EE 496 X(bee) Box Project Proposal

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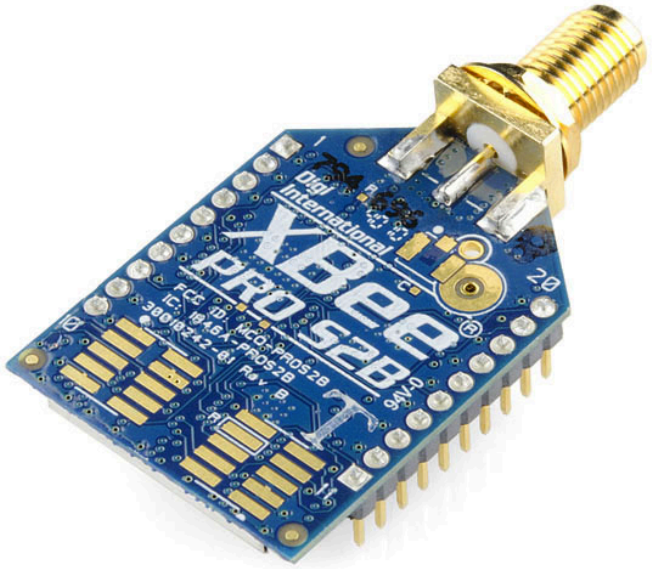
Introduction

- Savath Saepoo
- Electrical Engineering
  - Electro-physics track
- Hobbies:
  - Swimming, diving, surfing, hiking, cooking and trying out new restaurants

Overview

- Introduction
- Project Tasks
- Motivation and Goals
- Team Approach
- Learning Objectives
- Potential Issues
- Tentative Schedule

Project Tasks



- Objective: Design, build and test two way communication using one Xbee
  - Transmit and receive data simultaneously
  - Improve scalability of previous design that uses two Xbees

Motivation and Goals

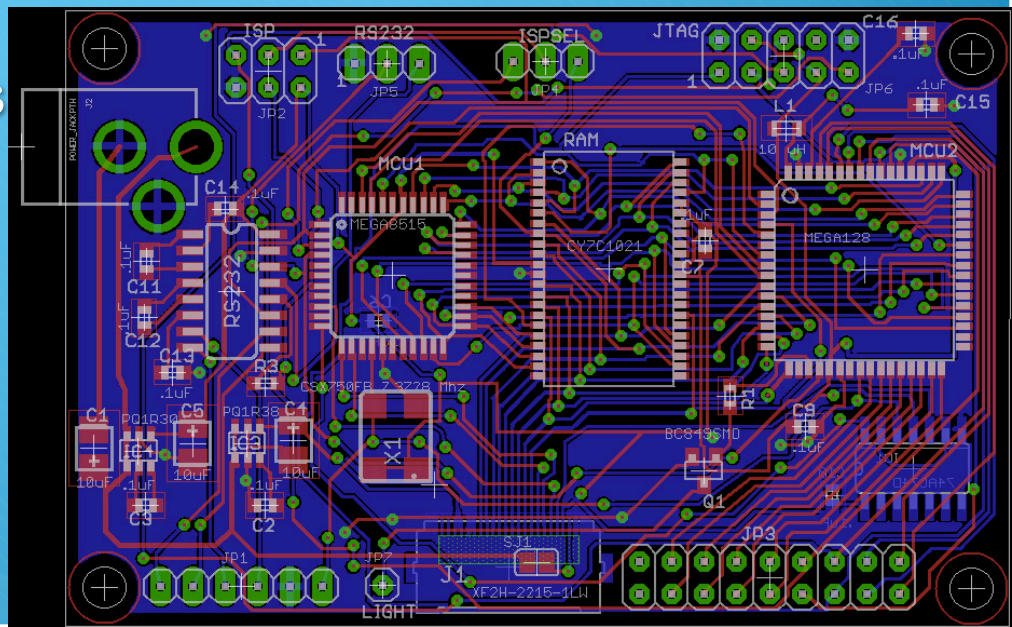
- Motivations
  - Extend communication range for weather boxes
- Goals
  - Communication between weather boxes using one Xbee
  - Conduct multiple tests for different weathers
  - Document final design, results, issues and solutions

Team Approach

- Phase 1: Design Prep
  - Reading documentation, communication configuration of Xbees
- Phase 2: Prototype
  - Testing design on breadboard
- Phase 3: Final Design/Testing
  - Transfer breadboard design onto PCB
  - Testing two way communication on one Xbee

Learning Objectives

- Hardware:
  - PCB design
  - Polish soldering skills
- Software:
  - XCTU
  - Debugging



Potential Issues

- Xbee communication in different weathers
- Compatible microcontrollers for simultaneous communication
- Faulty components

Tentative Schedule

Week	1	4	9	15
Date	08/22 - 08/28	09/12 - 09/18	10/17 - 10/23	11/28 - 12/04
Design Prep				
Prototype/Testing				
Final Phase				


Questions?

Citations

- Websites:
  - http://www.digi.com/products/xbee-rf-solutions/xctu-software/xctu
- Images:
  - https://cdn.sparkfun.com//assets/parts/4/8/9/3/10419-01.jpg
  - http://www.ourpcbte.com/wp-content/uploads/2014/12/pcb-design-service.jpg