



**ANTARAX: IMPLEMENTATION OF A Star (\*) ALGORITHM IN 2D ROGUELIKE  
DUNGEON-CRAWLING SHOOTER GAME**

**UNDERGRADUATE THESIS**

**Submitted as one of the requirements to  
obtain  
Sarjana Komputer**

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**FACULTY OF COMPUTING  
INFORMATICS STUDY PROGRAM  
CIKARANG  
MAY, 2023**

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2D ROGUELIKE DUNGEON-CRAWLING SHOOTER GAME

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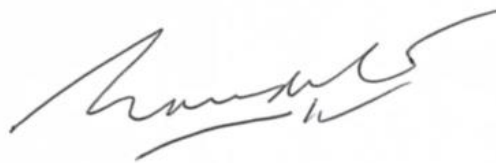
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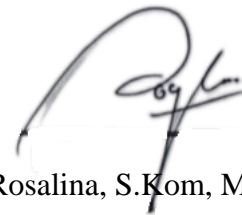
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## **ABSTRACT**

The main objective of this project is to create a fully-functioning top-down 2D Dungeon-Crawling shooter game with a fully working enemy AI as the main obstacle of the game. This project will explore many things, from the creation of the 2D sprite animation for the both the main character and the enemy AI, Dungeon and level design to the creation of the enemy AI behaviour using the A\* Path-finding algorithm as the main algorithm. If possible, the music and the art of this project will be an original work from the creator of this project.

Roguelike Dungeon-Crawling is a subgenre of another genre called RPG (Role-Playing Game). In Role-Playing game, a player can choose their main hero from a variety of many characters with different skillset, weapon and model like a wizard, knight, monk, thief etc. The difference between roguelike and RPG is that RPG still tolerate death with the implementation of save system in which let player recover their character to the previous save point, while in roguelike, death is permanent and player must start the game from the beginning again. The main gameplay of a roguelike dungeon-crawling game is to navigate through many dungeons room and battle many enemies that the player came across while avoiding danger because death is permanent. The more the player progress, the more challenging the game will become. At the end of every level, the player will be greeted by a powerful enemy typically called a Boss that will guard the entrance to the next level. The player needs to kill this entity to proceed to the next level.

## **DEDICATION**

*The author would like to dedicate this project to my family especially both my parent,  
my friends, and of course my future self*

## **ACKNOWLEDGMENTS**

The author would like express my deepest gratitude to those who dear tome, who has support me to this point, allowing this project to be finished. Especially, the author would like to express it to the following:

1. God Almighty, without his grace, the author would never able to do this project, let alone finishing it.
2. My dearest family, who has support me in my journey to get educated, and help me in many ways.
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