UNIVERSITY OF SOUTHAMPTON

Modular Robot

by
Nikhil Banerjee
John Charlesworth
Michael Hodgson
Max Lotz
Will Neep
Romel Torres

Technical Report

Faculty of Engineering and Applied Science Department of Electronics and Computer Science

May 14, 2012

UNIVERSITY OF SOUTHAMPTON

$\underline{\rm ABSTRACT}$

FACULTY OF ENGINEERING AND APPLIED SCIENCE DEPARTMENT OF ELECTRONICS AND COMPUTER SCIENCE

by Nikhil Banerjee
John Charlesworth
Michael Hodgson
Max Lotz
Will Neep
Romel Torres

This work is all about ...

Contents

1	Intr	roduction	1
	1.1	Biological Inspiration	1
	1.2	Existing Technologies	1
	1.3	Project Specification	1
2	Sys	tem Overview	3
3	Elec	ctromechanical Design	5
	3.1	Servo	5
	3.2	Chassis	5
	3.3	Prototyping	5
	3.4	Subsections	5
	3.5	Summary etc	5
4	Mo	dule Electronics Design	7
	4.1	Overview	7
	4.2	Communication	7
	4.3	Sensors	7
	4.4	PCB Design	7
	4.5	Summary etc	7
5	Sim	nulation	9
	5.1	Overview	9
	5.2	Modelling	9
	5.3	Movement	9
	5.4	Communication	9
	5.5	Gaits	9
	5.6	Summary etc	9
6	Res	sults	11
7	Pro	ject Management	13
8	Con	nclusions	15
9	Fur	ther Work	17
A	\mathbf{Bre}	akdown of Labour	19

•	CONTERNITO
V1	CONTENTS

в	Minutes	21
\mathbf{C}	Budget	23
	Duaget	40
D (Gantt Charts	25
י ע	Gantt Charts	2 3
Bib	liography	27

List of Figures

List of Tables

Listings

Introduction

1.1 Biological Inspiration

Our biological inspiration . . .

1.2 Existing Technologies

Information on similar systems already available . . .

1.3 Project Specification

What out robot has to be able to do and what makes it special . . .

System Overview

an overview of the system \dots

Summary \dots

Electromechanical Design

3.1	Servo
Servos	
3.2	Chassis
Chassi	S
3.3	Prototyping
Protot	yping
3.4	Subsections
Subsec	tions
3.5	Summary etc

4.1 Overview

Module Electronics Design

Overv	iew
4.2	Communication
Comm	nunication
4.3	Sensors
Sensor	°S
4.4	PCB Design
PCB I	Design
4.5	Summary etc
Summ	arv

Simulation

5.1	Overview
Overvi	iew
5.2	Modelling
Model	ling
5.3	Movement
Shake	it
5.4	Communication
Comm	unication
5.5	Gaits
Gaits	
5.6	Summary etc

Summary \dots

Results

Project Management

Conclusions

It works.

Further Work

Appendix A

Breakdown of Labour

The butler did it ...

Appendix B

Minutes

around 60 seconds . . .

Appendix C

Budget

Spending of monies . . .

Appendix D

Gantt Charts

When it all happened ...

Bibliography

S.R. Gunn. Pdflatex instructions, 2001.