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EVOLUTION OF EDTECH BUSINESS MODELS

Prospective monitoring
June 2020
by Geneva Intelligence

Summary of the June 2020 edition

Edtech definition

Monitoring Methodology

Analysis of trends

Tech-Adaptika has developed a virtual campus where students can evolve in an immersive world. The main objective is to fight against the feeling of isolation that distance learning sometimes implies.

Labster is a virtual laboratory where students can perform experiments that would never have been possible in a real laboratory for safety and financial reasons.

Mirage Make de-dusted the paper document by transforming it into a true multi-format educational resource thanks to augmented reality.

Proctorio turns the student's computer into a supervisor. With this solution it is possible to carry out exams remotely and cheating is (almost) impossible.

Humanroads provides educational institutions with a detailed knowledge of the professional and academic background of their alumni.

Example of Prospective Monitoring

Definition of Edtechs:

The acronym EdTech is short for Educational Technology. **EdTech represents the use of new technologies to facilitate and improve knowledge learning and transmission.**

For example, e-learning provides individual digital training instead of physically attending classrooms. The "classrooms" and MOOCs (Massive Open Online Courses) are lectures broadcast on the Internet. The LMS (Learning Management System) makes it possible to distribute educational content online, including the possibility of offering a complete course. There are also educational robots that accompany young people in their learning by capturing their attention.

EdTech provides tailor-made and on-demand services. It revolutionises training, making it possible to **design a personalised learning path for students.**

Teachers and schools in general also benefit from these technologies to facilitate the transmission of knowledge in collaboration with their students through participatory and pedagogical teaching. In addition, they use these technologies as **online platforms to better organize, control and monitor learning and adapt their teachings to students**. This allows them to provide more relevant and effective services.

Overall, Edtech benefits students and teachers as well as schools by **facilitating administration and communication**. They improve dialogue, education, learning and above all pedagogy.

DISCOVER MONITORING METHODOLOGY

Definition of Prospective Monitoring

Overview

Prospective monitoring consists of implementing a systematic monitoring process of the environment in order to identify weak and mature signals which are indicators of change. It is a question of collecting strategic information to be able to anticipate changes in the ecosystem in order to respond as soon as possible and adequately. Prospective monitoring provides support for the implementation of a commercial and technological strategy.

Methodology

An effective method is to conduct products and service developments monitoring.
The below steps were taken to carry out the monitoring and illustrate the results:

- Research, analysis and comparison of a dozen innovative offers in the field of Edtech
- Identification and understanding of the commercial and technological benefits of these technologies
- Identification of Edtech trends and innovations. Trends represent market characteristics and developments.

Objectives

A company or an educational institution which wants to be sustainably competitive must constantly be aware of changes in its market in order to limit risks or benefit from these changes.

- Monitor competitive products and service developments
- Identify and distinguish innovative trends and strategies over the long term
- Analyse, critique and compare this information with the existing strategy of the reference organisation
- Evaluate competition and their business strategies through their innovations
- Carry out a self-evaluation and develop a strategy
- Find inspiration in the business and technological trends.

DISCOVER EDTECH TRENDS ANALYSIS

Edtech Trends Analysis

More than **1.5 billion students** in **190 countries**, from **kindergarten to university**, did not physically attend school **during the Covid-19 crisis**. **40%** of them would not even have had **access to distance education or learning tools**, according to Sobhi Tawil, head of Unesco's programme of educational research and forecasting. Faced with the spread of the pandemic, governments have **closed schools** and set up a **"continuity of education"** based mainly on **"distance learning"** to combat potential mass school drop-outs. The use of many Edtechs solutions to **guarantee or improve distance learning** or otherwise **limit its disadvantages** has been carried out at the initiative of governments, schools or teachers.

One of the **major difficulties** of distance learning is the **lack of interaction** between students and between students and their teachers, which can lead to a **feeling of isolation** among learners. **Tech-Adaptika** has adressed this problem by developing an **immersive virtual campus** where students go to classes, participate in lectures and group work, and interact with each other virtually. The solution is designed to **maximize exchanges** between students in order to **maintain a social link** and a **near-normal sociability.**

A certain fatigue can set in students when faced with distance learning and **virtual classes**, according to the teachers and their feedback. **New teaching experiences** can be offered to students to **maintain their interest and commitment** to learning. **Labster** offers a **virtual laboratory** where students will be able to **conduct experiments that they would not otherwise be able to do, mainly for financial and safety reasons**. Thanks to the mechanisms of **gamification** and **virtual reality**, the student will, for example, be able to solve a crime in the skin of a forensic scientist, have access to the inside of laboratory equipment or visualize cells at a microscopic scale. The Covid-19 pandemic and the massive use of distance education in some countries has particularly highlighted this issue, which nevertheless remains relevant in normal times for any distance education.

