Towards Web 4.0 and Virtual Worlds

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ŠOLSKI CENTER SLOVENSKE KONJICE, ZREČE

AI4ED

TOWARDS AN AI DRIVEN EDUCATIONAL PROCESS INTEGRATING MODERN CAREERS IN THE EDUCATIONAL SYSTEM

Think XR

Establishing new education modules in the field of augmented and virtual reality

DIGITOO

Šolski center Slovenske Konjice-Zreče

Co-funded by the European Union

Introduction to ŠC Slovenske Konjice – Zreče

Our mission is to educate youth and adults, promote lifelong learning and intergenerational cooperation, advise and cooperate with the economy and local communities, partners.

The activity is carried out within the framework of organizational units:

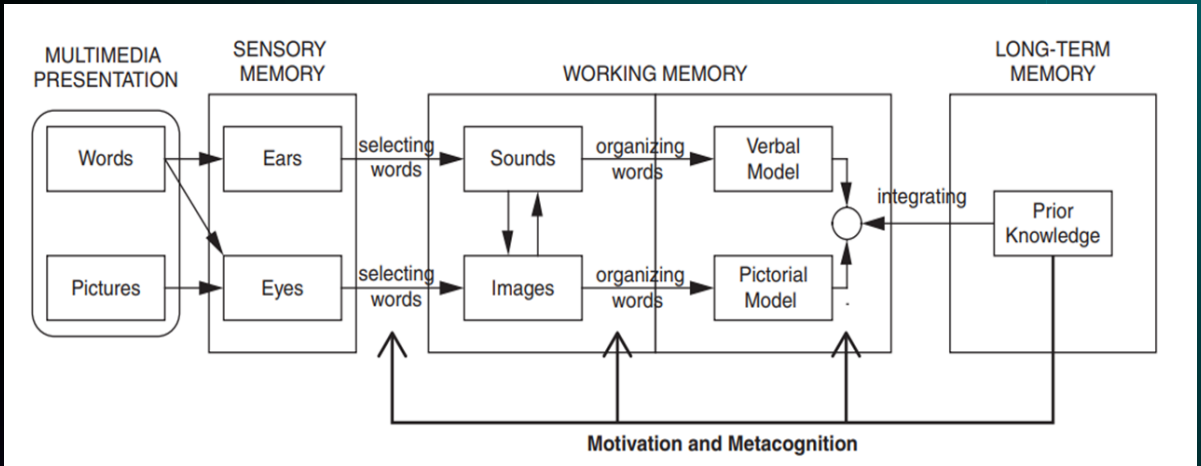
*Gymnasium Slovenske Konjice

*Secondary Vocational and Vocational School Zreče
Mechanical technician, Gastronomic tourism technician,
Metal shaper - tool maker and Installer of hardware installations

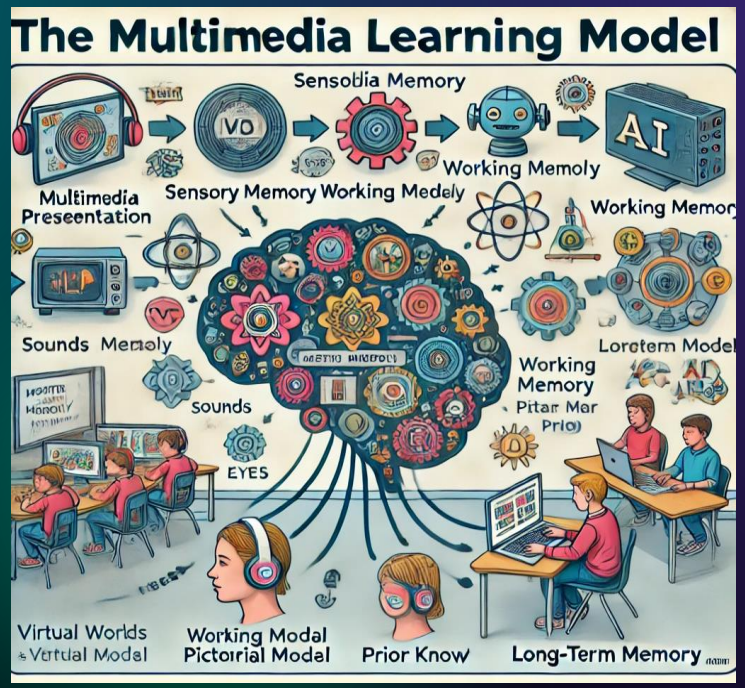
*SIC-Adult education and counselling
Adult education of Slovenske Konjice,
IO Public Service; Laško branch, Consulting,
Spot point, projects
Driving school
U-LAB (teaching manufacturing laboratory)

