

Android Home Automation

Ahmed Almazrouei, Sayah Almansoori, Abdulla Al Neyadi

Faculty Advisors: Dr. Grossman, Dept. of ECE, Florida Institute of Technology

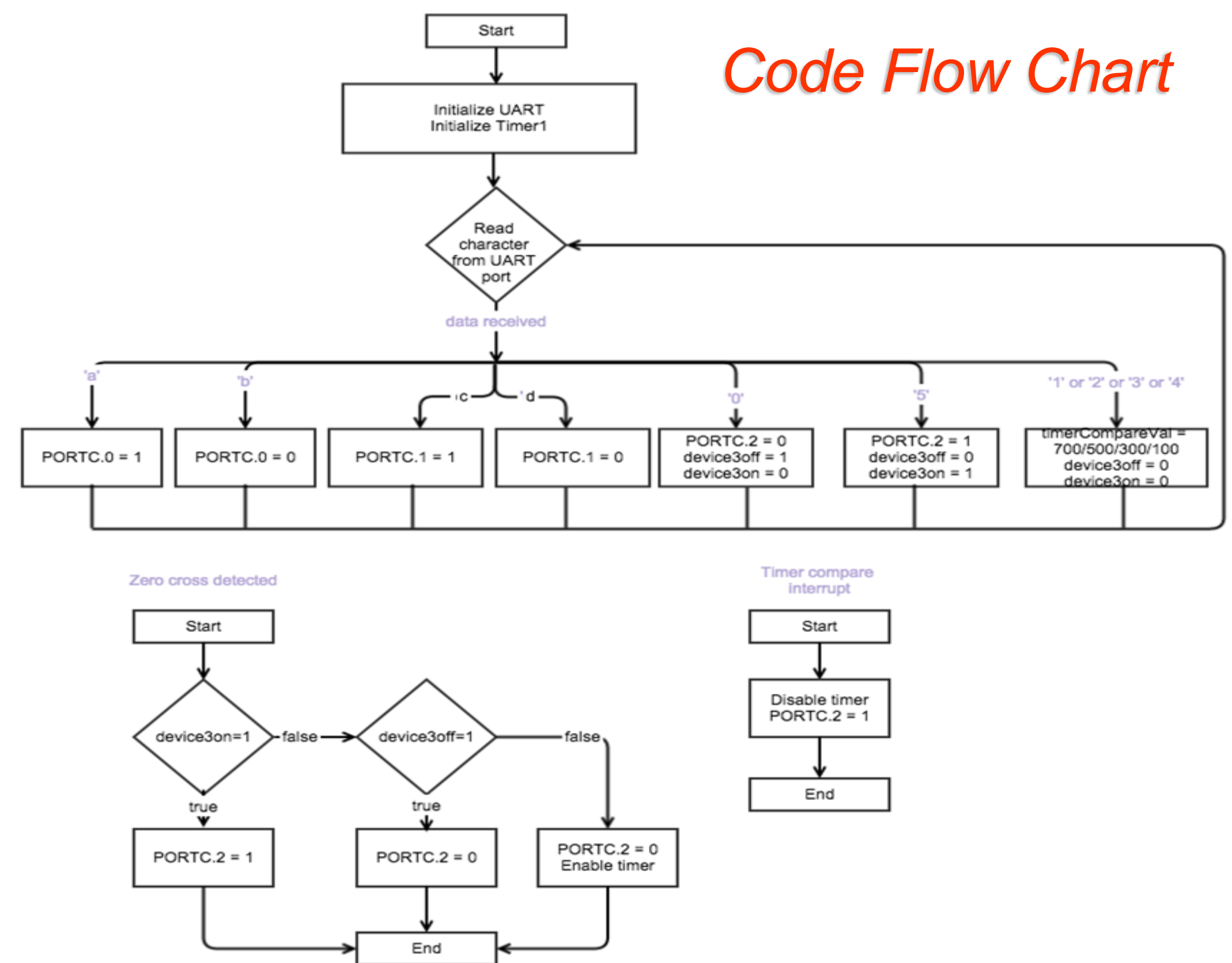
Circuit Elements

Part	Quantity	Cost per unit
5v Voltage Regulator	1	\$1.00
Resistors	11	\$2.00
Capacitors	5	\$5.00
DC Power source (9V 1000mA)	1	\$50.00
Bluetooth Module HC05	1	\$45.00
Microcontroller Atmega8	1	\$20.00
Transistors BC547	4	\$5.00
Relays	2	\$20.00
PCB and related stuff (iron, solder)	1	\$50.00
MCT2E	1	\$5.00
MOC3021	1	\$4.00
BT136	1	\$4.00
Diode IN4147	6	\$1.00
LCD Monitor	1	\$40.00
Light Bulb Assembly	1	\$15.00
Desk Fan	1	\$15.00
Total Cost	-	\$362.00

