



# The Rock of Cashel

*An Animated Experience*

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This past summer, I spent six weeks living and studying Irish art history at the University of Limerick in Limerick, Ireland. I ventured way out of my comfort zone, traveling to Ireland completely alone, with no friends to greet me upon arrival. It was there, in Ireland, where I got the inspiration for this project. While touring several castles, I always wished that I could share the experience with friends and family. Often I thought to myself “my mom would love this” or “my friend Sam would think this is so cool”. There’s always that part of you that wishes you could share new experiences with old friends and family. Part of the reason why I decided to digitally recreate an Irish castle was because I wanted a way to share, in some small part, the feeling of awe that I experienced while visiting this castle. Additionally, I chose to make a digital animation, as opposed to using actual video or photographs of the castle, because I felt that I could more effectively give the viewer the same experience and interpretation of the environment.

As a digital artist, I spend a great deal of time and effort attempting to recreate the sense of reality in a virtual medium. Most, if not all, of the works that I create are fundamentally nothing more than ones and zeroes. However, these translate into strings of information, allowing the computer to determine where a line begins and ends, or how the surface of an object reacts to light. All of these artificial aspects come together to assist in the act of mimicking real-world qualities. This aspect is what draws me to digital art, the fact that what I create is nothing and something at the same time. All of the qualities of this “nothingness” are able to

come together in order to form a virtual reality that is often aimed at mimicking the real world. Alberto Giacometti said, "The object of art is not to reproduce reality, but to create a reality of the same intensity" (O'Keffe, 2004). Creating a reality of the same intensity is the goal of my animation, "The Rock of Cashel." "The Rock of Cashel" is a short animation that puts the viewer into a first-person perspective of a digitally recreated Rock of Cashel, an actual castle located in County Tipperary, Ireland. Through the form of an animated, virtual tour, the viewer experiences the feeling of wonder, as I did, a young American tourist, in awe of Irish history and the themes of destruction and creation, of beauty and of time passing, made manifest in an ancient castle.

Although my project requires the use of digital tools such as modeling and animation programs, it begins in the real world. The project truly started for me while I was studying abroad in Ireland this past summer. As I toured castle ruins, I found myself taking pictures of every little detail, from a large, fallen, Celtic cross, to the tiniest of shamrocks carved into a headstone. In some cases, I took over 3000 photographs on a single day spent in castle ruins. This large catalog of detailed photographs that encompass the entire castle ruins is what I used to recreate the environment. Working from these photographs, I was able to draw multiple sketches of the castle from different angles, and construct a floor plan. After completing the sketching phase and generating a three-dimensional image in my mind, I began modeling the castle in a program called AutoDesk Maya. This process started by using simple shapes to build up the general size and shape of the castle. (Figure 1.) Once satisfied with the overall feel of the castle, layers of detail were

added. After modifying the castle many times, the level of physical detail finally created an accurate depiction of the castle. The next step was to recreate natural-looking outdoor lighting for the scene.

