

Group Project: Garmin - Energy Harvesting in Fitness Electronics

Website: <http://seniord.ece.iastate.edu/may1417/index.html>

Project Number: May14-17

Client: Adam Rasmussen

Advisor: Dr. Degang Chen

Group Members:

- Tyler Chenhall – Project Leader & Foot-Pod Team Member
- Rebekah Dejmaj – Communications & Webmaster & Foot-Pod Team Member
- Catherine Homan – Research & HR Monitor Team Member
- Allison Sapienza - Research & HR Monitor Team Member
- Omer Vejzovic – Research & Foot-Pod Team Member
- Jeramie Vens - Research & HR Monitor Team Member

Accomplishments in the Past Week

- Held a meeting with Dr.Chen
- The Thermo group continued checking their prototype board, and is awaiting the arrival of a breakout board. A mis-oriented transformer was found and will soon be fixed.
- The Piezo group initially tested the circuit with a reduced capacitor (1uF). While the capacitor voltage was higher, an unregulated output persisted. Solder joints were touched up, focusing in particular on 3 pins that failed continuity tests. After touch ups, the LTC3588 produces a regulated output voltage, which also is passed successfully through the TI power MUX IC.
- Content is being added to the Research Document

Plan for the Upcoming Week

- The thermo group will continue debugging
- The mechanical group will continue testing the now-functional board
 - Characterizing the current output with the V21BL piezoelectric element
 - Testing to see if the shake generator would also be a viable power source for this device
 - Looking for possible improvements to the current prototype
- More work on the Research Document

Pending Issues

- Circuit debugging is in progress