# ECE 411 Team 3
# Automatic Thermostat
# Knob Controller

Nov 4, 2021

http://

## 2021 Fall

| | |
|---|---|
| **Project manager** | Luke Hoskam |
| **Project dates** | Oct 24, 2021 - Nov 19, 2021 |
| **Completion** | 36% |
| **Tasks** | 40 |
| **Resources** | 4 |

# Tasks

| Name | Begin date | End date | Resources |
|---|---|---|---|
| Breadboard Prototype | 10/24/21 | 10/31/21 | Luke Hoskam |
| Build Prototype | 10/24/21 | 10/27/21 | Luke Hoskam |
| Code to test the circuit | 10/24/21 | 10/27/21 | Luke Hoskam |
| Test Prototype | 10/28/21 | 10/31/21 | Luke Hoskam |
| 3d model Case | 11/1/21 | 11/11/21 | Luis Nadora |
| Gears | 11/1/21 | 11/5/21 | Luis Nadora |
| Enclosure models prototype v1.0 | 11/1/21 | 11/6/21 | Luis Nadora |
| Enclosure models prototype v2.0 | 11/7/21 | 11/10/21 | Luis Nadora |
| Rough Draft of CAD<br>*You should be mostly done! Now the only things left are changes for out of stock components, changes from design reviews, changes for DFX, etc.!*<br>*Submit your KiCAD _pro, _sch, and _pcb files, or PDFs of them if you're not using KiCAD.* | 11/7/21 | 11/11/21 | Luke Hoskam, Luis Nadora |
| Power | 10/31/21 | 11/12/21 | Zheng Zhang |
| Battery (Not Needed)<br>*Decided against this currently because the current drain by the stepper motor trying to stay still is too much* | 11/5/21 | 11/8/21 | Zheng Zhang |
| Battery management system to charge( Not needed)<br>*Decided against this currently because the current drain by the stepper motor trying to stay still is too much.* | 11/8/21 | 11/12/21 | Zheng Zhang |
| How much voltage/current used<br>*We found the current draw by the ESP32 with the stepper motor connected to be 0.4A at 5V* | 10/31/21 | 11/1/21 | Zheng Zhang, Luke Hoskam |
| voltage regulation<br>*Decided on AMS1117* | 11/2/21 | 11/5/21 | Zheng Zhang |
| Website Design | 11/4/21 | 11/14/21 | Luke Hoskam, Kai Han |
| Learn more about websocket | 11/4/21 | 11/6/21 | Luke Hoskam, Kai Han |
| Basic web controls | 11/7/21 | 11/9/21 | Luke Hoskam, Kai Han |
| Temp set contol | 11/10/21 | 11/14/21 | Luke Hoskam, Kai Han |
| Time leaving (to shut off heater) | 11/10/21 | 11/14/21 | Luke Hoskam, Kai Han |
| Time arriving(to turn on heater) | 11/10/21 | 11/14/21 | Luke Hoskam, Kai Han |
| Change icon heating when the heater is on | 11/10/21 | 11/14/21 | Luke Hoskam, Kai Han |
| Coding Tasks | 11/1/21 | 11/13/21 | Luke Hoskam |
| Investigate using OLED screens | 11/1/21 | 11/2/21 | Luke Hoskam |
| Implement OLED screen | 11/3/21 | 11/7/21 | Luke Hoskam |
| Research Deep Sleep mode on ESP32(maybe) | 11/8/21 | 11/8/21 | Luke Hoskam |
| Implement Deep Sleep (maybe) | 11/9/21 | 11/13/21 | Luke Hoskam |
| Add Time data from online clocks | 11/1/21 | 11/5/21 | Luke Hoskam |