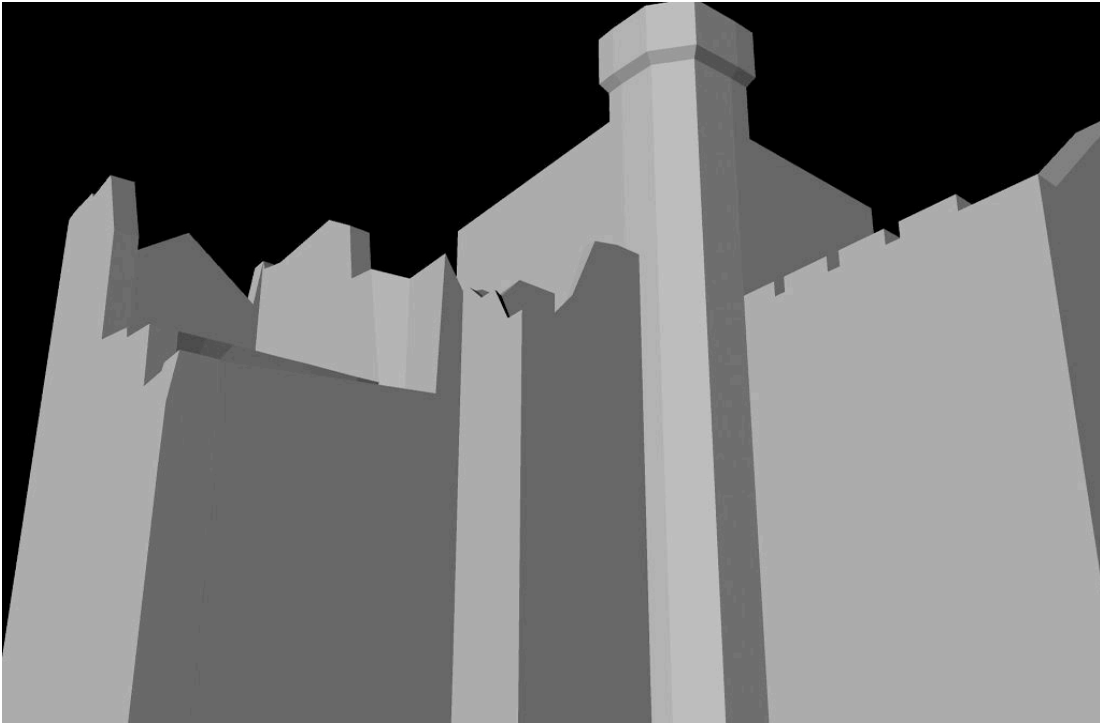


Figure 1. Basic model of the castle with no textures or lighting.

Using photographs, real-life experiences, and educated estimations, I was able to accurately recreate outdoor lighting for my environment. When a digital artist is looking to recreate outdoor lighting, he will often utilize a type of light known as a “directional light.” Digital modeling programs like Maya usually have several types of “light sources” that are most often spot lights, directional lights, area lights, and volume lights. One way to think of a directional light is like a wall of lights that extends infinitely. In order to mimic the sun, I employed a directional light, at a downward angle, with a set brightness or “intensity”, and a slightly yellow

coloring. Additionally, the light's settings were tweaked along with specified calculations that formulated by Maya, These included how many times the light should bounce off of specific materials, or how dark or sharp the shadows of objects should be. Once the environment was set up (Figures 2 and 3), I was ready to add aesthetic detail to the model.



Figure 2. Model of the castle digitally lit to create the feel of being outdoors.



Figure 3. View from inside the castle after lighting is applied.

When an animation constructs an object in the digital realm, unless specified otherwise from the start, the program defaults the model to a basic material, one that is usually gray and has a basic reflectivity; think of it as being made out of gray colored cardboard. When the castle model was finished, it had no material aspects other than the defaulted gray-cardboard that Maya issues to all projects. Naturally, adding texture to the castle was the next task. This stage began by going through many personal photographs and paying close attention to the shape, the color, and the sizes of the stones. The Rock of Cashel was built using a method known as “dry-stone masonry”, which means that it was built using stones placed on top of each other without any mortar. It’s essentially a brick wall, whose bricks fit together so well that the bricks don’t need mortar to hold them together. Therefore, I attempted to recreate this design in the texture of my castle. Creating a surface of stones that fit together without being uniform or having large gaps between them. Luckily, there were enough pictures of the walls from Ireland to be able to create a texture from



my own photographs. Using the photo-editing program Adobe Photoshop, I was able to create an image that could be seamlessly tiled both vertically and horizontally across the entire model, creating the illusion that the castle is constructed from stones. Once satisfied with the castle's texture, the project moved to the next step: animating.



Figure 4. Image that I used to texture the walls of the castle.



