Reconstructing 3D Models from Images Using OpenMVG and OpenMVS

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I. Introduction

A. Background of the Study

Back in the 1960s, computer engineers have been creating three-dimensional (3D) models. In our current age, it is used in many things such as animation, games, visualization and 3D printing [1].

Using multiple images in reconstructing 3D models has been around for decades. There are many approaches on this, such as *snakes, silhouette exploitation* and *patchwork* [2]. All of these are still relevant and some of them are used together with other techniques.

Structure from Motion (SfM) is a technique to obtain camera parameters for 3D model reconstruction. It has been used since 1999 [3], until today. OpenMVG uses this as its basis [4].

The study will focus on SfM-MVS (Structure from Motion-Multi-View Stereo). Where SfM by OpenMVG will be used in reconstructing a basic 3D point cloud, and OpenMVS will be used in creating mesh and applying texture [5].

B. Statement of the Problem

Statement

C. Objectives

Generally, the study aims to develop an application that will accept images from users, and then produce a 3D model from those images. Specifically, this study aims to:

- To develop an application for 3D reconstruction from images
- To use SfM-MVS workflow in creating 3D models
- To assess the applicationś ability to reconstruct 3D models from images within the limitations

D. Significance of the Study

why?

E. Scope and Limitations

grayscale, smooth, dark, machine(?) where, when

II. Literature Review

intro to this chapter

A. Related Studies

chop some stuff

B. Definition of Terms

III. Hypotheses

null ad alternative hypotheses

IV. Materials and Methods

intro to this section

A. Materials

laptop, camera, programs, subjects

B. Data Collection

try uli kung meron sa net. visit places like Paete to take pictures

C. Methods

numbered nerdy stuff. add figures, formula, flow chart, algo

D. Data Analysis

how can we consider this successful/unsuccessful? holes?

V. Nature and Form of Results

research paper. and an app

VI. Budget and Project Timeline

intro to this section

A. Project Budget

table: breakdown

B. Project Timeline

gantt chart of activities (per week)

Appendix I
Proof of the First Zonklar Equation

Appendix one text goes here...

Appendix II

Appendix two (without title) text goes here...

Acknowledgment

Many thanks to... the quik brown fox jumps over the lazy dog.

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