Chapter 27
Virtual Worlds: Places Where You Can Find Your True Talents

Michelangelo Tricarico
ITET G. Salvemini, Italy

ABSTRACT

This chapter discusses the author’s experience in virtual environments, with particular reference to virtual reconstruction. The events are narrated from the perspective of a student who at first developed his skills in this specific field at school, and then became competent and passionate enough to teach what he had learned in the course of time. He describes his experience from early school projects to the personal ones: from his award as a “Master Builder” to his early teaching lessons. Other learning activities that can be carried out in a virtual world are also illustrated, with particular reference to “coding”, which appears to be of great interest to the author. The main objective of this paper is to highlight the potential of a 3D virtual environment for the reconstruction of monuments, i.e., the author’s area of expertise. It also provides a description of other activities that can be performed in a virtual environment, while illustrating the most common issues that can be experienced and suggesting how to solve them.

INTRODUCTION

My name is Michelangelo Tricarico, and I am currently attending the ITET G. Salvemini school (a technical education high school in Molfetta - Bari - Italy), Construction, Environment and Land surveying specialism.

This is my last year of school and I am very grateful for the opportunity I have been offered to live a meaningful and unique experience with something that has become my passion and that I have turned into professional and state-of-the-art creations: reconstruction in virtual worlds.

My 3D adventure began around January 2011, when the first year students were given the opportunity to take part in a virtual reconstruction project inside the virtual world of the Italian Ministry of Education and Research (MIUR). The project was led by Mrs Maria Messere, one of the first teachers to experience virtual environment activities along with her students. The project focused on the reconstruction of the

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monuments of Molfetta, the town where my school is located. What especially intrigued and interested me about this project was the opportunity to interact with avatars: I thought it was so innovative and I was really enthusiastic about living such an experience. Working in a 3D environment was something I had been dreaming of ever since I was a child.

The Apprenticeship

The first training day was meant to be an introduction to the basic building program functions in order to make us able to modify an object and create monuments during the following sessions. Despite the great interest we had in the training programme, we were even more excited about the idea of creating our own avatars, instead. Therefore, regardless of our teacher’s attempts to keep us focused on the training programme, we all began to press random keys on the computer keyboard and soon enough we had all become quite familiar with the body-feature-editing toolbar. We could make changes to our avatars by ourselves! Great attention was particularly paid by all of us to the avatars’ hair style. In no time, faux-hawks, long, short, green or red hair began to appear on the avatars’ heads.

During the following sessions look change experiments ceased, and we were finally ready to keep our focus on the construction menu, while training hard in preparation for the monument construction sessions to come. We learned how to change the size of a prim, how to cut it and make a hole, how to add textures to the faces of an object and represent the object material. Before the monument reconstruction project was kicked off, we had the opportunity to take part in some interesting interactive competition activities. We were divided into teams; the winning team would be awarded a cup trophy. I remember my team losing the quiz challenge, but winning the one requiring the development of a cube creation, for example. Following this trial period, we had to deal with the reconstruction of two monuments.

My team had to manage the reconstruction of a lighthouse and a cathedral. I was in charge of the monument railing, made up of a perforated square and two oblique bars. I started by creating the 3 elements separately. I positioned them upward and placed the two bars inside the square. I thought I had done quite well, until my teacher brought to my attention that an inclination of the surface view showed how distant the elements were from each other. I had just met “difficulty number one” in a virtual environment, i.e. dimensions x, y and z must always be taken into account in a 3D environment, to solve this problem I learned to help moving the visual controls in more position or reporting directly measures and coordinate of the objects in the interface construction of the viewer. In any event, it was a minor hitch that I could easily overcome, performing quite well in the reconstruction of the lighthouse. I had to create a concentric sequence of hexagons, piling them up and adding a beacon on top of the structure. The beacon light was generated by a script added by our teacher.

The reconstruction of the cathedral was definitely more complex and quite a challenge for us. We had to work with several parts, and finding suitable textures to provide a homogeneous appearance to the structure was not an easy task.

Despite the many difficulties encountered along the way, eventually we were able to complete a miniature Molfetta, our town. The project developed around the town marina: at a walking distance you could find Torrione Passari (Passari fortified tower), the Cathedral, and just across the street, beside the Fish Square, the Purgatorio Church. Another street led to the Basilica of Madonna dei Martiri.

This project is representative of the MUIR Virtual World as it was included in the presentation video of this virtual platform that has considerably developed and improved since 2012. Over the years, it has involved hundreds of teachers willing to seek and experiment new teaching methods just like my teacher.