PROJECT DISCO

MIDPOINT PROJECT PROGRESS
Team Disco!

- **Group Leader:**
  - Kyle McClary
  - EE major; background in electronics

- **Group members:**
  - Kevin Ufferman
    - EE major; background in electronics
  - Joshua Land
    - EE major; background in RF Technology
    - Employed at the Center for Rapid Product Development, AFRL

- **Advisor**
  - Dr. John Wu
LEDs
- 4 Avago Cool White High Intensity 1 W LEDs

Microcontroller
- Arduino Mini based on ATMega 168

Altimeter
- SPC-1000
  - only goes up to 10,000 ft (30kPa)
  - Serial output
- MS5540-CM
  - Up to 100,000 ft (1kPa)
  - Digital output

Speaker
- Piezo Buzzer AI-3035-TWT-3V-R
  - 9mA 3V
  - 3500 Hz resonant frequency
Using this design the system can be programmed to be active only at certain altitudes as well as times of day, decreasing unnecessary drain on the battery.

The LED driver acts as a step-up boost that provides optimal voltage levels for the desired brightness, and eliminates harmful transient voltages.
MS5540-CM Altimeter has better pressure limitations and will allow better control of the system as it is ascending.

Included a voltage divider to provide consistent reference voltage for photo-sensor comparison.
Design Progress/Problems

- All parts have been received or selected and placed on order.
- Overall schematic has been produced.
- Creating prototype circuit board layout design.
- Need to revise Arduino pin setup to allow for new altimeter requirements.
Rough design specifications
- Jan. 28

Design specifications
- End of Feb.

Prototype (Waiting on Parts)
- Late-March (Week 1)

Test & Evaluation
- April

Further Development & Refinement
- April-May

Deliverables
- Launch date (May/June)
Questions?