ABSTRACT

Heirlooms are very valuable items because they have a substantial historical value. But in reality, many heirlooms are damaged due to the negligence of visitors who want to see the heirlooms or because of a disaster. This can be prevented by identifying the heirlooms and then creating a 3D model of the heirlooms. This has been done by several researchers but the 3D model made is not similar to the original form. The purpose of this research is to develop existing research in the aspect of the 3D model using the photogrammetric method. The heirlooms that are used for research are heirlooms that are in the Keraton Kanoman, Cirebon.

The research was conducted by analyzing needs, taking photos, creating 3D models, and perfecting 3D models. The applications used in this research are Agisoft Metashape and Blender software. After the 3D model is finished, the next step is to collect quantitative data through surveys. A survey was conducted to ensure that the finished 3D model was in accordance with the research objectives. The survey consists of 5 statements regarding color, shape, texture, and agreement that 3D models can be used as preventive measures if heirlooms are damaged, whether and 3D models still need to be developed or not.

The survey of 70 people from this study stated that the statement regarding color, the most widely chosen value was strongly agree with the percentage of 48.6%. In the statement regarding the form, the most chosen value strongly agrees with the percentage of 51.4%. In the statement regarding texture, the most chosen value agrees with the percentage of 51.4%. In the statement regarding the agreement that the 3D model can be used as a preventive measure if the heirloom is damaged, the most chosen value agrees with a percentage of 48.6%. 77.1% agree that the 3D model generated from this research still needs to be developed.

Keyword: *Agisoft Metashape, heirloom, close range photogrammetry, 3D modeling.*