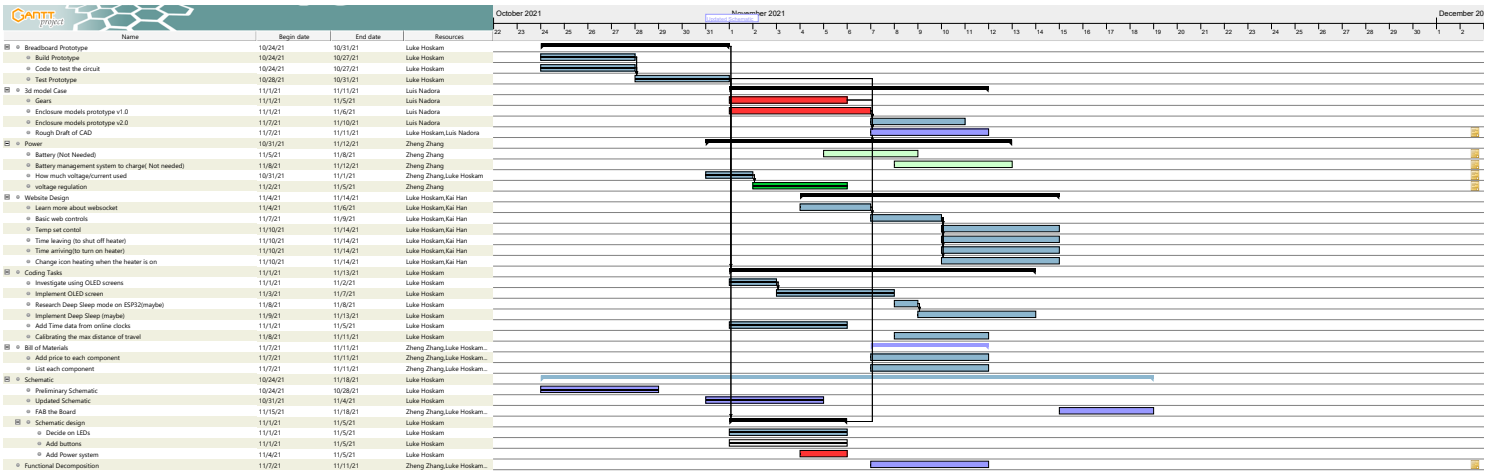
# Tasks

| Name | Begin date | End date | Resources |
|---|---|---|---|
| Calibrating the max distance of travel | 11/8/21 | 11/11/21 | Luke Hoskam |
| Bill of Materials | 11/7/21 | 11/11/21 | Zheng Zhang, Luke Hoskam, Luis Nadora, Kai Han |
| Add price to each component | 11/7/21 | 11/11/21 | Zheng Zhang, Luke Hoskam, Luis Nadora, Kai Han |
| List each component | 11/7/21 | 11/11/21 | Zheng Zhang, Luke Hoskam, Luis Nadora, Kai Han |
| Schematic | 10/24/21 | 11/18/21 | Luke Hoskam |
| Preliminary Schematic | 10/24/21 | 10/28/21 | Luke Hoskam |
| Updated Schematic | 10/31/21 | 11/4/21 | Luke Hoskam |
| FAB the Board | 11/15/21 | 11/18/21 | Zheng Zhang, Luke Hoskam, Luis Nadora, Kai Han |
| Schematic design | 11/1/21 | 11/5/21 | Luke Hoskam |
| Decide on LEDs | 11/1/21 | 11/5/21 | Luke Hoskam |
| Add buttons | 11/1/21 | 11/5/21 | Luke Hoskam |
| Add Power system | 11/4/21 | 11/5/21 | Luke Hoskam |
| Functional Decomposition<br>*Draw a top-level (Level 0) block diagram of your practicum project showing all inputs and outputs.*<br>*Draw a Level 1 block diagram showing the principal components or modules of your project along with the interconnections between them.*<br>*For each component or module in the next-level block diagram, create a top-level (Level 0) block diagram of that component or module that describes its functionality, inputs, and outputs.*<br>*Consult the lecture slides for proper format for capturing the block diagram and describing inputs and outputs.*<br>*Post these to your project wiki and upload to D2L as a single PDF file.* | 11/7/21 | 11/11/21 | Zheng Zhang, Luke Hoskam, Luis Nadora, Kai Han |

# Resources

| Name | Default role |
| --- | --- |
| Zheng Zhang | developer |
| Luke Hoskam | project manager |
| Luis Nadora | developer |
| Kai Han | developer |

# Gantt Chart



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