VR Tools in Education and Training-Chalenges and Potentials

Virtual Reality (VR) tools have gained prominence in vocational education and training, offering immersive experiences that enhance learning and skill development. These tools create simulated environments, allowing students to practice real-world tasks in a risk-free setting.

by Prosvation

Who am I?

Giannis Gialamas

Education:

Digital Systems, University of Pireus

Elearning , University of Pireus

Innovation and Entrepreneurship, University of Thessaly

Smart Cities, University of Pireus

Currently:

Teacher of Informatics, Raptou Private School

Computer Science Tutor, Aegean College

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You can find the presentation at **Prosvation.gr** (News)

The presentation was created in 5 minutes with use of Ai.

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Prosvation

We aim to bridge innovations with markets.

To do so, we focus on **facilitating events and activities** (such as training, workshops, conferences, and webinars), **building curriculums** that could be implemented in educational organizations, and **designing learning material** and instructional platforms.

We are a newly established NGO, which main expertise is in subjects such as **adult education, digital transformation, bridging the digital skills gap, e-learning platforms, digital marketing software development, innovation, entrepreneurship**, etc.

Also, **we help startups and SMEs** expand their networks and disseminate their products in order to commercialize them, and rich to a level of investor readiness

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VETVRkit Erasmus+ KA210 Project

Partners and scope

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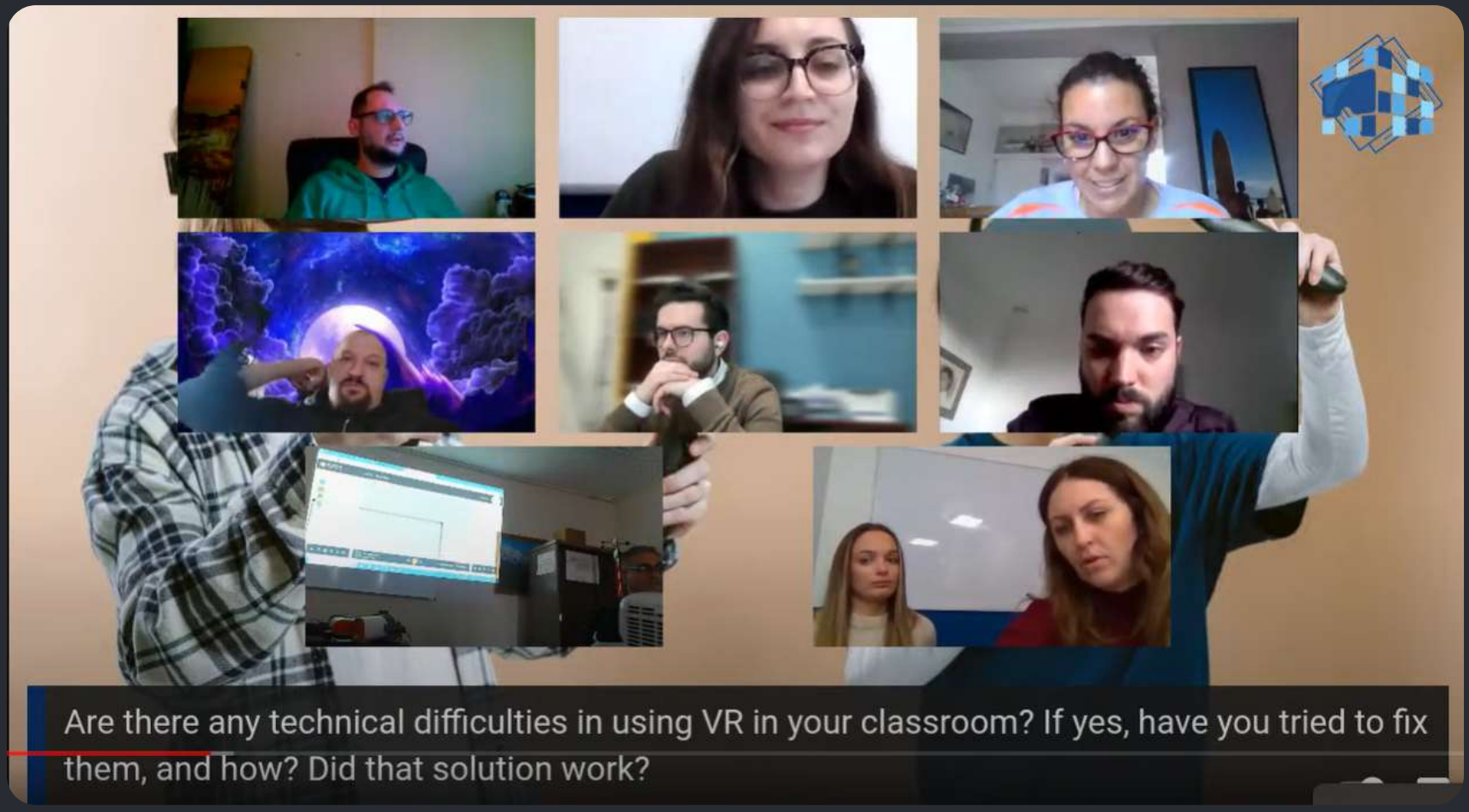