Educational institution focusing on digital transformation
Preparing students for careers in the digital economy
Key areas: XR, AI, digital skills development

Why – How – When



The figure shows a multimedia learning model based on the functioning of sensory, working and long-term memory. (Extracted from Mayer, 2014, p. 66)

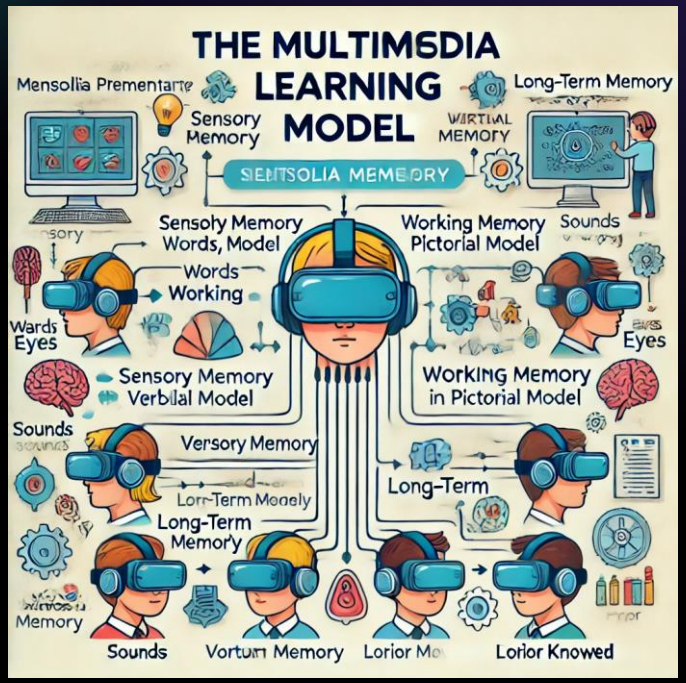


Slike generirane s pomočjo umetne inteligence (Open AI DALL·E), avtorstvo: Open AI in prilagoditve po smernicah JMZ.

How virtual worlds and XR technology support multisensory and interactive learning

- Multimedia presentation in XR surroundings
- Integration of different learning channels
- Motivation and metacognition
- Connecting with existing knowledge
- XR and learning through practice
- Interactivity in the virtual world
- Greater workloads on working memory
- Simulations and deep learning
- Individualization of learning paths
- Real-time feedback and corrective learning:
- Emotional impact and motivation in virtual worlds

XR technology supports multisensory learning and improves the integration of knowledge into long-term memory.



How: by upgrading existing and new learning scenarios, curriculum changes, project work, cooperation with the economy/industry...,

..... ASAP

Key Projects: School center Slovenske Konjice+ partners

Think XR: Implementing XR in education (CNC, Digital Twins, etc.)

