Smart Auto-Cruise Control System (SACC)

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Senior Project Team 9

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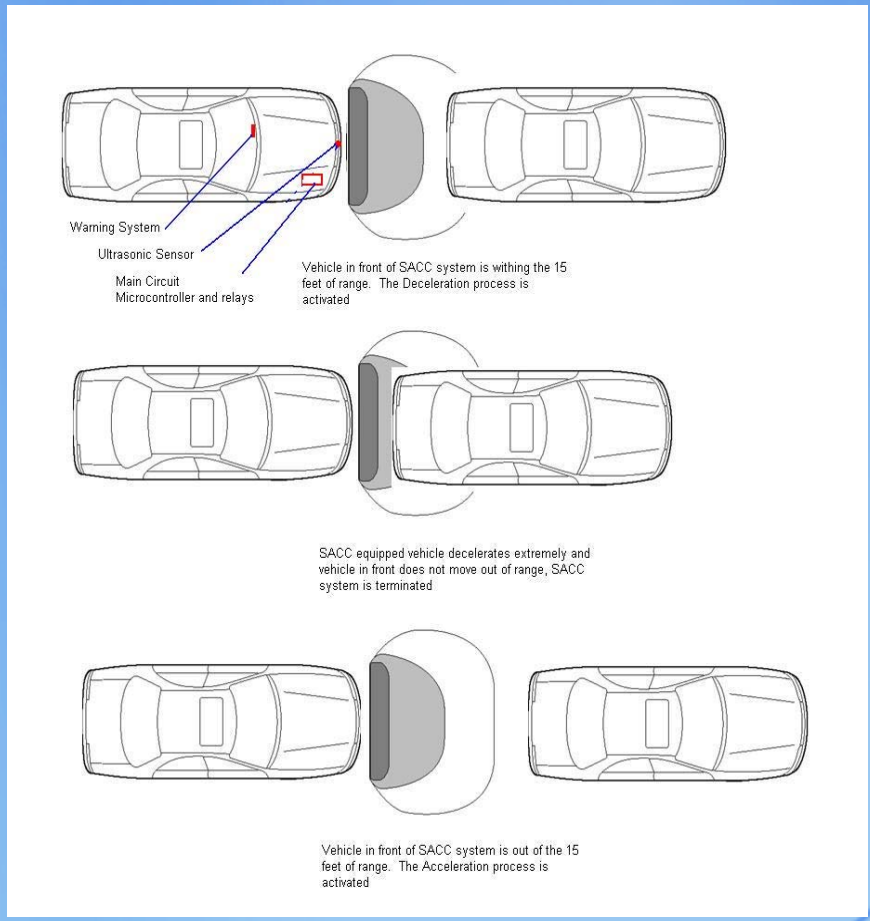
Comfort in a Box

- Would you like to just steer you car and let the cruise control automatically adjust the speed for you?

- How about letting SACC control it for you?