The digital and social divide is also a **major concern** for distance education. **Socio-economic inequalities** in terms of students' computer equipment exist and call into question the **equality of students**. The **Mirage Make** solution **partly attempts to respond to this issue** by offering the possibility of **integrating different formats** such as audio, video and even 3D objects into a paper document thanks to **augmented reality**. While offering a new experience to students in their learning, the solution keeps paper as the **main teaching medium** with further content accessible by mobile phone and PC.

The **processing of personal data** remains however a predominant issue in distance learning. In order to **improve the user experience** through greater personalization, or simply to guarantee the functioning of their products, Edtechs solutions **collect and analyze user data**. **Proctorio** is a **powerful solution** for educational institutions to enable **remote testing** and prevent cheating. By scanning the environment at **360 degrees**, through **video and audio captures** of the student during the exam, the solution is able to guarantee the **integrity of the exam** and thus, by extension, the **credibility of the diploma issued**. However, the use of Proctorio in Canada and France, for example, has led to **major controversies**, particularly regarding the **facial recognition and detection technology** used by the solution. It is considered **too intrusive and disproportionate** to the objective sought: the fight against cheating.

On another level, **Humanroads** offers an **interesting solution** for schools by **exploiting data on the professional and academic backgrounds of alumni to guide new students** in their choice of study and career. Collecting and analyzing such data seems less problematic in view of the objective: better guidance and support for students.

DISCOVER EDTECH TRENDS

Edtech Trends

Collaborative course learning platform and soft skills

Online platforms allow information to be transmitted and facilitate access and learning processes.

- The accessibility of knowledge is the main advantage of these technologies for teaching across different media. They enable remote learning at the appropriate time for the individual.
- These platforms foster collaborative relationships between teachers and students. They facilitate group activities and communication.
- They enable the monitoring of the evolution of learning and the implementation of pedagogical procedures.

Artificial Intelligence and adaptative learning

Artificial intelligence (AI) in Edtech facilitates learning which is personalized. Edtechs learn themselves how to teach students better.

- AI helps to understand the individual's reasoning, to take into account his/her knowledge and the best ways for him/her to learn.
- This technology facilitates understanding by using the most appropriate techniques at the right moment.
- Teachers can use the analysis made by these tools to better understand students and their processes.

Edtech Trends

Experiential learning platform

Edtechs link internship offers with teachers and students.

- These services provide a better understanding of the labor market and its opportunities.
- Students receive hands-on training with mentoring from experts.
- Companies can discover new talents whereas students can discover the job market.

Edmodo MENTOR MIND Graduway

Tools for creating, marking and evaluating exams, as well as reviewing papers with an anti-cheat system.

These Edtechs provide access to a secure platform in order to set up an evaluation procedure.

- They allow the creation of exams (MCQ, gap text, essay, graphs...) in all subjects, including tools for marking and grading.
- These platforms facilitate the monitoring of student results to visualise changes in grades per student and per class. These technologies are secure and prevent any cheating.

BCDiploma TOP HAT Revisely testwe

Game-based learning

By using fun and educational tools, Edtechs are using games as a way to facilitate learning and attract the attention of students of all ages.

- These technologies make it possible to reinvent learning methods by using neuroscience.
- They value collective interaction and intelligence as well as group experience and creativity.

elever Kahoot! Kinems PLAY2SPEAK memrise

Language learning

Language learning is easier and faster.

- Edtechs measure the individual's pace of learning and calculate the appropriate timing of teaching and adapt course content based on knowledge.
- These technologies are permanently accessible and enable more effective learning processes.

memrise

Edtech Trends

Life at school in community

Edtechs promote the school community and the smooth running and functioning of the school.

- These technologies promote communication between teachers, students and parents.
- They facilitate administrative procedures such as tracking school records or absences, for example.
- They highlight new pedagogical techniques to support students, for example, with awards.

APPSCHO

Whaller

NEWSCHOOL

rymm education

unibuddy

satchel:

Tools or solutions to directly or indirectly improve the physical and psychological well-being of students and/or teachers.

These have a significant impact on academic performance, teaching quality, pedagogical excellence and the school's reputation.

- These technologies allow the teacher's administrative work to be reduced as much as possible so that he can concentrate on teaching and on student's well being.
- These platforms aim to guarantee the physical and psychological integrity of the students.

