

DESIGN OF ROBOTIC BUG

MOHAMMAD EWAN ZIENUREE ASTON ISMAIL

ENGINEERING PROJECT
SCHOOL OF ENGINEERING
UNIVERSITY COLLEGE SEDAYA INTERNATIONAL
MAY-DECEMBER 2004

ABSTRACT

The engineering project spans two semesters and is worth units or 40 credit points. This topic is the culmination of the engineering application activity, in which students are able, to apply both practical skills developed over the previous two or three years with the theory and knowledge obtained to solve real practical problems.

The report presents the research and design of a robotic bug. It has the limbs of the bug and trigger sequence for collective limbs movements. The construction of the robotic bug will take account of important elements of electronics, electrical, mechanical, microcontroller and software engineering.

The aim of this project is to develop an autonomous mobile robotic bug that is able to navigate and transverse on various landscapes/obstacles, yet not bumping/crashing into any obstacles. The robotic bug is constructed using aluminum and plastic material where it is animated by RC servomotors. It will produce a modified tripod gait to trigger a sequence of collective limbs movements where it controlled by using microchip PIC 16F873 microcontroller and programmed with PIC BASIC PRO compiler.

Therefore, this final report clearly shows the overall initial idea, the design and the basic concept of robotic bug. The beginning few chapter of this report gives an overview and introduction of the robotic bug as well as taking account of the researching and developing of robotic bug as the main section in this report . Lastly, conclusion will be ending for this two semester work.