



De La Salle University – Dasmariñas

**DAMATHS**  
**Application of Artificial Intelligence**

A special Problem  
Presented to the  
Computer Science Department  
College of Sciences  
De La Salle University-Dasmariñas

In Partial Fulfillment  
Of the Requirements for the Degree of  
Bachelor of Science in Computer Science

by

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March 2001



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### ABSTRACT

Damath is a Filipino board game similar to checkers, though it is not as popular as Dama. The difference of this game from other board games is that it has mathematical operators, which specify the computation of the scores based on the value of the chips. Thus, winning the game will not only depend on whether a player obtains a mayor dama or not. The player with the higher score wins the game.

The main objective of the automated Damath game is to develop a board game that implements the concept of searching and heuristics. The proponents try to solve the problem presented in this study which is being able to play this game without a facilitator or a scorer and a human opponent by creating an automated system. This study, discusses the Minimax Searching Algorithm, Alpha-Beta Cut-offs, and Heuristic Evaluation function in order to come up with the overall result of the game. Also, the proponents will present a macro view of Artificial Intelligence. The rules in playing this computerize game is the same as the mechanics of the existing manual Damath. This becomes the guide in making this system possible.