DC Fan Controller
Senior Design
Team 5

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DC Fan Controller

• **Product/Project Description**
  ▫ Programmable ambient temperature setting and speed setting.
  ▫ One PCB with integrated Speed Sensor and Display. Temperature Sensor and Fan are external to package.

• **Key Features and/or Operating Modes**
  ▫ Touchscreen interface displays ambient temperature and fan speed
  ▫ User Programmable settings
Key Requirements

• Temperature Accuracy : ±5° C
• Fan Speed Resolution: ±100 RPM for a 25,000 rated RPM fan
• Interface Features:
  ▫ set speed and temperature
  ▫ display current speed and temperature
• Low Power Consumption
• Operates from 0°C to 70°C
Advanced Block Diagram

Power Supply - Josh Haase

Microcontroller - David Ralston

Temperature Sensor - Caleb Olla

Fan Speed Sensor - Nishan Abraham

Touch Screen UI & SD Card - Kiel Cruey

Fan Driver - Peter Schachtschneider

120V AC

5VDC

12V DC

BLOCK 1

BLOCK 2

BLOCK 3

BLOCK 4

BLOCK 5

BLOCK 6

Analog Signal

5 VDC

12VDC

PWM

6 digital pins

6 analog pins

Fan Speed Sensor

120V AC

5VDC

12V DC