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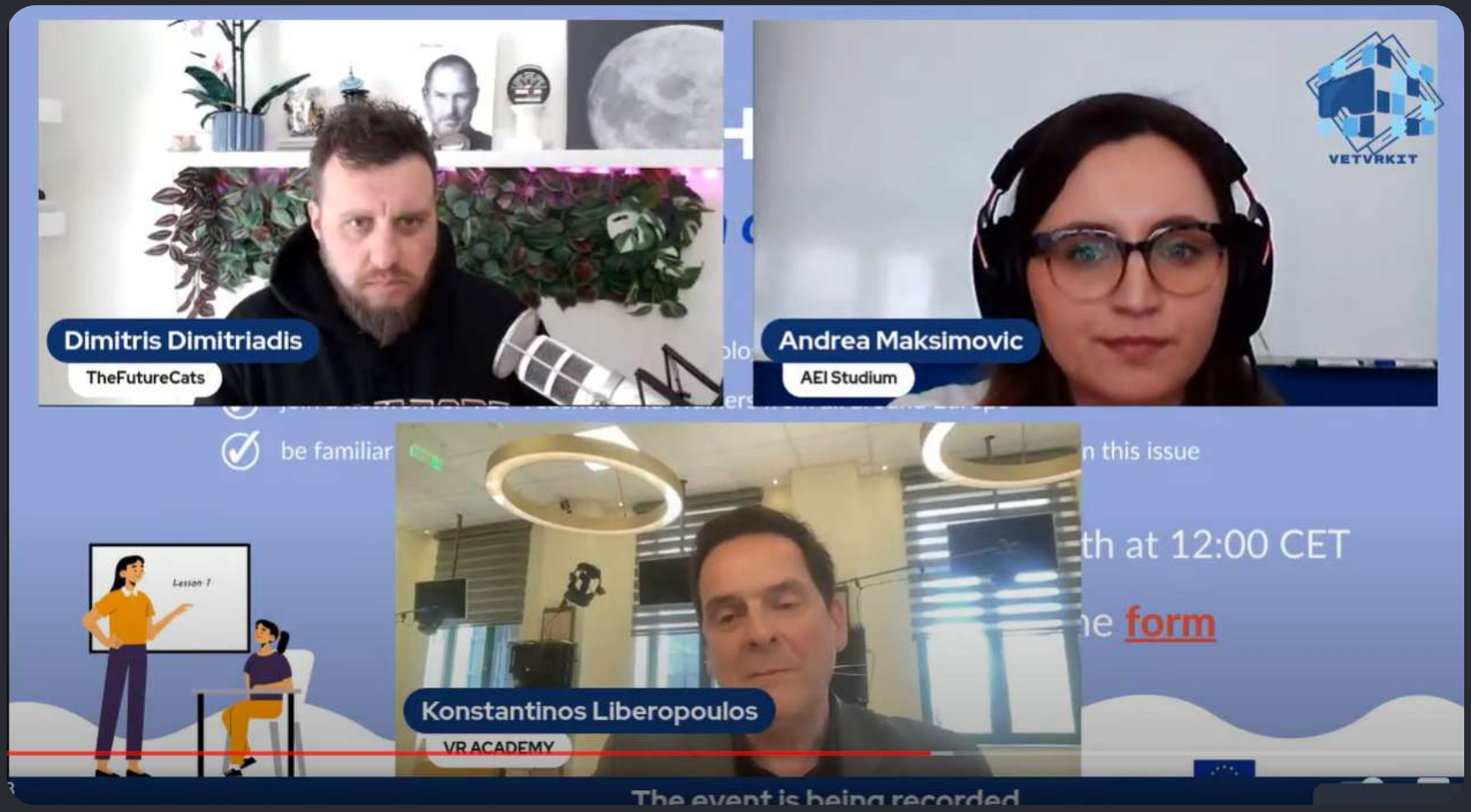

