Team Guava

Proposal Presentation

S17

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Team Guava Introductions

Michael Leong*

Senior - 496

2nd semester

Hardware Designer & Sensor Tester

Tryston Fagarang

Senior - 496

4th semester

Hardware Designer

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Senior - 496

4th semester

Firmware Liaison

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*Team Lead

Presentation Overview

- Motivation
- Project Goals
- Gantt Chart
- Problems
- Learning Expectations
- Team Progress
- Questions

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SCEL Motivation

Guava is the fifth generation in the weatherbox lineage whose main purpose is to collect meteorological sensor data and send it to a database. The motivation of team Guava is to improve upon the recent generations by using a new processor.

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Project Goals

Produce a self-sustaining environmental sensor module that will collect meteorological data

- Design and fabricate a printed circuit board
- Draft and build a weatherproof housing
- Test and Deploy the completed sensor

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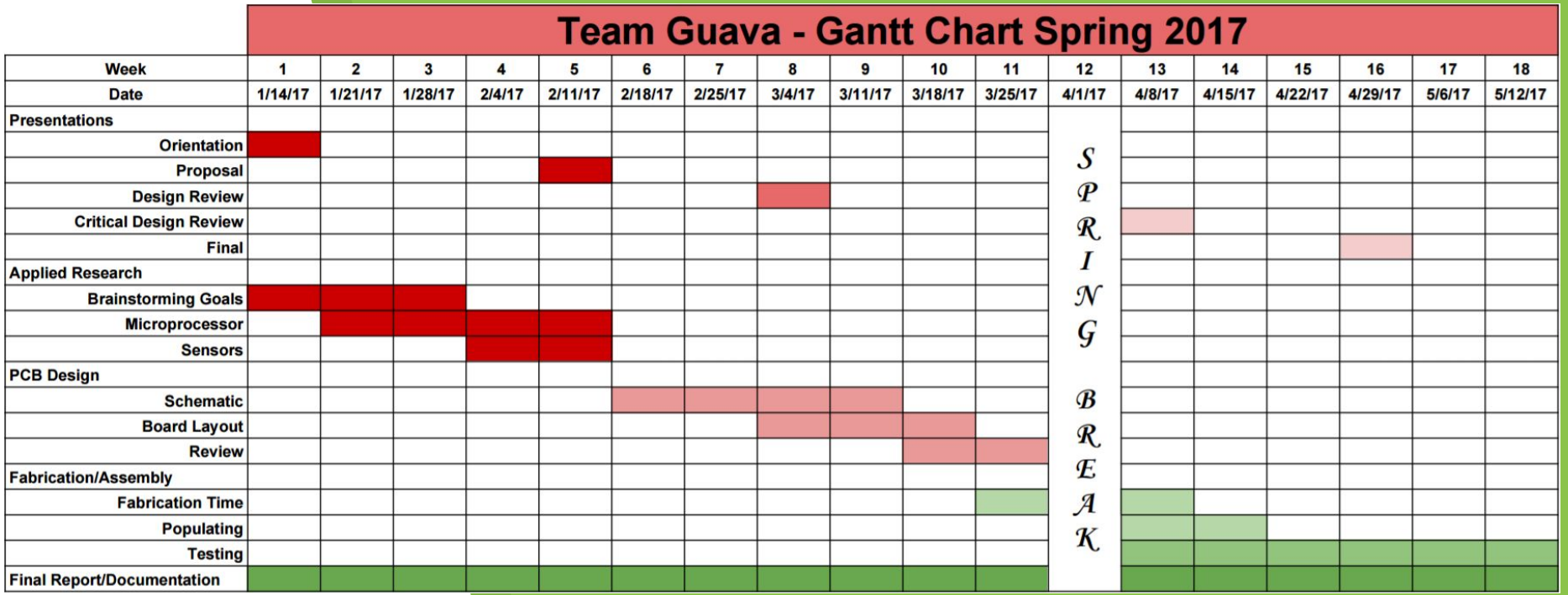
Team Guava - Gantt Chart Spring 2017
Week 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
Date 1/14/17 1/21/17 1/28/17 2/4/17 2/11/17 2/18/17 2/25/17 3/4/17 3/11/17 3/18/17 3/25/17 4/1/17 4/8/17 4/15/17 4/22/17 4/29/17 5/6/17 5/12/17
Presentations
Orientation
Proposal
Design Review
Critical Design Review
Final
Applied Research
Brainstorming Goals
Microprocessor
Sensors
PCB Design
Schematic
Board Layout
Review
Fabrication/Assembly
Fabrication Time
Populating
Testing
Final Report/Documentation
SPRING BREAK

Gantt Chart

Predicted Problems

Time Management

- Ordering Parts
- PCB Layout
- Fabricating / Populating

Part Integration

- Sensors to work together
- Testing / Debugging

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Learning Expectations

PCB Designing and Layout

- Part Integration
- Populating

Firmware

- Programming/Testing Board
- Device Drivers

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Team Progress

Researched 3 different Atmel processors

- ATmega- 328P, 644PA, 1284P

Collaborated with Software/Firmware

Decided on the **ATmega1284p**

- Bigger Flash Memory; (4x) 32 kB -> 128 kB
- Increased # of I/O Pins; (+9) 23 -> 32

Determined team roles

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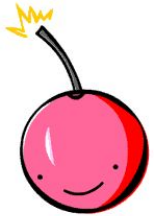
Thank you!

Any Questions?



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