.- Certification:

Taking into account the secretary of education of each country, we seek to be able to apply for an exam (with an additional cost per certification) when the courses are completed that is equivalent to

obtaining an international baccalaureate diploma.

5.- Expansion of the model:

Expand the study material and certifications to other school levels such as elementary and high school.

For the finances:

Basic plan:

- No ads

\$2.5 EUR/Monthly

Full Plan

- No ads

- Downloadable content (access without internet)

\$5.5 EUR/Monthly

Premium Plan

- No ads

- Downloadable content (no internet access)

- Site customization mode (colors, fonts, filters)

\$6.5 EUR/Monthly

This last option can be quite useful since we plan to include the option of applying filters to the site, such as the blue light filter that protects students' eyesight. We will also take into account groups with difficulties such as people with color blindness and offer them options for the different types (Achromatic, Monochromatic, Dichromatic, Trichromatic) and improve their visual experience.

It will also be possible to choose between different typographies, (we will take into account options of personal preference, that support the retention of information and that are friendly for dyslexics).

In order to counterbalance the social coexistence that schools have:

- The platform will allow and encourage interaction between students online, so they can converse and work on program projects together.
- Physical social interaction is essential for the development of a person, as well as creativity and exercise activities. Therefore, students will be encouraged to join additional classes with youth their own age or participate in activities in these areas with local people.

Solution team work

We worked very well together, good communication, and contributed relevant ideas that complement our work. We took advantage of our strengths and interests in different areas of the project . Fluid collaborative work.