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First Public School in Greece according to VRARA

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VR/AR association

Committees

- Digital Twin & Industrial Metaverse
- Aerospace
- Defense & Intelligence
- Education
- Energy
- Enterprise
- Healthcare
- Generative AI
- Metaverse
- Retail & eCommerce
- Storytelling
- Training
- Universities & Colleges
- Metaverse for Good (VR for Good)
- Location-Based Entertainment (LBE)
- Real Estate

> *Perhaps the most important benefit of being part of the VRARA is the opportunity to network with professionals and entrepreneurs during the Online Meets for these Committees"*
>
> *— Veronica Luna, Unilever*

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1 Scientific Paper in Scientific Conference

More will be written, focused on Digital Twins and Cultural Heritage

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VET VRkit in a nutshell

The Kick-off meeting was conducted on February 2023, in Granada, Spain. (Learn more here)

https://prosvation.gr/vet-vrkit-in-a-nutshell/

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What equipment we use

The most suitable for our circumsatnces (cost, available equipment, effort needed for trainings), attractive to students but not only, scalability, content sharing and creating.

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We will create a community and a web platform

Facebook

Erasmus+ project VET-VRkit

Erasmus+ project VET-VRkit . 55 likes · 4 talking about this. Improve the competence of teachers in the use of VR technology and its...

https://www.facebook.com/vetvrkiterasmus

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Πιστεύουμε ότι αυτή η συνάντηση (***στην αγγλική γλώσσα***) θα σας προσφέρει πολύτιμες **γνώσεις σχετικά με τη χρήση της τεχνολογίας VR στις τάξεις σας** και στην επαγγελματική εκπαίδευση και κατάρτιση. Θα έχετε επίσης την ευκαιρία να δικτυωθείτε με άλλους εκπαιδευτές VET και παρόχους software, training και hardware VR που ενδιαφέρονται να δημιουργήσουν μια κοινότητα που υποστηρίζει τη χρήση της τεχνολογίας VR στην επαγγελματική εκπαίδευση και κατάρτιση.

Εάν **ενδιαφέρεστε να συμμετάσχετε**, μπορείτε **να συμπληρώσετε αυτήν τη ΦΟΡΜΑ** ώστε να σας στείλουμε τον σύνδεσμο της συνάντησης. Αν **θέλετε να παραμένετε ενημερωμένοι** για τις παιδαγωγικές προσεγγίσεις VR ,προτείνουμε να τη συμπληρώσετε ακόμα κι αν δεν μπορείτε να συμμετάσχετε στη συνάντηση. Το Εργο στοχεύει στη δημιουργία μιας λίστας εκπαιδευτών VR σε όλη την ΕΕ.

Join the Community of VET VR Trainers

Ανυπομονούμε να ακούσουμε από εσάς σύντομα. Θα εκτιμούσαμε αν προωθήσετε το παρόν μήνυμα και σε άλλους συναδέλφους που πιθανόν ενδιαφέρονται.

