HIGHER TECHNICAL INSTITUTE

COURSE IN COMPUTER STUDIES

DIPLOMA PROJECT

A VIRTUAL REALITY SIMULATION OF A 3D RECONSTRUCTION ALGORITHM

CS/346

CHRISTODOULOS PANAYI

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PROJECT REPORT SUBMITTED BY
CHRISTODOULOS PANAYI

In Partial Fulfillment Of The Requirements For The Award Of The Diploma In Computer Studies

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Acknowledgements

Firstly, I would like to express my thanks to my project supervisor, Mr. Marinos Ioannides, who provided me with very helpful advices and guidelines concerning the project, and who was always helping me whenever I was asking for.

Furthermore, I would like to thank Mr. Yiorgos Chrysanthou, professor in University of Cyprus, for his great help during the development of this project.

I would also like to thank my lectures during the three years of study at H.T.I for their support and the precious knowledge that they have offered us.

Finally, I would like to thank my family and all my friends for their moral support during the hard times.

Contents

Summary

This goal of this project is the development of a software platform that will follow an already existing project of a 3D reconstruction algorithm. The new project will be integrated in the virtual reality development lab of the University of Cyprus.

The existing project uses for input a file that contains a series of 3D points and exports it in different forms like VRML and finally shows 3D points on the screen. Those 3D points are given by a 3D scanner and describe an item with large detail.

In addition to this, the new project will take as input the tetrahedrons of the 3D reconstructed object and with virtual reality the user can be inside of the item and see how the item looks.

In the report that follows the System Development Life Cycle (SDLC) is used to demonstrate and analyze the various activities that are involved with the project. The SDLC is divided into five phases:

- Investigation Phase
- Analysis and General Design Phase
- Detailed Design and Implementation Phase
- Installation Phase
- Review Phase