Think XR

Establishing new education modules in the field of augmented and virtual reality

AI4ED: AI-driven personalized learning experiences, dropout prevention

AI4ED

TOWARDS AN AI-DRIVEN EDUCATIONAL PROCESS INTEGRATING MODERN CAREERS IN THE EDUCATIONAL SYSTEM

Digitoo: Empowering teachers/students with digital skills

DIGITOO

U-lab /FABlab

U lab

Učni izdelovalni laboratorij Slovenske Konjice-Zreče

THINK XR PROJECT RESULTS

Seminars, thematic workshops, networking events
Mapping of needs, design of competences

- No. events: 17
- No. participants: 700+*
- Final conference: 200+ participants

Mutual learning, trainings, pilot implementations, transfer of good practices

- No of participants: 117 oseb
- Study tour: 1
- Educational program-mentors: 100 h, 4 models
- Educational program-XR Academy: 40 h, 5 models
- E-manual for 100h program: 1
- E-manual for 40 h program,: 1
- Pilot implementation for the target group of teachers, mentors:: 1
- Pilot implementation for students + employees : 1
- Pilot run XR Academy for students: 1

Development of digital gadgets and tools

- No. of app/tools: 12

Demonstration centers

Purchase of XR equipment (Ljubljana and Slovenske Konjice)

- Demo centers: 2

Institutional integration, XR partnership, strategy and sustainability

- Established XR partnership: 1
- Sustainability Plan: 1
- Portability Plan: 1
- Action plan: 1
- Long-term plan for introducing XR content into education and training programs: 1

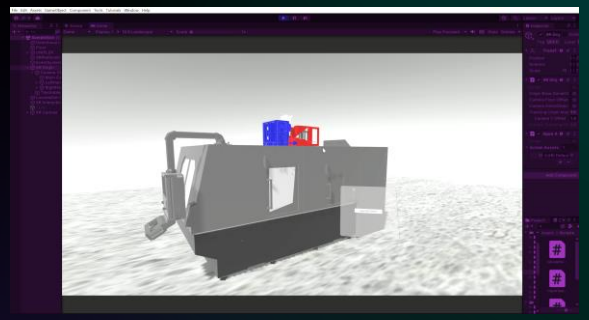
Project partners

SC · Tehnološki park Ljubljana · Univerza v Ljubljani · HashNET · UNIOR · NTNU Norwegian University of Science and Technology

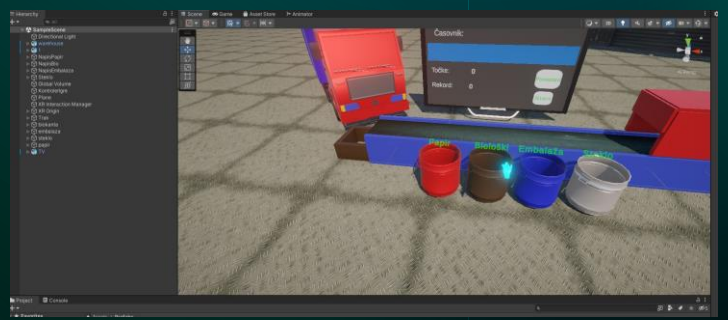
Think XR

Establishing new education modules in the field of augmented and virtual reality

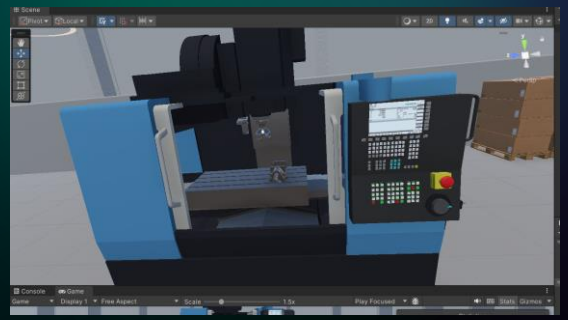
app:https://www.youtube.com/watch?v=PmKbkn2PMpI
Xr akademija, XR lab ŠC, Unior (od 0,18 s) https://www.youtube.com/watch?v=_DwlIZQkdnM