Operation Flow of SACC

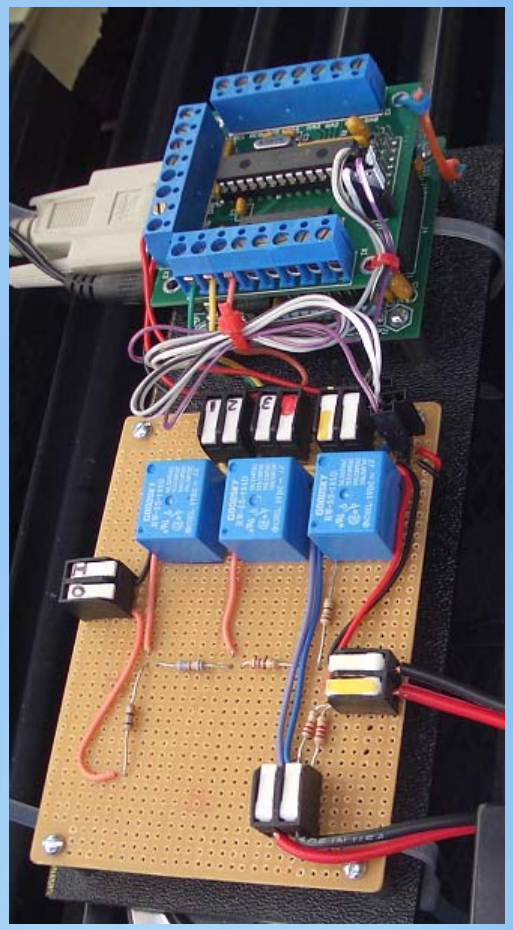
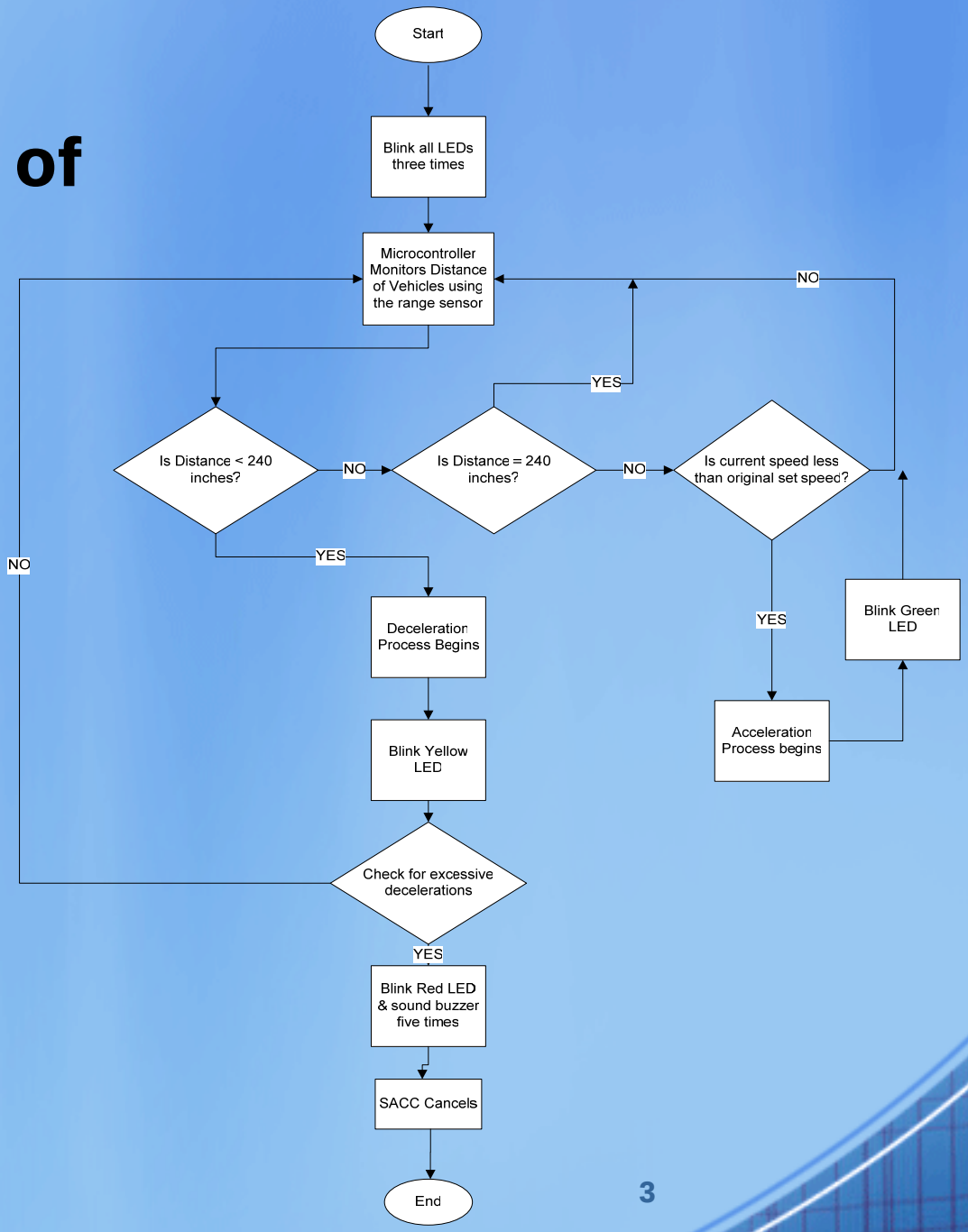
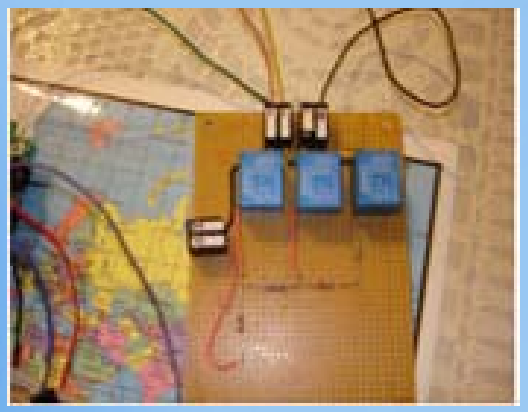