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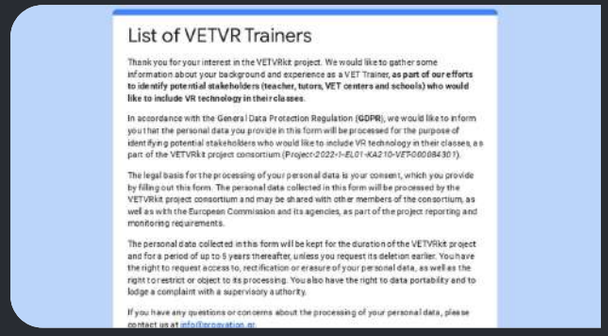
List of VETVR Trainers

Thank you for your interest in the VETVRkit project. We would like to gather some information about your background and experience as a VET Trainer, **as part of our efforts to identify potential stakeholders (teacher, tutors, VET centers and schools) who would like to include VR technology in their classes.**

In accordance with the General Data Protection Regulation (GDPR), we would like to inform you that the personal data you provide in this form will be processed for the purpose of identifying potential stakeholders who would like to include VR technology in their classes, as a part of the VETVRkit project consortium (Project-2022-1-EL01-KA210-VET-000084301).

The legal basis for the processing of your personal data is your consent, which you provide by filling out this form. The personal data collected in this form will be processed by the VETVRkit project consortium and may be shared with other members of the consortium, as well as with the European Commission and its agencies, as part of the project reporting and monitoring requirements.

The personal data collected in this form will be kept for the duration of the VETVRkit project and for a period of up to 5 years thereafter, unless you request its deletion earlier. You have the right to request access to, rectification or erasure of your personal data, as well as the right to restrict or object to its processing. You also have the right to data portability and to lodge a complaint with a supervisory authority.

If you have any questions or concerns about the processing of your personal data, please contact us at info@prosvation.gr

Google Docs

List of VETVR Trainers

Thank you for your interest in the VETVRkit project. We would like to gather some information about your background and experience as ...

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VET VR Trainers Meet with VR Companies

/ E+, E+ KA2, events, VET education, VET VR kit, webinars/ 8 comments

https://prosvation.gr/vet-vr-trainers-meet-with-vr-companies/

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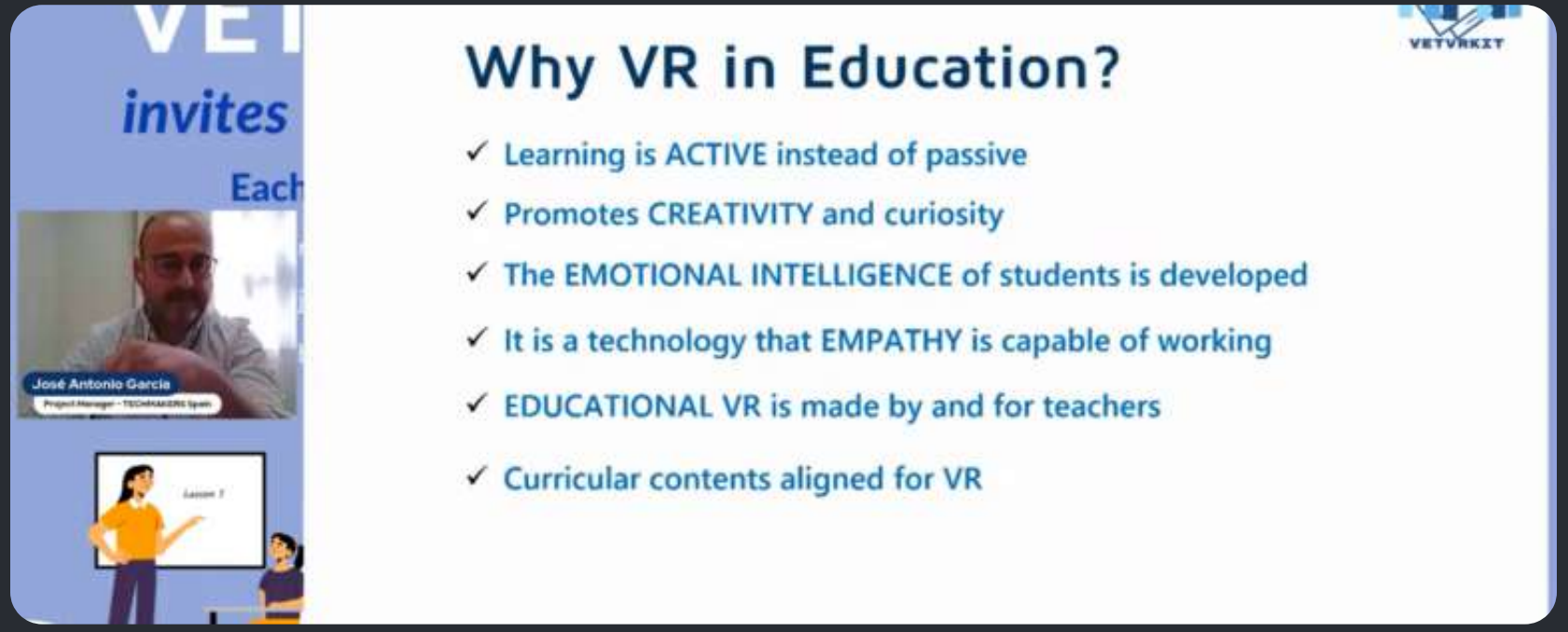

