BINA NUSANTARA UNIVERSITY

School of Computer Science

Computer Science Program

Bachelor of Computer Science Thesis

Even Semester 2014/2015

NETWORK DISTRIBUTED RENDERING FOR AUTODESK 3DS MAX 2014 USING PEER-TO-PEER ARCHITECTURE

Winston	**1501154421**
Arrya Pramodana	**1501182942**
Tandri Suryadi	**1501192224**

ABSTRACT

Rendering is daily part of life from student Visual Communication Design in Bina Nusantara University. Application graphic that more sophisticated is now being use for image processing and animation filmmaking. For image processing that have more complexity needs more time and hardware with high specification, but the price for the hardware is very expensive. To speed up the rendering time, they had to have a sufficient hardware specification. The goal of this project is to optimize the rendering device so the rendering time becomes faster, by utilizing peer discovery method for linking one user to another and image partitioning to split rendering files into several parts. The benefit that obtained from this project is to help the students of Visual Communication Design in Universitas Bina Nusantara *who have limited rendering hardware to be able to do better.*

Keyword*: Peer Discovery, Image Partitioning, Peer Render*

ABSTRAK

Rendering merupakan bagian sehari-hari dari kehidupan mahasiswa Desain Komunikasi Visual Universitas Bina Nusantara. Aplikasi grafis yang semakin canggih kini banyak digunakan untuk mengolah gambar dan pembuatan film animasi. Untuk mengolah gambar yang banyak dan kompleks membutuhkan waktu lama dan memerlukan hardware dengan spesifikasi tinggi, namun harga hardware tersebut sangat mahal. jika ingin mencapai waktu yang lebih baik, maka mereka diharuskan untuk memiliki spesifikasi hardware yang memadai, namun harga hardware tersebut sangat mahal. Tujuan dari proyek ini adalah untuk mengoptimalkan perangkat rendering yang ada sehingga waktu rendering menjadi lebih cepat, dengan memanfaatkan metode *peer discovery* untuk menghubungan satu user dengan yang lain dan *image partitioni*ng untuk membagi file render menjadi beberapa bagian. Manfaat yang di dapat dari proyek ini ialah membantu para mahasiswa Desain Komunikasi Visual Universitas Bina Nusantara yang memiliki keterbatasan hardware agar dapat mengerjakan rendering dengan lebih baik.

Kata Kunci: *Peer Discovery, Image Partitioning, Peer render*

PREFACE

First of all, thank you for The God Almighty because of His grace, benediction and blessing so that we are able to finish our real work report. The report entitled NETWORK DISTRIBUTED RENDERING FOR AUTODESK 3DS MAX 2014 USING PEER-TO-PEER ARCHITECTURE is presented in fulfillment of the requirements for Strata-1 program in Computer Science Department, School of Computer Science, Bina Nusantara University.

However in order to realize this report, there are several people who gave mental, physical and material support to us during accomplishment process of this report. Therefore, in this occasion, we would like to express our deepest gratitude to:

1. Mr. Prof. Dr. Ir. Harjanto Prabowo, MM. as the Rector of Binus University
2. Mr. Fredy Purnomo, S.Kom., M.Kom. as the Dean of School of Computer Science Binus University.
3. Mrs. Yen Lina Prasetio, S.Kom., M.CompSc. as the Head of Program of Computer Science.
4. Mrs. Rini Wongso, S.Kom., M.T.I. as the Deputy Head of Computer Science School - Academic and Operation
5. Mr. Bayu Kanigoro, S.Kom. M.T., as the mentor who has given many supports, suggestions, and guidance throughout this process.
6. Families who have given moral and financial support to the authors
7. Friends who have given motivation and feedback to the authors
8. All lecturers in Bina Nusantara University who have given guidance and knowledge to the authors.

At last, we hope this report could bring benefits to all readers and parties finding it as a necessary. The writer realizes that this thesis is not flawless, thus all constructive criticisms and suggestions are very welcomed. Thus, it could be useful for every party and the development of Binus University School of Computer Science.

Jakarta, June 27th, 2015

Authors