

umety



VR Lab Proposal



VR for Education

umety VR Labs is a global leader in bringing interactive, virtual reality into the classroom. Going beyond simple “walk-throughs”, we provide engaging, pedagogically-sound, VR modules covering middle and high school Math, Physics, Chemistry and Biology.

umety Overview

umety VR is a joint venture between two educational technology groups. Piron Corp, has been creating educational technology solutions since 2008, with a focus on eBooks, learning platforms (LMS) and 3D videos. Almotahida Education Group, established in 1997, is a provider of turnkey education solutions for K-12 and vocational schools, lifelong learning centers and public libraries. Those solutions may include anything from customized curriculum development to creating interactive enrichment materials; equipping and integrating a smart school with technology and tools; and improving usage of customer materials by digitizing print and developing interactive lessons and quizzes.

umety VR was created to enhance learning opportunities by bringing the latest technologies, such as VR (virtual reality), AR (augmented reality) and MR (mixed reality) into the classroom. The approach from Day 1 has been from an educational perspective as umety VR is driven by a core of educators, rather than a tech company group focused on technology.

Content Overview

umety VR is primarily an interactive VR content creator and provider. At present, we have created over 650 modules for science and math. These modules can be mapped to any curriculum and may also be localized (translation and voice overs into any language).



As we are an education-first entity, all modules have been designed with the following:

- Learning objective
- Core concept
- Assessment

umety VR modules are designed with both learner and instructor in mind. Each module attends to one, discrete concept or teaching point. Simulations typically immerse the learner in that concept for approximately 10-15 minutes, allowing them to connect with that idea experientially, with full control of the pace of learning, and without distraction. Each module is designed to best engage the student with that concept, using gamification where beneficial, but incorporating various methods of delivery within the virtual environment. These run from scientific labs, to discovery sessions (breaking apart the parts of the heart), interactive walkthroughs, and so on.

Teachers can be held at an arm's length with VR, but we strive to connect the learner, teacher and concept. Instructors can retrieve learner data (activity data and assessment scores) via the Teacher App. If running a group of students through a module together, the teacher is provided some control, such as the ability to pause all headsets at once, to regain control over a rambunctious class. When ready, the teacher can allow the students to carry on from where they were.

All modules are created using the three points shown above, ensuring that teachers are not encumbered with creating lesson plans, writing assessments, scoring these, and so on. Optionally, teachers can create further expansion exercises outside of the VR environment.

Educational Value

It is well-established that motivation plays a very important part in the learning process. Educators know that if we can connect learners with ideas and concepts, and motivate them to discover more, that successful outcomes have a very high probability of being realized. But what role does virtual reality (VR) play in this?

Learning is not easy and requires hard work and sustained effort. According to research from the University of British Columbia (Canada), there are three ways to increase motivation:

- Personal relevance
- Choice and control
- Mastery is within reach

Carl Wieman Science Education Initiative, 2013,

http://www.cwsei.ubc.ca/resources/files/Motivating-Learning_CWSEI.pdf

By its very nature, VR can provide the learner with opportunities for autonomous learning. Modules which have been designed with an eye on curricula can establish a relevance between each module and that which is being taught in class. That which is presented in each module is designed slightly differently from each other, keeping a keen eye on relating the concept to the world around us. A cookie-cutter approach does not suffice, as learning about atomic numbers and the Periodic Table is inherently different from studying about relative motion. Some amount of gamification increases interest, in some cases, but not everything benefits from a gamified approach. VR most definitely helps with visualization, increasing the connection between learner and concept.

While in a VR environment, the learner is the driver behind the learning. Students move through modules at a speed which is conducive for their own learning styles and needs. Each student naturally finds areas where they may need extra time, and instances when they are sure of the subject matter and can move more quickly through. Unlike a video or a teacher-centered lesson, control is in the hands of each student, allowing them to set the pace. This, in turn, increases motivation, as they are the agents of their learning.

Modules are mapped to the curriculum, ensuring that the material is at a suitable level for the learner, and that mastery of a concept is at least obtainable. It is very demotivating to be confronted with material that is too difficult and which contains vocabulary beyond a student's

current level, causing them to lose interest, fracturing their connection with the material. Likewise, it is also demoralizing to be presented with redundant, previously-learned information which renders the whole exercise meaningless. It is a tricky balance, but one that needs to be attended to, securing a proper relationship between learner and study materials.

There are several ways in which VR can help fill gaps in the learning process. It can provide one more instance of working with, or interacting with, a concept. In addition, it can provide a valuable chance to visualize a conceptually challenging idea, increasing the possibility of more deeply understanding concepts, which may not be clearly comprehended. It is unlikely that VR would replace traditional instruction, but it offers opportunities which may significantly assist and enhance the learning process.