Figure 5. Castle model is textured and lit.

Animating in Maya is undemanding, but tedious. In order to give the viewer a first-person perspective of the environment, I animated a camera moving through the surroundings, rather than animating a character. To create this specific point of view, the camera must be told to start at point A and move to point B over the course of a certain number of frames. Performing this action for every move or turn, and having to fix issues that the computer has with calculating these moves makes this process time consuming. For example, at many points the computer doesn't realize that you want a 30 degree turn clockwise over the course of 60 frames, and instead creates a 330 degree turn counterclockwise, which ends up being quite nauseating. To fix problems like this, the computer was told where the camera should be positioned in each and every frame. Once satisfied with how the camera moved through the environment, the animation is rendered and assembled into the final product.



Since these castles have been around for many decades, I viewed them as physical records of the past; every crack, every fallen brick, every patch of moss conveyed a story. Conversely, the Irish see many of these castle ruins as obstructions to farming or development. For the most part, the Irish consider the castle ruins in the same light that Americans see strip malls, structures that are not important or hold much cultural value. Regardless, it was apparent to me that what I saw as a monument to a great people, a window into Irish history, the Irish saw simply as a large stone structure, something that's as much a part of the landscape as a hill or a bush.

Many of the castle ruins that are littered throughout Ireland are falling into disrepair due to years of natural erosion as well as a lack of interest or respect from the Irish people. For instance, I learned of several castle ruins that had been turned into housing for storage or livestock. Luckily, in recent years, the Irish government has seen fit to introduce new incentives for the preservation of Irish heritage. Recently, the Irish government has created the Gaelic Athletics Association, which is in charge of preserving Irish culture through its unique sports, such as hurling or Gaelic football. The GAA runs a league for hurling and Gaelic football much like the National Football League runs a league for American football, except that the players in the GAA do not receive payment. Instead, the proceeds from merchandise and tickets sales go towards funding athletics programs in every single town or village in Ireland. I hope that my animation adds to this preservation of Irish culture and history.

The digital art world is a large and competitive realm, consisting of hundreds of thousands of artists. With so many digital artists, it would stand to reason that I am not the only artist who digitally reconstructs castles. One such artist is a man named Sven Dännart from Germany (“Neuschwanstein Castle”). His digital reconstruction of Neuschwanstein Castle is a beautiful example of preserving history through new-age means (Figure 6). Sven’s use of low-angled lighting creates long shadows that give the castle a sense of mysticism. Additionally, the surrounding environment gives the viewer an impression of the large scale and proportions of the castle. The video game world is another place where digital castles are prevalent. Digital artist Matthew Carofano was the head art director for the video game “Elder Scrolls IV: Oblivion” which is set in a mystical medieval universe (“Battlehorn Gatehouse”). Carofano designed and created several castle environments for the game much like the one seen below (Figure 7). Many of these environments are very large and complex, most of which consist of over 30 rooms. Not only are these castles vast and numerous, but they also vary greatly in style, from the Norse-looking castles of the north to the Venetian-style villas of the seaboard. Using digital-age technology to reproduce historical sites is by no means anything new, but it’s increasing in popularity and in the vastness of its uses.



Figure 6. Neuschwanstein Castle by artist Sven Dännart





Figure 7. Castle Battlehorn Gatehouse by artist Matthew Carofano

Through this project, I hope to give any audience a small portion of the same sense of awe and wonderment that I experienced while touring these castles in Ireland. While working on this project, I learned a great deal about the technical and conceptual aspects of the digital art world. The large scale of this project gave me insight into what it means to be a professional digital artist, which is what I hope to become in the very near future. From preserving history to video games, the digital art realm is exceptionally versatile and useful. Additionally, I realized that our perception of what makes a historical monument and what makes a pile of rubble relies heavily on an individual's background and perspective. Where some people may see an old, dilapidated building, others may see a physical manifestation of a record of history.

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