

# Development of Procedurally Generated Game from Scratch Elenova

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The main goal of my work was to develop a procedurally generated game, including its 3D models, textures, sounds, music and programming. One of my minor goals was to get deeper into the issue of game development. Elenova is a procedurally generated game developed in Unreal Engine 4. The main genres of Elenova are rogue-like and FPS (First Person Shooter). Elenova uses simple but still very practical and universal algorithm to generate the world procedurally. I created most of its 3D models, textures, sounds and music. The 3D models were created in Cinema 4D, the textures in Quixel Mixer. The animations were animated in Cinema 4D and Adobe Mixamo. Music and sounds were made in FI Studio 20. The game was programmed in Blueprint Visual Scripting environment inside Unreal Engine 4. Elenova is a one level game with seven unique enemies and one final boss. The game is my work entirely. In the field of programming, I was able to create several special techniques to improve optimization. You can find over 250 unique 3D models in the game, which were created in my own graphic style. Every model includes textures and materials created by me. All the character animations were created by me as well. The game in its current condition has taken over 600 hours of development and my work on the game still continues. The game contains over 250 3D models, 30 minutes of music, 7 enemies, each with its own artificial intelligence. I am going to continue developing the game in the future.