Figure 1 – SMART AUTO-CRUISE CONTROL Operations



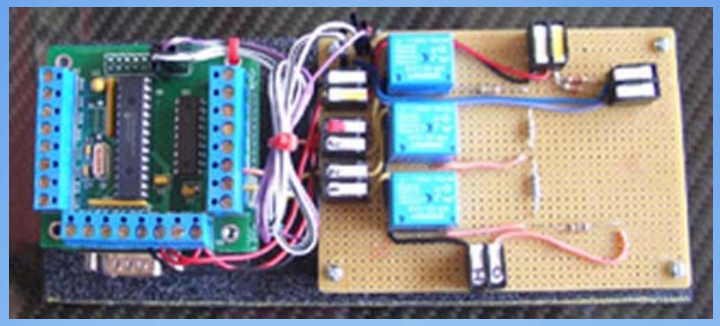
Constructing SACC

Step 1

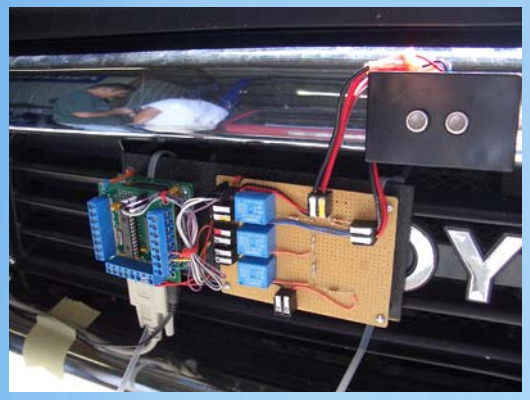


Step 2

Step 3

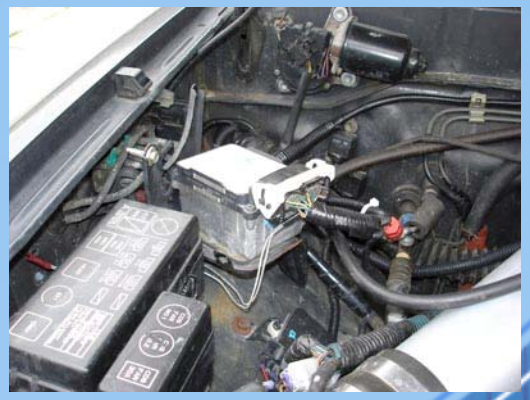


Step 4



Step 5

Step 6



Costs

Cost of Parts and Hardware

	Table 1 : Cost of Parts and Hardware	
Item	**Quantity**	**Cost**
8051 Microcontroller	1	$99.00
Devantec SRF-10 Ultrasonic Range Sensor	1	$58.55
8051 DIO Expander	1	$29.95
Auto Adaptor DC converter	1	$9.95
Components (LEDS, resistors and relays)	7	$6.13
Hardware (switches, buzzer, wires, pin connectors, and enclosure plastic)	15	$42.70
Totals	26	$249.28

Costs

Tools and Equipment

Table 2: Cost of Tools and Equipment	
Items	**Estimated Cost**
Cruise Control Unit	$300.00
Manufacturing Equipment (Drilling, Sawing, Soldering)	$3,000.00
Digital Multi-meter	$150.00
Mechanical Car Shop Usage	$600.00
Automotive Tools (wire cutters, scissors, tape, etc)	$200.00
Totals	$4,250

Cost of Labor

Table 3: Cost of Labor	
Total Number of Hours Worked	**Salary ($15/hours*2.5)**
382	$14,324.50
Totals	$14,324.50

Grand Total	**$18,823.78**

Possible Future Expansions

- Using laser or radar sensors to increase range and accuracy
- Designing a way to read the vehicle speed sensor to get a more accurate reading
- Designing a warning system with an LCD to accurately read warning messages

Questions ??????