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Benefits of Using VR Tools in Vocational Education and Training

1 **Enhanced Engagement**

VR tools captivate students' attention, resulting in increased focus and participation in learning activities.

2 **Community of Educators**

3 **Interactivity**

Interactive VR environments promote active learning, collaboration, and problem-solving skills development.

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There is a generation already familiar with Metaverse, 3d cameras etc

PDF file

Restrictions for VR use in small ages

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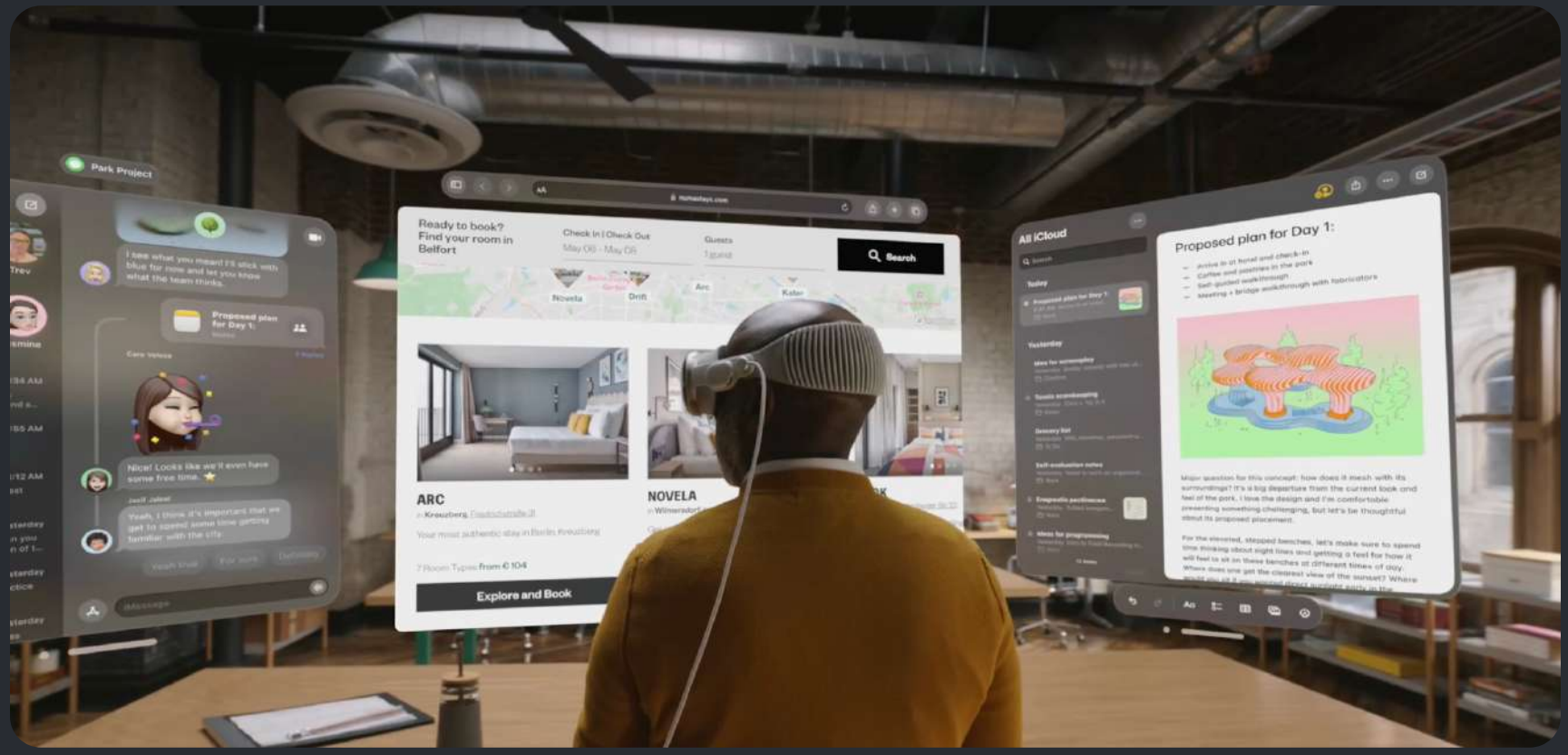
Next genaration will probably be screenless



