FEDERAL STATE BUDGET EDUCATIONAL INSTITUTION OF HIGHER EDUCATION
SAINT PETERSBURG STATE UNIVERSITY
REVIEW
supervisor for graduate qualification work
student __IV_____ course ___ Martynovs Arturs _
Direction 09.03.03 "Applied Informatics"
The main educational program "Applied Informatics in the field of
Arts and Humanities"
Head ____ Cand. Phys.-Math. Sciences, Associate Professor Pavel Petrovich Shcherbakov
The theme of the final qualifying work is "Creating a game location and environment on the Unreal Engine 5 game engine."
Content __ Martynovs Arturs' final qualification work is devoted to the creation of a game location on the Unreal Engine 5 game engine. The purpose of the work was to demonstrate the entire production cycle of the game environment.
A lot of preparatory work was carried out by Artur to achieve the set goals. He analyzed materials on the creation of gaming locations of a similar level, developed the idea of the project, and selected the necessary references and concept art. Created a landscape corresponding to the theme of the project. With the help of simplified architecture models (blockout), I worked out the main composition of the complex, its scale and positioning. Taking into account the amount of work ahead, Arthur previously developed the entire production cycle of assets (in this case, architectural elements) using the example of a small architectural detail. To optimize work on large and complex objects of the complex, Arthur applied the principle of modularity. He created block-modules of fragments of architecture, which he then combined when assembling the temple. Since a realistic style was chosen for the project, Arthur paid great attention to the texturing of objects. Created in Adobe Substance Painter, unique textures and masks give the architectural elements a natural and lively look. The models were imported into the engine in Unreal Engine 5, where the scene was assembled. At different stages, Arthur used applications and technologies that were optimal and effective for their tasks, both traditional and well-known (Autodesk Maya, Pixologic Zbrush, RizomUV, Adobe Substance Painter), and the latest. The unique Nanite technology recently introduced in Unreal Engine 5 has helped convert high-poly, heavy model meshes into virtualizable geometry. At the same time, the visual effect of a high level of detail was preserved, but the game engine system was not overloaded. The ability to quickly change settings in this engine and see the result in real time helped to quickly solve both technical and artistic tasks. Using Unreal Engine 5, dynamic special effects and particle systems (fire, snow, fog) were created, global illumination and weather were adjusted, which gave a picturesque and naturalistic look to the location. The visualization of the location was carried out. All these processes are described in detail by Arthur in his graduation work in 3 chapters.
Artur's technique for creating a three-dimensional gaming location allowed us to optimize the work process at all stages of its production and obtain a professional-level result in real time.
Evaluation In the process of work, Martynovs Arturs proved himself to be a well-established professional who is able to solve complex complex technical and creative tasks. He will be able to successfully apply the acquired knowledge and skills in various areas of 3d technologies. The final work speaks of Arthur's high professional level and creative potential.
The work of Martynovs Arturs meets all the requirements for final qualifying theses and deserves high praise.
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