



**SYSTEM INTEGRATION OF SINGLE SEATED FUEL  
CELL POWERED VEHICLE**

**BUQHARI BIN JAAFAR  
(2007290914)**

A thesis submitted in partial fulfillment of the requirements for the award of Bachelor  
Engineering (Hons) (Mechanical)

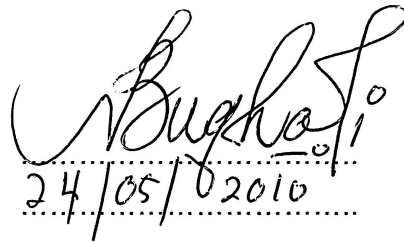
**Faculty of Mechanical Engineering  
UNIVERSITI TEKNOLOGY MARA (UiTM)**

**MAY 2010**

"I declared that this thesis is the result of my own work except the ideas and summaries which I have clarified their sources. The thesis has not been accepted for any degree and is not concurrently in candidate of any degree."

Signed

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Handwritten signature of Buqhari bin Jaafar in black ink, written over a dotted line.

Date

:

24/05/2010

**Buqhari bin Jaafar**

UiTM No : 2007290914

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## ABSTRACT

This purpose of project is to design and build a Formula Zero racing kart using hydrogen PEM fuel cell as its power source. This project is entails the study of a complete system integration of the single seated fuel cell powered vehicle. Based on the definition, System integration is the successful putting together of the various components, assemblies, and subsystems of a system and having them work together to perform what the system was intended to do. The objective is to control all subsystems of the vehicle consisting of power train, power plant, braking system, steering system and other subsystem. Scope of this project is to develop the control algorithm for the vehicle system under different driving condition such as acceleration, braking, and steady states condition. However, the objective of the integration is to get optimum performance of the vehicle as product design specifications. The limitation of the integration is the exclusion of aerodynamic and other subsystem such as steering system. Further study should include these steering system and cornering and other subsystem for better control of the vehicle system.

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