PocketCampus

equity maps®

idruide

UNICHECK

Whaller

DegreeAnalytics

Tech-Adaptika: The Sims of Education through a Virtual Campus

Start-up Tech-Adaptika has developed a virtual «Sims-like» campus allowing students to interact in an immersive online environment. Students are able to participate in courses and conferences, exchange with each other and with their professors and work in groups, among other things. The main objective of this solution is to fight the "feeling" of isolation that traditional distance learning tools can create among learners.

Type

A tool for the acquisition of knowledge.

Competitive advantage

To foster human interaction in distance education through a fully immersive experience that maintains a high level of student engagement in learning.

Price

No information is currently available on this subject.

Number of users

The company states that it has been solicited by hundreds of organizations including schools, universities and even institutions such as the United Nations and the African Development Bank.

Stage of development

Tech-Adaptika is three months old and has been founded in March 2020. However, the start-up benefits from its founder's Hosni Zaoualis, years of experience in lauching several other edtechs.
The company has benefited from very strong media coverage in Canada and France for such a young structure. The spread of the coronavirus and the resulting closure of schools explain in part such an early notoriety with regard to the company's level of development.

Link https://adaptika.tech/

Tech-Adaptika: The Sims of Education through a Virtual Campus

Advantages

- The solution provides a complete immersive experience for teachers and students. For example, students can pilot their avatars on campus to go "virtually" to an amphitheatre or to participate in tutorials.
- The virtual campus is fully customizable both at the level of the student and his avatar (appearance, etc.) and of the institution hosting the students (university buildings, logo...).
- The platform hosts synchronous learning times (events broadcast in real time for the benefit of all participants) like for example virtual classes and asynchronous learning times (each participant can follow the events whenever he wishes) such as conferences or recorded courses.
- The interaction formats offered by the platform are many and varied, whether through virtual classes, meetings, group work, public discussions or private interviews.
- In addition to a virtual campus, the start-up also offers a classic learning management system (management of timetables, homework and corrections, etc.). Moreover, Tech-Adaptika does not impose its learning management system and allows the integration of other class management solutions within its virtual campus.

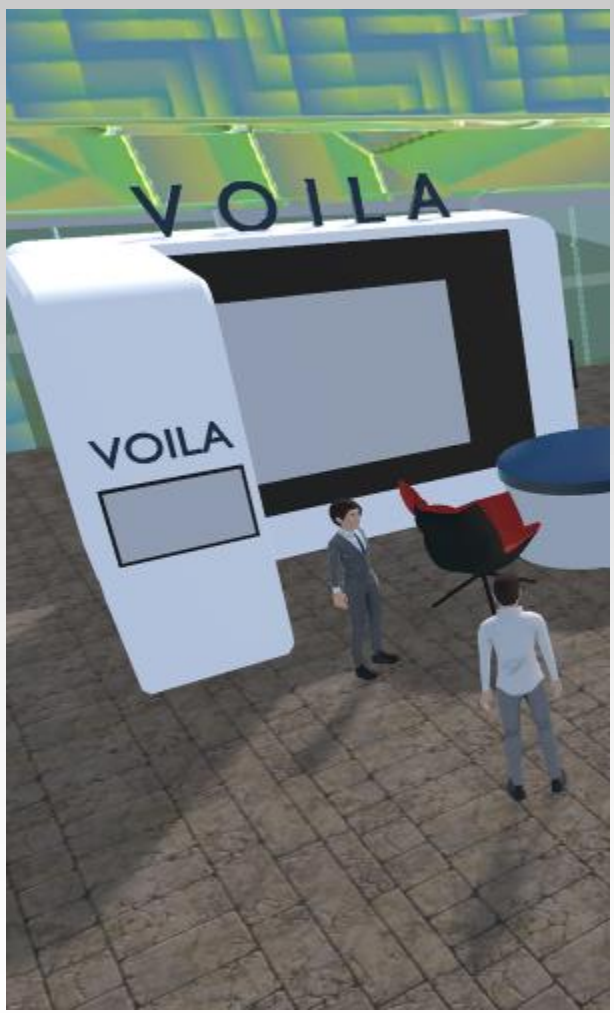
Suitable for:

Kindergarten	★	Primary School	★
Secondary School	★★★	University	★★★★

Tech-Adaptika: The Sims of Education through a Virtual Campus

Analysis of the offer

One of the criticisms of distance education is virtual characters. Tech-Adaptika takes the opposite view, stating that, on the contrary, distance learning is not virtual enough. The start-up has developed a **fully immersive experience** where students are able to **participate in courses, conferences, interact with each other and with their professors in a virtual campus.**



- The solution meets a **fundamental need** that traditional distance education tools cannot fully meet or fulfill: **maintaining social ties**. Videoconference systems make it possible to guarantee the "**pedagogical continuity**" desired by governments during the closure of schools following the Covid-19 pandemic. However, it is somewhat tricky to use these tools to promote interaction between all the pupils represented by black squares in a virtual classroom. The start-up, thanks to its **virtual campus** and the **numerous interactions** allowed, offers schools an interesting tool on the social level.

