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THE KENYA POLYTECHNIC UNIVERSITY COLLEGE

DEPARTMENT: ELECTRICAL AND ELECTRONIC ENGINEERING.

PRESENTER: SYLVESTER KING'OO MWANGA

INDEX NUMBER: 401001064.

**PROJECT TITLE: PROGRAMMING AND INTERFACING AN
AUTONOMOUS ROBOT**

COURSE OPTION: TELECOMMUNICATION ENGINEERING

COURSE CODE: 2082/207

SUPERVISOR: MADAM MARY

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THIS PROJECT IS PRESENTED TO THE KENYA NATI

EXAMINATION COUNCIL AS A PARTIAL FULFILME

AWARD OF A HIGHER DIPLOMA IN ELECTRICAL AND

ELECTRONICS ENGINEERING –TELECOMMUNICATION OPTION.

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PREFACE

The project involves programming of a microcontroller and interfacing it with various parts to make up a complete robot (for instance, proximity sensors touch sensors, colour sensors power supply motor drivers and mechanical parts i.e. arm) the program is to control the robot such that it moves in a line track. If by any chance it moves out of the track line sensors would send a signal to the microcontroller which will instruct the wheel on the deviation side to slow down and acceleration to the other wheel thus we adjust to the track as the robot moves it keeps on checking or sensing whether it has reached the target. Once it senses that it is near the target the robot slows down and stops, stretches the arm and starts searching the object of right colour. If it identifies an object, it picks it, intelligently with a force that is relative to the medium of the object. It turns 180 degrees and then it starts moving in a reverse direction. After moving for a while it identifies an empty space at a corner, stops opens the arms to release the object. The robot then moves forward to collect more objects, it does this until all objects are collected then the program instructs the robot to stop