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Who is the ideal Student for VR?

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Resistance to Change from Teachers

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It is prefferable for Teachers to be able to create, combine, and then Share

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Best Practices for Incorporating VR Tools in Vocational Education and Training

Collaboration

Encourage collaboration between educators, VR developers, and industry professionals to tailor VR content to vocational needs.

Adaptability

Design VR experiences that can be adapted to various vocational programs, ensuring flexibility and scalability.

Continuous Improvement

Implement feedback loops to enhance VR content and update programs based on industry advancements and feedback from students and instructors.

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Challenges of Implementing VR Tools in Vocational Education and Training

Cost and Accessibility

The initial investment in VR hardware and software may pose financial barriers to educational institutions.

Training and Support

Developing expertise in implementing and maintaining VR tools requires specialized and ongoing training.

Content Development

Creating high-quality VR content tailored to specific vocational programs demands dedicated resources and expertise.

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Cost of Equipment

Co-funded

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Number of Devices per student/teacher ?

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Network and PC requirements

Old Computer Labs in greek schools...

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Learning material for immersive learning and safe experimentation

VR Tutorial

NORTHDOCKS GMBH

Airplane training

FLUGHAFEN LEIPZIG/HALLE GMBH

Sprinkler System Maintenance

HENKEL AG

Centrifugal pump training

HENKEL AG, ROSENBAUER AG

Reanimation training

NORTHDOCKS GMBH

Fire Extinguisher Training

NORTHDOCKS GMBH

Vegetation fire training

KOPPENHAGEN GMBH

Fire container training

DRÄGER AG

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Real-world Simulations

Students can experience authentic scenarios, preparing them for actual vocational challenges and tasks.