- **Many interactions** will also help to **maintain a high level of student participation** in **connecting to the platform** and **browsing the virtual campus** where courses are given. **However, the solution will not mechanically promote better student engagement** during the course or a virtual classroom and thus student learning. One of the **"shortcomings"** widely highlighted in the literature is that **distance learning is perceived as a simple digitization of educational content and resources**, or in other words a **transposition by mimetic effect** of a face-to- face classroom in a online one. The **interactions** permitted on the virtual campus **could be annihilated** if the **course offered in a virtual classroom** does not also p**romote student interaction**. Teachers need to (re)think their course not in terms of content but in terms of interactivity. The tool proposes many formats of interaction (lesson, tutorial, group work, private discussions) to achieve this, but it is up to the teacher to grasp them and to articulate his or her lesson in them.

- Moreover, the solution will not be able to overcome **one of the major limitations of distance education**, namely the **digital divide**. Not all students are equal in the **possession and mastery of computer and electronic tools**. However, in order to go to the virtual campus, a student needs a **computer and a suitable Internet connection**. Moreover, one of the platform's strengths, the number of available interractions, is also one of its weaknesses. It may be relatively complicated for an individual, who is not digitally-savvy to exploit all the platform's functionalities quickly.

- A last drawback, secondary at first glance but nevertheless important, concerns the **graphics** of the virtual campus. At a time when the graphics of video games have a striking and sometimes **confusing finesse** with reality, Tech-Adaptika could focus more strongly on this dimension. Indeed, the current graphics **could put off some students**, particularly those who love video games. **Beautiful graphics** could only **strengthen their desire to visit the virtual campus**.

Labster

Labster: A million-franc lab, one click away

Labster is a solution that allows students to safely conduct experiments in a virtual laboratory using interactive simulations made possible by virtual reality.

Type

A tool for the acquisition of scientific knowledge and laboratory handling skills.

Competitive advantage

Distance learning in biology, physics and chemistry laboratories are possible as well as access to very advanced and expensive equipment.

Price

Many criteria will influence the price of the Labster license such as the number of simulations, the acquisition of licenses for the entire educational institution or just for a class or the nature of the institution (university or high school). Prices for access to the solution for a semester range from CHF 1 per student to CHF 100.

Number of users

150 universities in more than 25 countries with more than 200,000 students using the solution. Some of the most prestigious institutions such as Harvard, Stanford, MIT and Trinity College Dublin use Labster to train their students.

Stage of development

The start-up was founded in 2011. Labster was able to raise USD 10 million in 2017 and USD 21 million in 2019 to develop its product and strengthen its sales teams. The company has offices in Denmark, Switzerland, the United States and Indonesia.

Link https://www.labster.com/

Labster

Labster: a million-franc lab, one click away

Advantages

- Courses in physics, chemistry and natural sciences practised in a laboratory can be taught and carried out by distance learning.
- Students and teachers can have and use tools that can amount to hundreds of thousands or even millions of Swiss francs in reality without fear of breakaging, accidents or other damage.
- Labster allows for safe scientific learning. All laboratory accidents are prevented.
- Student engagement is reinforced through the mechanisms of gamification. For example, through engaging 3D animations, students can explore life sciences at the molecular level and observe inside the machines they use.
- The acquisition of knowledge is reinforced. The student can complete the work at his or her own pace. Students can also, if a manipulation is not perfectly assimilated, go backwards, which would be impossible in a real experiment unless the whole procedure is repeated.
- Labster can be linked to the school's learning management system, allowing optimized management of grades, assignments and tests.
- Virtual reality headsets can be used to enhance the immersive nature of the experience.

Suitable for:

Secondary School ★★★ University ★★★★

Labster: a million-franc lab, one click away

Analysis of the offer

Labster believed that if airplane pilots could learn to fly in flight simulators, then scientists can learn to **conduct experiments in virtual laboratories**.

Labster's main attraction is to offer students a **high level of scientific education** through experiments that could not be carried out in a real **laboratory**.

- The **safety of students** in **handling hazardous materials or components** is guaranteed in a virtual laboratory. For example, the study of **virology**, bacteriology or immunology through the **handling of viral agents** would be **unthinkable** for safety reasons in a school laboratory.
- The **price** of some of the tools available in the Labster solution can reach **hundreds of thousands or even millions of francs**. A virtual laboratory is interesting for a school because students can **benefit from and use such tools at a relatively affordable price**.
- **Some experiments require time to obtain results**, for example, in a chemical reaction, while there are **limited timetables and schedules for scientific subjects**. Labster also overcomes this problem by enabling faster results.

