

UNIVERSITI TEKNOLOGI MARA

**AUTOMATED TOURNAMENT
MANAGEMENT SYSTEM WITH
DYNAMIC MATCHMAKING USING
GENETIC ALGORITHM**

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SUPERVISOR'S APPROVAL

AUTOMATED TOURNAMENT MANAGEMENT SYSTEM WITH DYNAMIC MATCHMAKING USING GENETIC ALGORITHM

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This report was prepared under the supervision of the project supervisor, Mr. Ahmad Firdaus Bin Ahmad Fadzil. It was submitted to the Faculty of Computer and Mathematical Sciences and was accepted in partial fulfilment of the requirements for the degree of Bachelor of Information Technology (Hons) Information Systems Engineering.

Approved by

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January 31, 2016

STUDENT'S DECLARATION

I certify that this report and the project to which it refers is the product of my own work and that idea or quotation from the work of other people, published or otherwise are fully acknowledge in accordance with the standard referring practices of the disciplines.

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ABSTRACT

Electronic Sport Malaysia (eSM) is the governing body of eSport in Malaysia. eSM are having problem in monitoring their client activities. eSM's clients are players and tournament organizers. eSM does not manage a tournament instead sanction it to a tournament organizer. eSM need to monitor the results of each tournament. eSM also need to distribute points to the player based on the achievements on a tournament. Therefore, an automated tournament management system, is proposed to aid them with managing and monitor their client's activities and achievements. The developed proposed system is named Colosseum Tournament Management System (CTMS). The project implements Rapid Application Development (RAD) methodology. There are a total of 5 phases in RAD, initial planning, requirement planning, user design, construction and cutover. Actives such as observation, interview and questionnaire has been done to gather the requirements for developing the system. CTMS are embedded with dynamic match making using genetic algorithm that can pairs players based on variation combination of criteria such as player's gender, points and nation. The algorithm enables tournament organizer to pairs players that can ensure excitement to the viewer and players. The project produces a numbers of prototypes, Software Requirement Specification (SRS) and System Design Document (SDD). The developed CTMS has been demonstrated to the eSM and has gone through an evaluation and validation.

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