

**Universiti Teknologi MARA**

**3D Modelling of An Animated  
Caricature**

NurAthirah Hanim Bt Mohd Arif

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## **ABSTRACT**

3D animation becomes increasingly popular as its demand grows in many fields like entertainment industry. To fulfil this demand, motion capture technology gains strength, creating a new generation of professionals and related jobs. This project aims to develop and design a system that perform motion tracking and caricaturing system. Basically, for a motion capture system implementation the resources required consist of a number of synchronized cameras, an image acquisition system, a capturing area, and an actor suit with markers. In this project, the implementation involves setting up a human model and recording a video of human walking movement. The locations of the markers on the suit are designed and placed at the joint of human's leg. Marker detection involves tracking 4 passive markers in the video. However, to detect the marker from two different angle which is from front and side view is quite challenging. With the help of Logitech CI70 webcam model, the 3D reconstruction of markers (translational data) is achieved by capture the marker from the side view and front view. The simulation process starts with creating the character by using Blender software. Other important techniques used to improve consistency in the motion data are volumetric reconstruction, inverse kinematics, and inverse dynamics. This research is related to editing and manipulation of motion data.

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