For the **three reasons** mentioned (security, cost of materials, time), some **laboratories or experiments are closed to students.** The virtual laboratory proposed by Labster thus makes it possible to **partially make high-level science education accesible to all**. However, the solution has a number of potential limitations.

- Labster allows about 140 experiments to be simulated. Although this is a significant number, **the risk for schools** is that they will **not find the experiments** they need to carry out **in the proposed catalogue**.
- The absence at first glance of a **collaborative dimension** in the realization of the experiments within the virtual laboratory may be a limitation. In real laboratories at universities and secondary schools, **experiments are often carried out in pairs**. This allows an **exchange, dialogue and argumentation** regarding the manipulations to be carried out, while bearing in mind that **group work** is also **done for reasons of economy and limited resources**.
- The **investment required** by an educational institution, beyond the acquisition of licences, in **computer equipment** can be problematic. Indeed, the solution requires a computer in order to function. The use of **virtual reality headsets** to make the **experience even more immersive** can also quickly add to the cost. **But Labster will still be cheaper than a real lab.**

Proctorio: a computer supervisor that does not let anything get by

Proctorio is a comprehensive digital platform that ensures the integrity of student learning. The solution provides remote exam monitoring, identity verification and anti-plagiarism. The student's computer becomes the supervisor of his exam.

Type

Tools to create exams, grade, evaluate, correct documents with an anti-cheating system.

Competitive advantage

Proctorio stands out from its peers by offering a technology based on facial detection and recognition and more specifically on eye-ball tracking, which can interpret students' eye movements.

Number of users

The company claims to collaborate with more than 400 institutions including major U.S. universities, companies such as Amazon, and governments.

Price

No information is available on the price of the solution under normal circumstances. In the context of the spread of Covid-19 and the closure of schools, Proctorio in its simplified version is free of charge and its basic functionalities cost of CHF 5 per supervised examination.

Suitable for:

University ★★★★

Secondary School ★★★

Link https://proctorio.com/

Proctorio: a computer supervisor that does not let anything get by

What is controlled by the solution during an examination?

- The identity of the student through the scan of his ID.
- The place of the exam through the scan of the room where the student is going to take the exam to prove the absence of cheat sheet.
- The visual and sound environment of the room is recorded using the computer's microphone and webcam.
- The location of the student thanks to his computer.
- Internet traffic and applications used on the computer during the exam.
- Movements of the face and especially of the eyes and mouth to detect unusual behaviour..

Advantages

- The installation of the solution is almost immediate. The student simply has to install an extension in his Google Chrome web browser.
- Proctario can be integrated into the institution's learning management system.
- The monitoring of examinations is automated. When the artificial intelligence detects an anomaly, the teachers are alerted.
- The encryption of the collected data is of a very high level.
- The modalities for supervising an exam are defined by the teachers. Depending on the type of exam, not all the supervision measures will be used.

Proctorio: a computer supervisor that does not let anything get by

In this period of Covid-19 and in the face of the confinement of more than half of the world's population, all schools from primary education to universities have been looking for **ways to guarantee the conduct of their examinations** and, above all, their **integrity** in order to **maintain the credibility of the diploma awarded**.

Proctorio offers a **relatively powerful solution for remote exam monitoring** by providing 360-degree control of the environment in which the student will take the exam. **The proctor is the student's computer**. Proctario will be able to monitor the behaviour of the individual during the exam through the **webcam** and the **microphone** of their computer.

