

**ONLINE TUTORIAL SYSTEM FOR ALGEBRA OF DIVINE GRACE
ACADEMY SCHOOL OF DASMARIÑAS**

An Undergraduate Research Proposal Presented to

The Computer Studies Department

College of Science

De La Salle University - Dasmariñas

In Partial Fulfillment of the Requirements for the

Degree of Bachelor of Science in

Computer Science

Fabella, Vic Andrew I.

Guangco, Richard Dale C.

Lim, James Marvin P.

March 2012

Table of Contents

Abstract.....	1
Chapter 1: Background of the Study.....	2
1.1 Project Context.....	2
1.2 Purpose and Description.....	3
1.3 Objectives.....	4
1.4 Scope and Limitations.....	5
1.4.1 Scope of the Study.....	5
1.4.2 Limitations.....	12
Chapter 2: Review of Related Literature.....	13
2.1 Local Literature.....	13
2.2 Foreign Literature.....	18
Chapter 3: Technical Background.....	23
3.1 The Learning Process.....	24
3.1.1 Types of Learners.....	24
3.1.2 Factors Affecting Learning Process.....	26
3.2 Effective Computer Aided Instruction.....	28
3.2.1 Accessibility and Time.....	28
3.2.2 User Feedback.....	29
3.2.3 Multimedia Based Learning.....	29
3.2.4 Scripting and Database.....	31
3.3 Paradigm of the Study.....	32
3.3.1 Methodology.....	32
3.4 Concept of the Study.....	33
3.5 Conceptual Process.....	33
3.6 Conceptual Operation.....	34
Chapter 4: Design and Methodology.....	36
4.1 Block Diagram.....	36

4.1.1 General Diagram.....	36
4.1.2 Administrator Option.....	38
4.1.3 Faculty Option	40
4.1.4 Student Option.....	42
4.2 Conceptual Design	43
4.3 Development Planning	49
4.3.1 Software.....	49
4.4 Project Evaluation	54
4.4.1 Respondents of the Study	54
4.4.2 Research Instruments.....	54
4.4.3 Data Gathering Procedure	56
4.4.4 Statistical Treatment of Data	57
Chapter 5: Implemented Plans	58
5.1 Infrastructure/Deployment	58
Chapter 6: Results and Discussion.....	62
Chapter 7: Conclusions and Recommendations	67
Appendix.....	69
Bibliography	82

Abstract

The "Online Tutorial System for Algebra of Divine Grace School of Dasmariñas" was proposed to further develop the learning ability and capacity of the students through self-study. It was developed to minimize the percentage of failing students in Mathematics with the help of interactive lessons and flash based mathematical games, and to compliment the traditional teaching techniques by eliminating the time limitation allotted on a certain subject.

High school students, 12 to 13 years of age, were surveyed to provide a statistical approach for the system development. A total of 26 respondents evaluated the system and agreed to have the objectives formulated and found the system a big help for their Mathematics subject. Furthermore, the mathematical games gave further understanding on the present topic being discussed and were considered a great help for lesson digestion.