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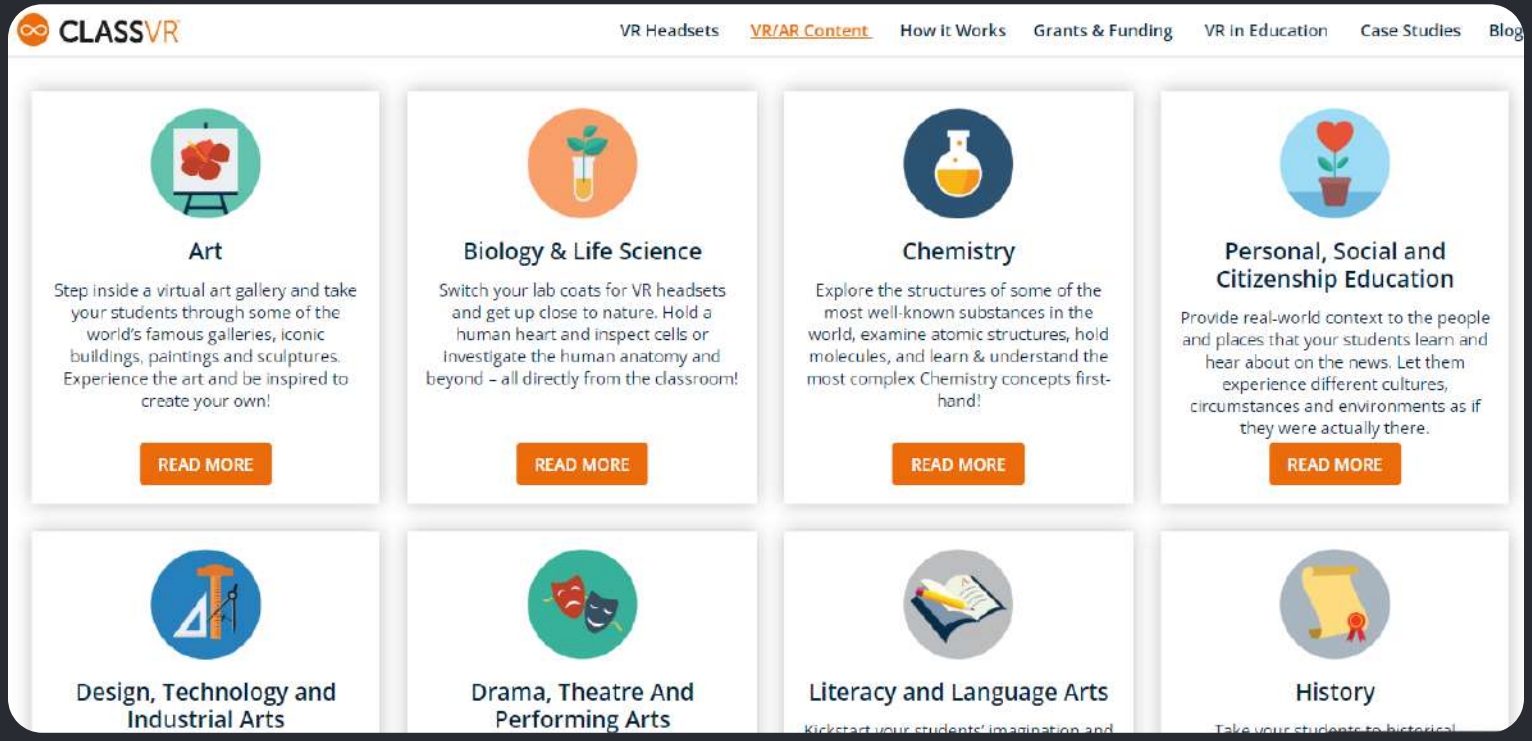
ClassVR

Virtual Reality Learning Resources and Content - ClassVR

ClassVR incorporates 1000s of curriculum-aligned virtual & augmented reality content and resources to help you add value to every lesson.



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Gamification and Simulations

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and of course, it is cheaper. Or is it?

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Potential Applications of VR Tools in Vocational Education and Training

3D Modeling

Design & Prototyping

VR enables students to create, visualize, and test 3D models, enhancing their spatial understanding and design skills.

Safety Training

Hazard Recognition

Students can practice identifying and responding to safety hazards in realistic virtual environments, improving workplace safety awareness.

Soft Skills Development

Communication & Leadership

VR fosters the development of interpersonal skills through simulated team interactions and leadership scenarios.

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Case Studies of Successful Integration of VR Tools in Vocational Education and Training (more to be available soon)

Organization	Program	Outcomes
Weilding Software from Polytech	Welding Certification	Bigger pass rate and increased job placements
6th EPAL of Larissa	Automotive Repair	Improved skill retention and reduced safety incidents

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Future Trends and Advancements in VR Tools for Vocational Education and Training

1

Immersive Learning Experiences

Advancements in VR technology will enable more realistic and immersive learning environments, creating impactful experiences for students.

2

Cross-disciplinary Integration

VR tools will be integrated across diverse vocational programs, offering interdisciplinary learning opportunities and skill crossovers.

3

Augmented Reality Synergy

Collaborative use of VR and AR will enhance vocational training by providing mixed reality experiences that merge physical and virtual worlds.

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Conclusion and Key Takeaways

1

Progress and Growth

The integration of VR tools in vocational education reflects a growing trend towards innovative learning methods.

2

Challenges to Overcome

Addressing access, equity, and training challenges will be critical for realizing the full potential of VR in vocational education and training.

3

Future Developments

Anticipate further advancements in VR technology, expanding the possibilities for vocational skill development and diverse learning experiences.

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If it changes our homes today, it will transform our workplaces tommorow. Why not our classrooms?