- The **main factor differentiating** Proctorio from its counterparts is the **detection and facial recognition technology** on which the solution is based. When the student completes the exam, artificial intelligence will study and analyze the micro-movements of their mouth and eyes in order to **detect unusual behaviour that may be similar to cheating.** If this is the case, a teacher is alerted to investigate the case.
- The **students rebellions** from Concordia University in Canada and HEC in France, accused the **"intrusive" nature** of this solution, in the media. Facial detection and **eye tracking** are considered **excessive** in relation to the objective of **combating cheating**. Moreover, in our opinion, in a context where **facial recognition technology is perceived by the population as a threat to individual liberties**, as a control of authoritarian or even totalitarian regimes over their populations, **the use of this kind of technology cannot be accepted for educational purposes.**
- In a similar logic, in **some countries**, educational establishments and more particularly universities are considered to be **bastions of freedom** (of expression, conscience, religion...). **Any element that may threaten these freedoms, whether technological or human** is culturally difficult to accept because of its intrusive or repressive nature. In France, for example, this takes the form of a **"*university franchise*"** which explicitly prohibits access to universities by law enforcement officials. Only the president of the university, with a few exceptions, can request and endorse the intervention of law enforcement within the university. Thus, **the adoption of technologies associated with repression and control** within educational institutions may in some cases be **culturally and historically complicated**.
- However, in order to **avoid this type of controversy**, schools could **offer Proctorio on a voluntary basis**. The disputes arose mainly because the students had no alternative to this examination procedure. Although they agreed to give their data, their choice was not free and informed. If they refused to use Proctario, **they were being struck off the examination session**.
- Moreover, this type of solution can be used **if the most sensitive elements, i.e. audio and video capture, are abandoned**. Proctorio makes this possible by giving the teacher the choice to **select the control sensors that will be activated during the exam**. In addition, **less "intrusive" solutions** that do not have this type of functionality exist, such as **Testwe**, a platform that was studied in a previous report (January 2019).
- Finally, the **format of the exams** may be something to consider in order to **avoid resorting to these solutions**. **Open-book exams** can be an example. **Grading will focus more on the student's thinking than on their ability to acquire knowledge**. Although an open-book exam can also measure an individual's acquisition of knowledge, since a student who is not familiar with their courses will waste a lot of time searching for information without having the guarantee that they will reused in an intelligible manner.

Mirage Make: Augmented reality in paper documents

Mirage Make is an application for creating and viewing paper documents in augmented reality. The student or teacher simply has to scan a QR code printed on a paper work document with their mobile phone camera so that the augmented reality object appears.

Type

A tool to support learning and knowledge acquisition.

Competitive advantage

The solution makes it possible to enrich paper documents with different content such as images, videos, audio and 3D objects to engage students in their learning.

Price

Mirage Make is based on a freemium economic model. The freemium version allows you to create documents in augmented reality while the advanced features can be obtained for CHF 40 per year for a single license, CHF 150 for a school (with no QR code distribution restrictions) and CHF 400 for a university.

Number of users

Founded in 2018, Mirage Make claims to work with more than 300 French primary, secondary and university schools. Partnerships have also been signed with educational institutions in Hong Kong, Bangkok and Haiti. The application is downloaded on average 350 times a day.

Suitable for:

Secondary School
University

Link https://mirage.ticedu.fr/

Mirage Make: Augmented reality in paper documents

Advantages

- The solution allows to edit paper documents enriched with augmented reality. Video, images, sounds, MCQ and 3D objects can be added to the paper document via QR code.
- Mirage Make offers, via Mirage App, a dozen turnkey applications. Each of them deal with a subject taught at school. The Architecture application proposed below for a test is one of them. It allows a better understanding of the differences between Gothic and Romanesque architecture than with simple photos through the discovery of cathedrals in 3D.
- The tool can be used for a variety of purposes, whether as a reading aid for dyslexic or visually impaired people, for making dictations, creating escape games or repeating a lesson.
- Most uses of the solution do not require an Internet connection.

Test this ! Gothic and Romanesque architeccture in augmented reality in less than two minutes

- Print the markers / QR codes available here : https://urlz.fr/dnBi
- Download the application «Architecture» developed by Mirage Make here : https://urlz.fr/dnBr
- Launch the application, tap start, then tap discover mode.
- Point your phone at the markers and explore Gothic and Romanesque architecture in augmented reality.

Mirage Make: Augmented reality in paper documents

Analysis of the offer

Who said the paper was dead? **Mirage Make** gives back to this most **traditional and ancestral medium** its nobleness by enriching it with more **contemporary media** such as 3D objects, videos, audio or images.

- The **main attraction** of this solution is to **integrate all channels promoting greater student engagement** and by extension **their ability to acquire knowledge** into a paper document. History, philosophy, foreign languages, plastic arts, mathematics, physics and even physical and sports education! **All subjects, disciplines and teachers** can take advantage of this tool to **energize and enrich their courses with additional content**.

- Within a discipline, **this solution can be used for multiple effects** such as practical and group works, course revisions, homeworks. The designers of the solution propose uses for their tools but invite teachers to find their own.

- The solution is **intuitive and user friendly**. The creation of an enriched paper document with augmented reality is very accessible. All you have to do is **load the resources** (videos, photos, audio clips...) that you wish to share via paper within the platform, which will **transform them into QR codes**. Once created, the QR codes can be **downloaded and integrated** into a Word or PowerPoint document for example. **Once printed,** students will only have to scan the QR code after downloading the Mirage Make application with their mobile phone camera to benefit from the additional content offered.

