ABSTRACT

Name of Institution: De La Salle University- Dasmariñas

Address: Bagong Bayan, Dasmariñas, Cavite

TITLE: A Computer- Based Approach in Determining the Minimal Spanning Tree and Shortest Paths of a Graph

AUTHOR: Vida Marie Caparal Perez

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OBJECTIVES OF THE STUDY:

A. GENERAL:

To have a computer based approach in determining the minimal spanning tree and shortest paths of a graph.

B. SPECIFIC:

To produce a computer-based approach that provides users with algorithms and a step-by-step tutorial of the Dijkstra's and Kruskal's Algorithm.

SCOPE AND COVERAGE:

The special problem was made in the period of three months. A step-by-step tutorial of the Dijkstra's and Kruskal's Algorithm was provided in the software. A supplement software for algorithms, definitions, theorems and some graphs in graph theory was included.

METHODOLOGY:

The step-by-step tutorial was implemented using the C programming language. The supplement software was developed using the Visual Basic version 3.0.

The software development process used was the waterfall model.

OUTPUT OF THE STUDY:

// ~~The~~ software provides a step-by-step tutorial of the Dijkstra's and Kruskal's Algorithm. The other software includes definitions, theorems, algorithms and graphs. The software deals with flowcharts and algorithms. //

CONCLUSIONS:

Computers can be used as an instructional tool for education. Computers have gone a long way and Computer Assisted Instruction has been successfully implemented. CAI can be used in a wide area of education which includes graph theory.

RECOMMENDATIONS:

Due to the lack of time in doing this special problem, other processes needed to complete a good CAI material was not included in the system. Developments are highly recommended. Tests and more examples must be included to have a complete CAI on graph theory.