PROJECT REPORT

Practicing Genetic Algorithm On Scrabble Games Engine

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STATEMENT OF ORIGINALITY

I, the undersigned:

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Certify that this project was made by myself and not copy or plagiarize
from other people, except that in writing expressed to the other article, if it
is proven that this project was plagiarizes or copy the other, I am ready to
accept a sanction.

Semarang, 13 July 2015

Oky Novianto
11.02.0019
FOREWORD

In the manufacture of this project appeared many problems. But with help and support of people around me, I can finish this project on time. Thanks to my father Erwanto, my mother Suko Hartini and my brother Ody Ariawan who always pray and support me. And specially to my girl friend Novarina Dian Hapsari which always supporting me.
PREFACE

The project report title “Practicing Genetic Algorithm On Scrabble Game Engine” will be explained process start to finish in the manufacture of this project. In Chapter 1, describes the background of this project as well as the limitations problems and objectives to be achieved in this project. While in Chapter 2, describes the literature used in this project, and explain the algorithms and data structures that will be used on this project.

In the chapter 3 will explain about the schedule plan of the project and the research methods to be used in the making of this project. From the results of chapter 3, in chapter 4 will explain in detail the program analysis and program design. And shall explain the workings of the algorithm implemented in this project.

Chapter 5 contains the algorithm implementation, and testing the program. In the explanation of the implementation, there are several important pieces of code in the program. As well as during testing, there are some pictures for proof that the program can run as expected. In chapter 6, there will be the conclusion of the project, based on the original purpose of the project in the manufacture of. And do not forget there is information about the development that can be done so that the program can run better.
ABSTRACT

This project is practicing an artificial intelligence for scrabble game engine. Then will apply genetic algorithms and use java programming language. Genetic algorithms will process the letters become a word that has meaning, also put that word which gets highest point in the right place.

In this game, there are some requirements to put a word in a board. When put the word into board, the word should be formed based on the user's letters were obtained randomly. Then the letters should be arranged into a word that has meaning. The word should be placed to scrabble board without crashing or sticking to other existing words that are already on the board. And the word will not placed out of the board.

Implementation of genetic algorithms in this game will begin with the formation of the population. Formation of the population is made based on the letters obtained by the user. Then the population will pass through the process of mutation, crossover, and fitness checks. Results of the genetic processes that will be used as a result to put on a scrabble board. And finally, that result will be show on to GUI.

Keyword: Genetic Algorithms, Scrabble Game, Scrabble Game Engine
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