However, Mirage Make has a **number of limitations.**

- Firstly, the solution requires a mobile phone or computer for optimal use, which **does not solve the problem of the digital divide**. However, the teacher can partially **circumvent this problem by using a computer for the whole class** but the experiment will run the risk of **falling back into a classic presentation**.

- Furthermore, **not all the channels offered by the solution can be used in the classroom**, especially the video and audio format. If all students are using their mobile phones at the same time, a **general cacophony** will happen. However, the different formats offered can potentially make homework and revision at home **more attractive.**

- In addition, the **Mirage Make designers** could potentially have integrated **word processor software** into the platform. This would have made the creation of enriched documents with augmented reality **even faster**. Indeed, if many resources must be integrated into the paper document, numerous copy-paste or downloads and then insertions will be necessary from the platform to the final document.

Humanroads: the GPS for educational and professional orientation

The start-up Humanroads has developed two tools for student career guidance and training. Humanroads Analytics is aimed at educational institutions by collecting data on the training and career paths of their graduates in order to exploit them for attracting new students. Then , there is the «GPS des carrières» or Career GPS that targets students and more or less experienced workers by making it possible to visualize in the form of a road map the educat ional and professional trajectories of students who have followed the same training as them. These two products each have their own targets but remain complementary.

Type

A tool supporting school and career guidance.

Competitive advantage

The advantage of this tool is to offer educational institutions precise information and statistics on the professional and educational background of their alumni to attract new students.

Price

No information was found on this subject. The company does not appear to communicate openly on costs.

Number of users

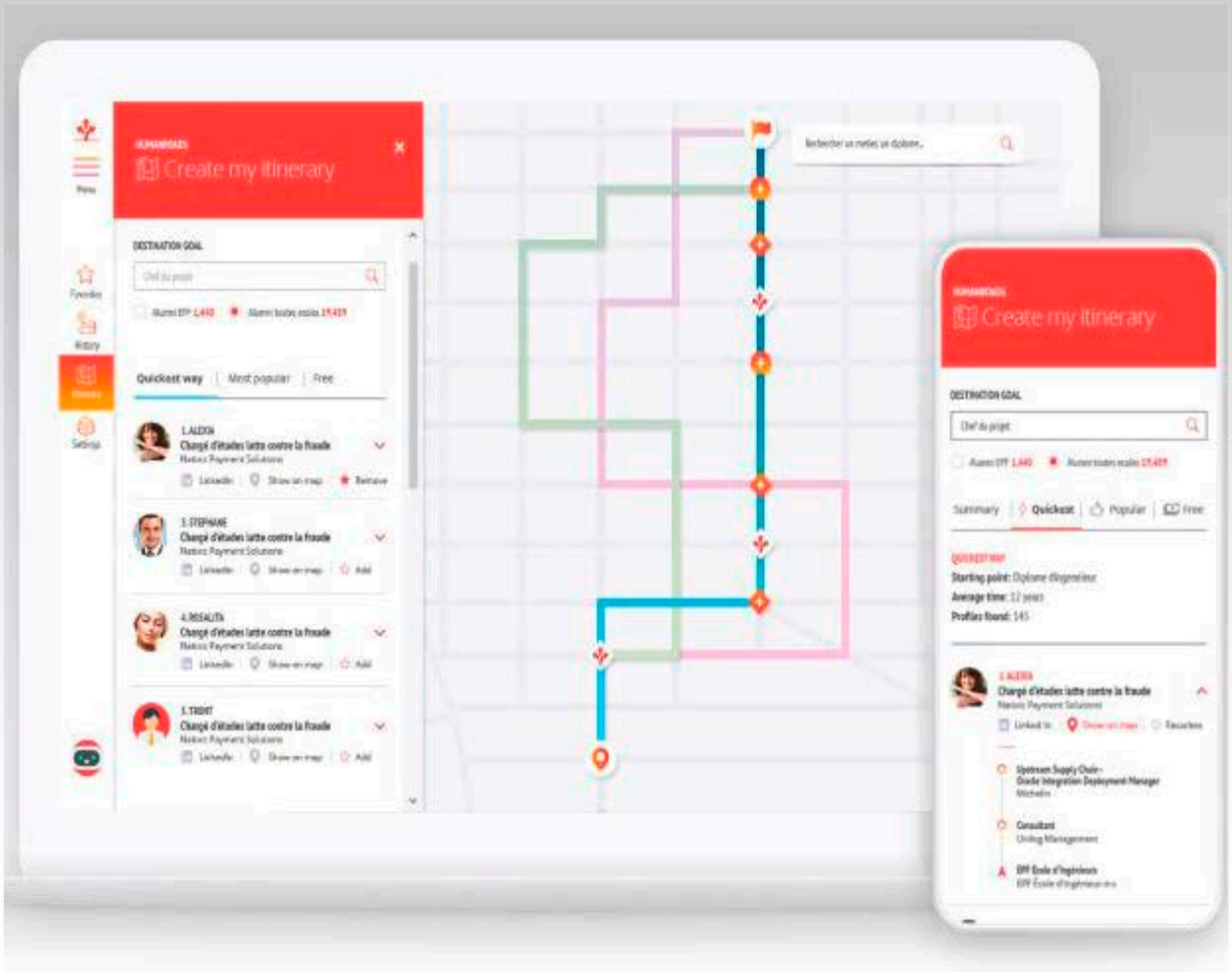
Humanroads is mainly anchored in the French market and claims to work with more than 70 schools.

