

ABSTRACT

Creative Project: Using Photogrammetry to Create 3D Models for a Digital Museum

Experience

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This creative project analyzes multiple existing digital museums including the digital exhibits hosted on the Model Aviation Museum's website and offers ways to improve them for accessibility and to create a more positive experience for website visitors. It analyzes different types of virtual museums including digital walkthroughs which involve clicking on a map to move around as well as digital collections which contain pictures and information about items within the museums' physical collection. It also explains how to develop a virtual museum and the aspects required to create an overall positive and educational experience. The creative project explains what photogrammetry is and the process of using it to create 3D models. This involves taking numerous pictures of a real-world object and using those images in a specific type of software to create high-fidelity models of the original objects. These models are not always perfect making the creative project focus on different ways to minimize the inaccuracies within the 3D models. It also goes on to explain how those models are exported and the files that make up a single model and their purposes. It then explains multiple ways to host those files on a website such as the Model Aviation Museum's own website. Due to the nature of the tools designed to share 3D models on websites, they are not always compatible with every website, so

multiple options are given. The final product of the creative project is eight 3D models of model aircraft engines provided by the Model Aviation Museum.