Fall Semester, 2024

CSE211: Introduction to Embedded Systems

Home Appliances Control Project

Project Description: You are required to build a small prototype for a mobile based home appliances control that satisfies what follows.

1- **Develop a simple Android application to:**
   a- Control a 220 Volt lamp on/off (***You shouldn't delete the manual switch***).
   b- Control a plug on/off: If it's off, No one can use the plug.
   c- Display the door status. The status is indicated through a magnetic switch.
   d- Display Room Temperature.
   e- Alarm if the temperature goes beyond a set value (Software Alarm + Physical Alarm).
   f- Save and show the times of opening and closing the door.

2- **Your components must be mounted on a suitable surface and wires should be hidden.**

3- **You should use TM4C123GH6PM board to implement this project.**

Project Deliverables

Each team should submit **a compressed file** containing the following deliverables:

1. Source code files (code + APK). (Project folder)
2. You should prepare a demo (5 mins Video) for evaluation.
3. A **technical** report in one PDF file containing:
   a- The contribution of each member of the group (What did each member do?).
   b- Flow charts of the main flow of the program.
   c- The list of components used and the wiring diagrams.
   d- Prototype photos.
   e- Problems faced and how you managed to solve it.

Deadline: Week 13.

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