Stage of development

The start-up was founded in 2015. It raised CHF 2 million in December 2019 and aims to accelerate its technical and commercial development with a view to doubling its customer portfolio within 1 to 2 years. Humanroads employs 15 people and achieves revenues of CHF 531,000 and expects revenues of CHF 2 million and a team of 20 employees by 2021.

Suitable for:

Secondary School ★★★
University ★★★★



Link https://www.humanroads.com/

Humanroads: the GPS for educational and professional orientation

Humanroads Analytics Advantages (educational institutions)

- The solution collects data of alumni's academic and professional careers.
- 40 key indicators make it possible to restitute the data collected by the solution (training followed after the passage of the institution, first job, geographical location, etc.).
- An internal search engine makes it possible to identify the best profiles according to the project.
- The data can be exported (excel, table, graph, pie chart...) in different formats in order to support the analysis of the collected data and to guarantee its intelligibility.

«GPS des carrières» Advantages (étudiants et actifs)

- The solution collects data on the academic background of individuals who have followed the same training as a student.
- The «GPS des carrières» solution allows you to identify options for further studies, dual curriculum, continuing education, internships or work-study programs.
- Students can get in touch with the proposed profiles in a logic of networking, exchange of experiences and mentoring.
- The visualization of the collected data in the form of cartography has a real added value by facilitating their intelligibility and understanding by the student.

Humanroads: the GPS for educational and professional orientation

Analysis of the offer

Use data on the **professional and academic backgrounds** of **alumni** to **guide and orient new students**. This is precisely what the start-up Humanroads offers through its two products **Humanroads Analytics** for educational institutions and the «GPS des carrières» for students and those active in the job market. Although the two products are aimed at **different targets**, **acquiring them both will enable an educational institution to strengthen its attractiveness in recruiting new students** for several reasons.

- **Humanroads Analytics**, which consists of obtaining statistical information on the professional and academic background of a school's alumni, will first of all make it possible to **provide precise and detailed studies and statistics** on the **opportunities offered by a training programme**, thus increasing its **attractiveness**. Traditionally, training presentations are limited to a **quick and broad description of the various professions or sectors most represented among alumni**. The use of Humanroads Analytics will make it possible to strengthen the recruitment of new students by, for example, highlighting the most outstanding successes of alumni or by mobilizing alumni working abroad to become ambassadors for the school.
- The creation of a **database of companies** in which the alumni of an institution have worked will make it possible to contact them for various reasons such as **partnerships**, **fundraising** for certain projects or the **funding of academic chairs**, or to provide current students with **internship**, **work-study** or **job offers**.
- The second solution, the **«GPS des carrières»**, will enable educational institutions to **strengthen their services in the area of vocational and academic guidance of their students**, while facilitating the work of guidance counsellors. Students will be able to easily obtain information on the career paths of alumni who have completed their training. **Student-alumni mentoring** will also be possible via this platform and will strengthen the **attractiveness of an institution accompanying its students towards graduation and integration into the job market**.

Although the solution is attractive for schools for the reasons mentioned above, some limitations should be mentioned.

- A potential risk is the **standardization of student pathways and trajectories**, which can be **harmful to an educational institution**. The multiplication of academic backgrounds, profiles, specialities and expertise is often richer for multidisciplinary training. The **labour market** is also characterized by the **emergence of such a trend** where companies, faced with the current hyper-specialization of professions and functions, are **increasingly looking for generalist, multidisciplinary profiles** capable of adapting to a changing environment where certain professions will disappear while others do not yet exist.
- In this same logic of **homogenization of trajectories**, Humanroads solutions could potentially **curb the desires of students** in their professional and academic orientations by **strongly conditioning their choice by providing them with the alumni's background**. The student could possibly base his choice on the current function of an alumni without paradoxically taking into account his needs, desires and abilities. **This limit could be overcome by the action of the guidance counsellor** who could break the conditioning of the student's choice thanks to a personalized dialogue.