Features of virtual reality systems development

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When is it useful to have a virtual educational environment

- expand the student audience
- increase the availability of educational material
- increase motivation
- reduce training costs
- reduce the cost of material support
Virtual chemical laboratory
Performing chemical experiment
The process of creating the virtual laboratory

Selection of software products:

- Unity 3D
- Microsoft Visual Studio
- Cinema 4D

During the development process, more than 100 scripts were written, more than 50 models were developed.
Task: teach to develop IoT devices

Problem:
There is a risk of burning microcontrollers
TinkerCAD (Autodesk)

Online service and modeling environment for working with 3D objects and electronic circuits

https://www.tinkercad.com
Online workshop

Task:
- assemble the circuit
- develop an algorithm
- perform testing

Results:
- skills acquisition
- verification to real embodiment

Advantages:
- remote learning
- error does not cause damage
Stages of development of a virtual laboratory

1. Find Product owner (teacher)
2. Find an expert
3. Find a team (3D-modeller, developers, system analyst)
4. Select development tools
5. Develop a virtual environment according to the requirements of the teacher
6. Approbation and testing
Conclusion

• Deep methodological study of the virtual environment
• Detailed study of the behavior of the virtual environment in various states
• Close interaction between expert and team
• Assemble a versatile team
• The team must be motivated

Implementation of project-based learning
Thank you for attention

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