EEL4914 ECE Design II
Preliminary Report

SITH HAPPENS

by

Steven Paek
Daniel Suen

Department of Electrical and Computer Engineering
University of Florida

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List of Figures

Abstract

Insert final version of abstract here

Chapter 1

Project Objectives

In order to meet our goal of developing a remote-controlled car, we require both digital and analog circuitry. Our specific objectives include:
Digital Objectives:

- XBee UART Communication
- PWM Control for Motors
- Microprocessor Controls for R2-D2 and Controller (GPIO)
- Nerf Bullet Control

Analog Objectives:

- Battery Recharge Circuit
- Joystick Control
- Thermistor-LED Control
- Audio Output from Speaker

Chapter 2

Technology Selection

Include words here

- MSP432P401R: Up to 48MHz CPU, FPU, 14-bit ADC, UART, 16-bit Timers with PWM (Robot/Controller)
- Xbee: RF Module IEEE 802.15.4 Standard, UART Communication (Robot/Controller)
- L293D: PWM Motor Driver (Robot)
- LTC1661: 10-bit External DAC, 2.7V to 5.5V Supply (Robot)
- LM386: Low Voltage Audio Power Amplifier (Robot)
- Joystick: Analog Joystick (Controller)

Chapter 3

Flowcharts and Diagrams

We include a block diagram to give an overview of our entire system as well as software flowcharts to describe the functionality of both the controller and the robot.

Insert images below

3.1 Block Diagram

3.2 Software Flowcharts

Chapter 4

Work Responsibilities

For the project, Steven Paek was assigned to be in charge of the R2-D2 robot, and Daniel Suen was assigned to be in charge of the controller. As such, the work responsibilities were divided as follows:

Steven Paek	**Daniel Suen**
R2-D2 PCB	Controller PCB
Motor PWM	Battery Recharge PCB
Audio Circuit with External DAC	Joystick Control
Thermistor-LED	Controller I/O for Sound, Nerf Gun, and Movement
Other I/O - Nerf Gun, etc.	XBee Communication

Chapter 5

Gantt Chart

The Gantt chart outlines the proposed timeline for completing the project and meeting our own internal deadlines. There is a focus on completing the much of the PCB designs and analog circuitry towards the beginning.

Insert Gantt chart below