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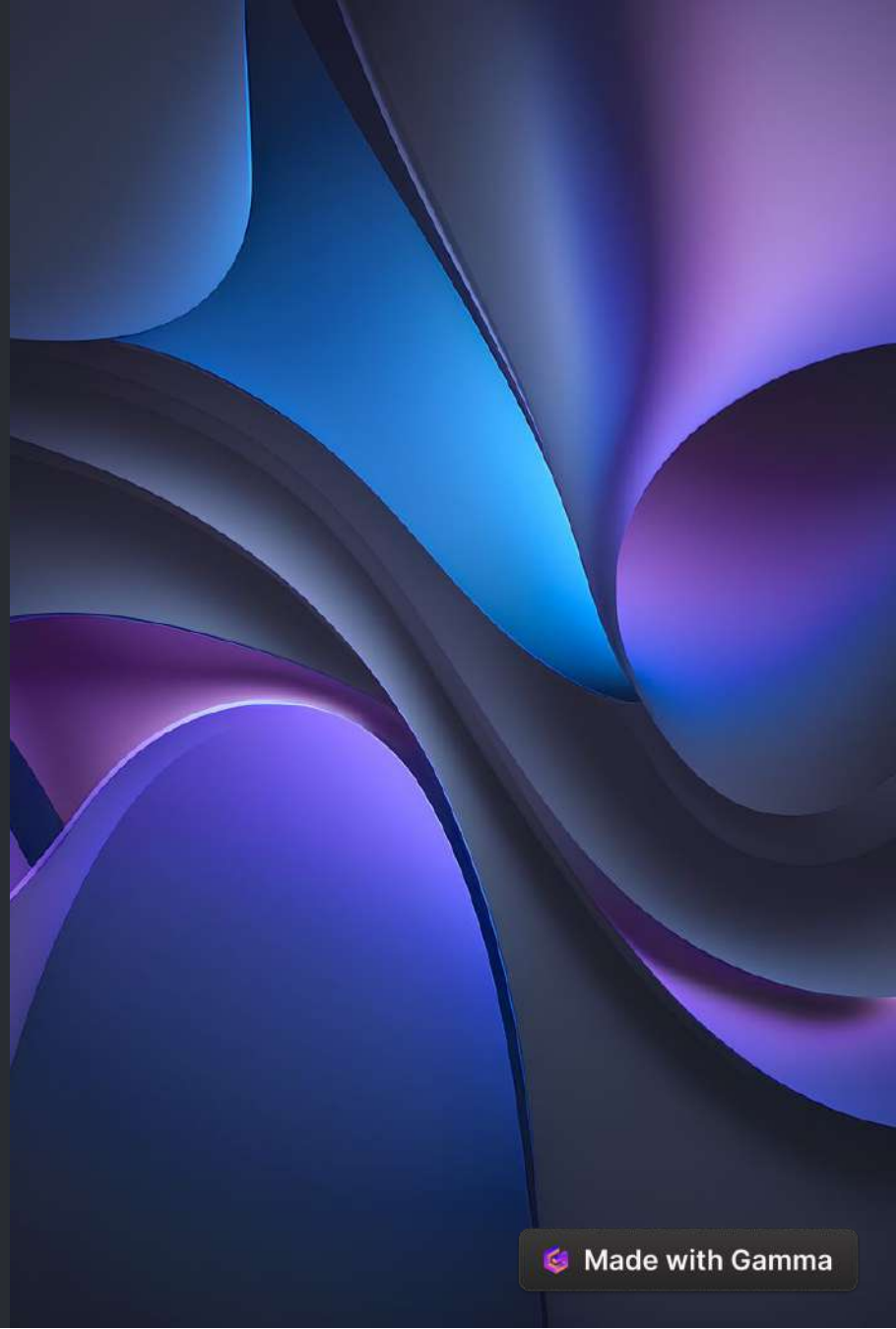
Thank You!

We hope you enjoyed our presentation on the benefits and challenges of using VR tools in vocational education and training. VR technology has the potential to revolutionize the way students learn and acquire skills. Let's embrace the future of education together!

Ping as at **info@prosvation.gr**



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