Digital twin of Uniflex



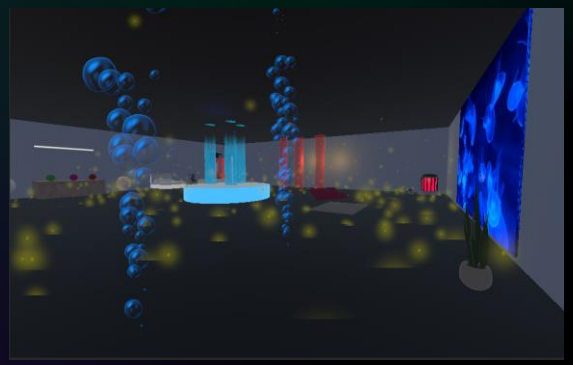
Garbage sorting



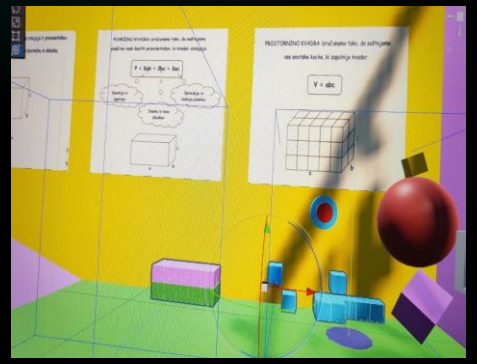
CNC machine operater

Gravitational constant

Antic history



Snoezelen room



Mathematics corner

2D/3D transformer

Song of songs

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The main goal

1. Active learning
2. Personalized tutoring
3. Dropout prevention

https://www.youtube.com/watch?v=BWwwVY6FoYo

Main objective

"Question current teaching-learning processes and incorporate and experiment technologies and pedagogies using Artificial Intelligence (AI) to develop tools, methodologies and evaluation systems that respond to the new reality"

Pan Eu Interactive education program/course

- AI-history, present, future education
- AI applications for educations
- Machine Learning
- Data management, semantic and formats; fair data
- Ethics and artificial intelligence
- Implementation curriculum and recommendations for preparation of educational program material
- Active learning, personalized Tutoring and dropout Prevention
- Strategies for Implementation AI in LMS
- Designing AI-Enhanced courses
- Use cases + toolkit

IMH CAMPUS · Universität Bremen · SC · Universidad Zaragoza 1542 · CENFIM · AlchemyML

This project has received funding from the European Union's Erasmus + programme under grant agreement No 101087543

Challenges in Digital Transformation

- High equipment costs and accessibility issues
- Health impacts from prolonged tech usage
- Technical challenges in content development, open access license
- Data privacy and compliance, Data management, Ethics
- Human resource management (Workloads and burnout vs. new ways of collaboration..)
  - Development of competencies, constant innovations
  - Empowering teachers and incorporating sustainable practices,
  - Using artificial intelligence to support teachers-The changing role of the teacher
  - Resistance to change and management support
  - The development of cooperation between teachers, the economy + self-activation …

Future Plans: Towards Sustainable and Digital Competencies

- Teach XR: Expanding XR modules and teacher training
- XR Adventures: Digital heritage projects with VR/AR
- Focus on reducing e-waste and promoting sustainability
- Mind-e – therapeutic program with bio-neuro-feedback and guided meditation (an aid when working with students, such as a teaching aid...)

teach XR

Erasmus+

DIGITOO

SPIRIT SLOVENIJA

MLADIM SE DOGAJA

Practical Applications & Solutions

- Integration of XR, AI in education for personalized, immersive learning
- Cross-sector partnerships for real-world skills
- Freely accessible and easy-to-use tools for creating content (digital twins...) in the educational vertical
- Integration of new technologies in the entire educational vertical
- Solutions for reducing e-waste in technology use

Conclusion: Building the Future Together

- Sustainable human centered, tech-driven future aligned with industry and society needs.
- Empowering students/educators/population with digital tools for adequate and responsible citizenship.
- A lot of extremely good projects, a lot of knowledge, it's time to move together to avoid duplication of work/time/energy.

Thank you for your attention.

www.sc-konjice-zrece.si

www.think-xr.si www.ai4ed-project.eu www.digitoo.eu

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