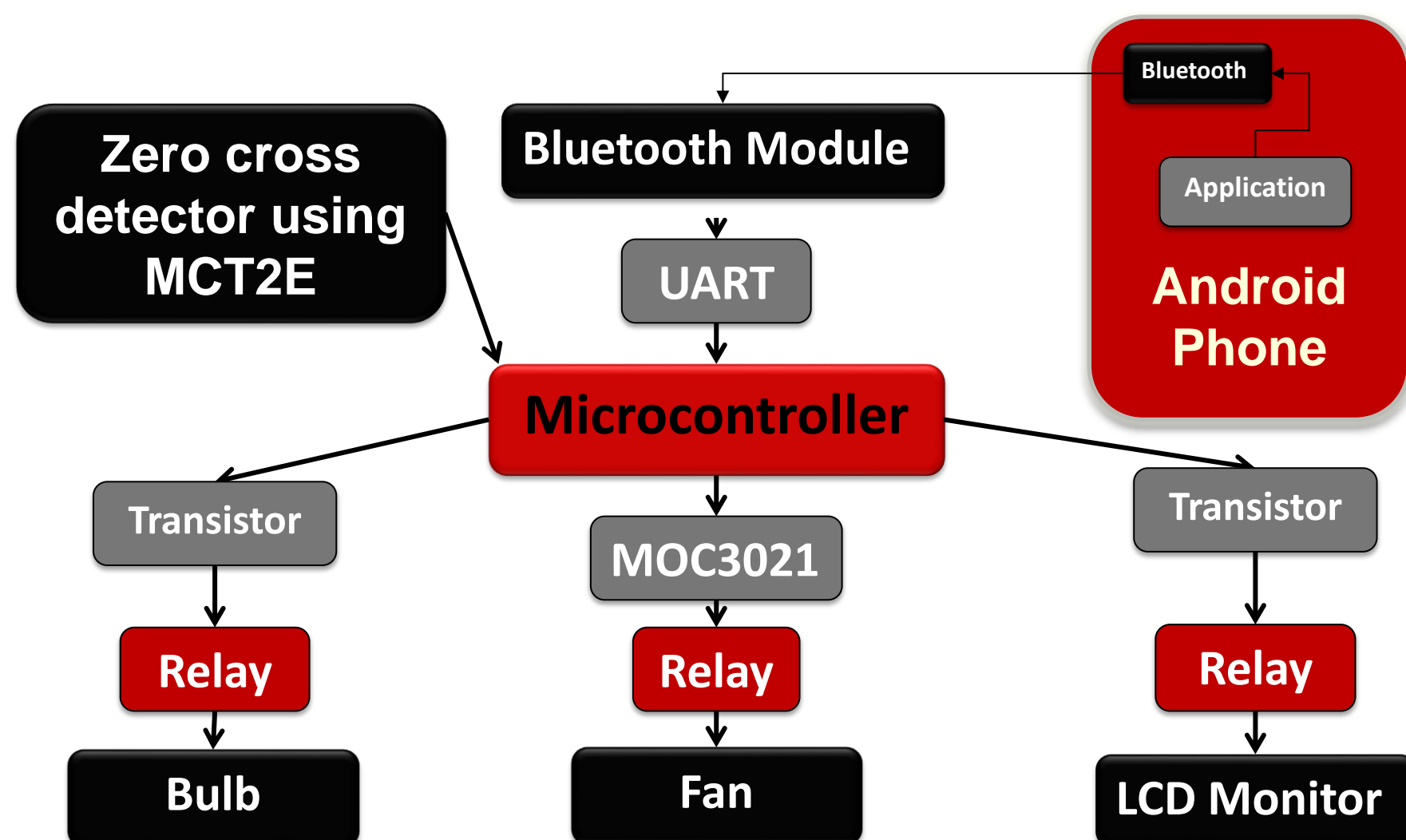
Detailed System Specifications

- Dimensions: 10 x 10 x 5 (cm)
 - Controlled using an Android Application
 - Controlling up to 3 appliances.
 - 2 : On/Off
 - 1 : Speed/Brightness control
 - Application interface:
 - Two sets of radio buttons: On/Off for each device
 - One slider: Control the brightness/speed of the appliance.
- Components:
 - ATmega8 Microcontroller
 - IC 7805 voltage regulator
 - Relays
 - HC05 Bluetooth module
 - Zero cross detector using (Full wave rectifier and MCT2E)
 - AC dimmer using (MOC3021 and BT136)
 - Resistors, capacitors and transistors
 - Power Source

Code Flow Chart



System Design Block Diagram



NORTHROP GRUMMAN



Engineering & Science
Student Design Showcase
at Florida Institute of Technology



Special Thanks To:
Dr. Grossman, ECE Professor
Julius Chatterjee, System Design GSA