

By Jesse Brand, William Biederman, and Cameron Stephenson



RPG Project Paper
WISRD Virtualization and Computer Rendering Group

The WISRD RPG is a project that was constructed by the leader of the WISRD Computer Rendering and Virtualization Lab, William Biederman. With help from Remy Wood, the storyline and preliminary dialogue script of the simulation were developed. The overall goals of this project is to apply virtual reality technology towards the overall advancement of education, allowing the player to learn about their interests in a immersive environment. Using Unreal Engine 4, a game engine developed by Epic Games, a certain portion of history (specifically European Medieval period) will be virtualized to make the storyline an interactive and immersive experience. In the process of this, the immersive aspect of virtual reality will increase the understanding and value of education overall. This goal could only be achieved by the WISRD Computer Rendering and Virtualization team expanding their knowledge of 3D modeling, blueprint programing, and world creation. This was possible due to having a diverse group of engineers.

In the making of the project paper, potential themes and goals were agreed upon; This gave an increased understanding of the intent and goals of the project to the engineers involved. An example project as a whole. Planning out these particular goals also contributed to a organised and professional method for tackling challenges and subsequently overcoming them. For example, one of the developed goals to create a complex dialogue system has been of some difficulty, but due to an efficient process and multiple computers, more artistic and less technical aspects of the game, like lighting and visuals can be developed simultaneously to the programing.

The start of development consisted of the 3D modeling portion of development. Jesse Brand was able to create a detailed and historically accurate polearm. To do this he utilised historical artifacts and the utility tool Blender. Polearms are spears attached to an axe, a grizzly but effective weapon that can be utilized for fishing or warfare. This sort of period accurate weapon can give increased context to a viewer to further their historical immersion. The second part of the development was the artificial intelligence aspect of the project. Using the premade third person movement schematic Jesse B. was able create a detection and following system. To

do this a hyperbolic cone had to be created to specify parameters. The third and most recent part of this project has been the development of a dialogue chain.