Reference:

Educational Psychology Developing Learners, by J.E. Ormrod, 2008

umety VR Kit for Schools

The umety VR Learn Kit is an innovative, plug and play solution that can be set up in minutes. The kit comes complete with software and pedagogically-sound VR learning modules, equipping teachers with everything they need to introduce this cutting-edge technology into the classroom.

umety Edupro VR (All in one device)

6GB RAM and 128 ROM

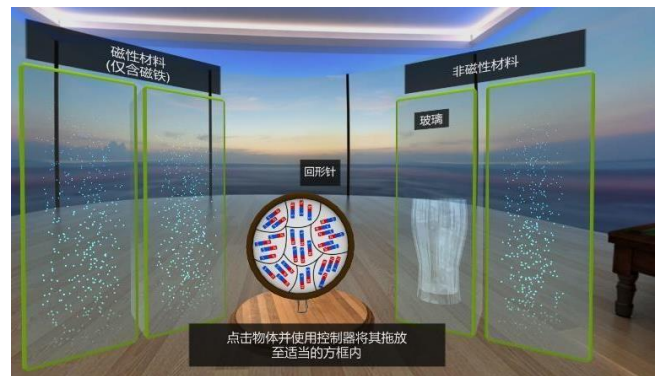
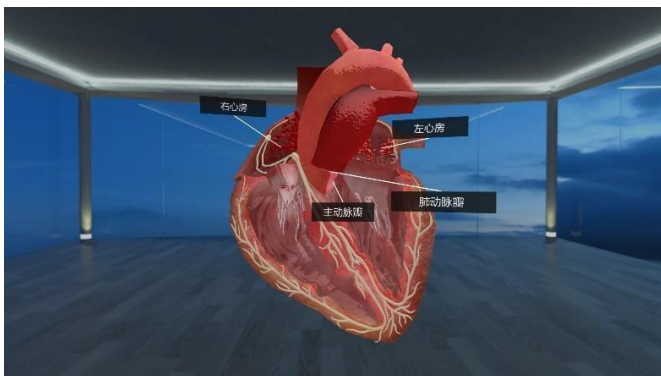
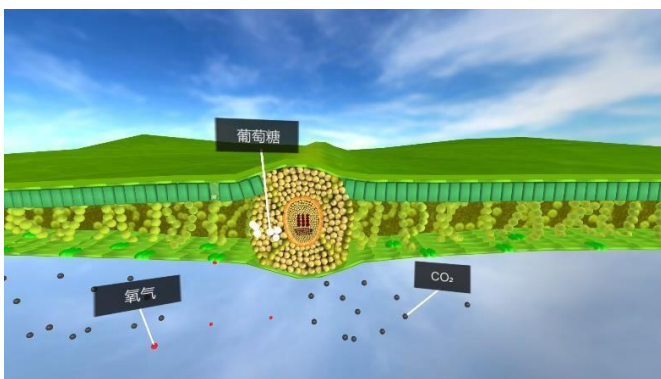
An all-in-one headset removes the need for a separate phone. The Edupro all-in-one headset delivers a fully immersive VR experience with world first XRchip enabled VR headset design for education use.



umety VR Content

umety VR modules have been made using cutting-edge technology like Unity3D, Maya, and 3D Max. All content is made best on leveraging the power of VR and assessing the level of interactivity which is most beneficial to students. Each module consists of a learning objective, attention to a core concept, and activity outcome data which is used for reporting and analytics.

umety modules cover Science (Physics, Chemistry, and Biology), Mathematics and Virtual Tour and are available in English, Arabic and Chinese Languages. Some example screenshots are shown below.



Content Specs

umety content is in the form of modules, each designed to support the teaching of a discrete concept. This content is delivered in the form of APKs, or apps. To interact with the content, the user will need the VR device along with the handheld controller as described in the hardware section.

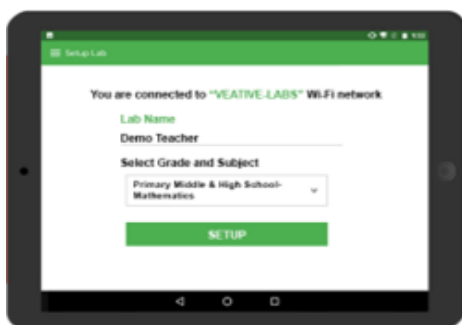
Internet: A Wi-Fi connection is required for 2 instances

- Initial setup of the devices, and account verification (school or individual account)
- For pushing results and analytics to the dashboard, or LMS:

Ongoing internet connectivity is NOT a required part of using umety content. Once the devices have been set up, they are self-contained and capable of retaining scores, etc., until they can be synced with the LMS.

umety VR Analytics and Dashboards

Part of the umety package is our Dashboard, which provides teachers/administration with data about device usage, student scores, attention to cognitive domains, and so on. An internet connection is required for full access to the Dashboard.



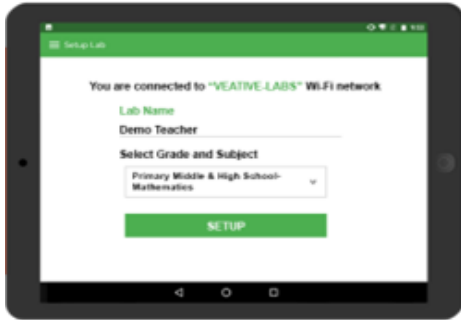
Teachers

Have access to all students under their purview. They can see class scores, individual scores, a global view of high and low achieving students, usage data and so on.



Students

Have access to their data only. They can see which modules have been completed, individual scores, usage data, and so on.



Coach

There is also an optional feature to allow access to a “coach”, or someone helping to guide the student, including a parent, guardian, or tutor. This person only has access to that student’s results.

VR Create:

Create your own purposeful, immersive VR projects :

- You and your students become content creators
- Collaborate to solve problems
- Apply critical and design thinking skills
- Produce engaging VR presentation

It's as easy as 1, 2, 3!

1. Use existing 360° images and videos or capture your own
 - Import content easily from any source including your own 360° camera
1. Build your project on any PC
 - Add navigation hotspots, interactive 3D models, labels, audio, slideshows, PDFs, quizzes, and more!
1. View, edit and share on your EduPro VR headsets
 - Share projects online or offline
 - Collaborative experience on a gilded presentation