

SUMMARY IN ENGLISH

The main goal of the project to create the firearm simulation as closest as possible to reality is done. Precise 3D models of firearm and all components is done in SolidWorks according to real blueprints. Realistic animation of parts during all actions is done in Blender. Precise mathematical models of ballistics (both internal and external) is calculated and implemented into Unity VR surrounding. The basis for future changes and improvements or adding new types of firearms is ready. Scripting structure can be easily modernized depending on required tasks. Using VR equipment and my project it is possible to:

- to study the structure of the submachine gun. To understand, for example, the mechanism of cartridge feeding or the mechanism of a shot;
- learn the basis of managing the firearm: shooting, reloading, shuttering, changing fire and safety modes;
- analyze bullet ballistics and trajectory on practice;
- study an example of integrating mechanics into VR.

Also, in future I am going to continue working on this project. First of all, I am going to create solid approximate model of PPSH to replace controllers and simulate recoil using pneumatic pistons in its buttstock.

After that I am going to add more types of firearms into the project.