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Use of sprites for 3D environments and actor's simulation

Yamile Zahoul

Monterrey Institute of Technology and Higher Education, México

2D sprites find applications in the field of videogames and some of their objectives are to optimize processing time and reduce memory consumption, years ago technology limitations made it complex to represent 3D scenes because of hardware capabilities, for that problem clever tricks such as the use of sprites and data codification in texture memory were implemented, one of the main dilemmas was the impossibility to run 3D engines in real time and one of the solutions at that time was the attribution of special and specific characteristics to a determined set of sprites on a flat plane for 3D simulation, more elaborated techniques for 3D simulation with sprites were raycasting and binary space partition trees, due to this techniques visual quality could be achieved at the same time that the processing was viable and fit the technological limits without compromising the performance, for the actors the simulation was achieved by a set of sprites with different directions, on first person games a very complex set was not necessary, the same sprite was not needed for multiple views, for third person a set of 3D sprites for each axis was necessary to create the 3D illusion. State of the art techniques help to achieve a functional processing, such as polypostors or dynamic sprites, but the disadvantage of these methods is that the quality of the sprite or the 3D model is reduced considerably, in this work the objective is to create 3D models coexisting with 2D sprites combining multiple techniques to achieve high visual quality and at the same time exploiting memory and processing capabilities.

Biography

Yamile Zahoul is a student in the major of Digital Arts and Animation at Tecnológico de Monterrey. She worked on multiple gaming design projects and is interested in the area of visual development and character development. She has experience with software such as Unreal, Unity, Android Studio, Autodesk Maya, Adobe Photoshop and Adobe Flash.

yamileza@gmail.com**Notes:**