

CS132: Software Engineering

HW3: MATLAB

Deadline:

The deadline for this homework is **May 4th** at 23:59. Please submit a zip file with name “CS132_HW3_Yourname.zip” with all the files needed for the demo and a concise manual.

In this homework, we will use MATLAB App Designer to implement a TV remote control demo. The purpose of this homework is to make you more familiar with basic functions of App Designer. The UIs and implementation are quite flexible as long as the final product meets following requirements.

Requirement:

1. The demo should have at least 2 UIs, one is the remote control of the TV, and the other is the screen of the TV.
2. The remote control requires batteries to work. After new batteries are replaced, the remote control will work for a fixed time (Use **timer**, 30s is OK) . If the remote control is out of power, it does not work.
3. Press the “Start” Button to turn on or turn off the TV. Nothing will be displayed on the screen, if the TV is off.
4. Users can use the “+” and “-” Buttons to turn up and turn down the volume of the screen, with the value displayed on the screen.
5. Users can use another pair of “+” and “-” Buttons or number Buttons to change the channel, with corresponding channel number shown on the screen. You may use at least 3 images to represent 3 TV channels.
6. When the remote control has power, each time a button on the remote is pressed, the indicator light on the remote will light up.
7. All buttons mentioned above are on the remote control.
8. Add a function that suitable for the demo. No need to be complicated, as long as it is reasonable, and state it clearly in the manual.
9. Pay attention to the code structure, you may need a controller to do it.

Do not write all the codes in the .mlapp files. You can refer to the examples provided by the professor on the Blackboard.
10. **No bugs at any time.**

Finally, please write a very concise manual for the remote control, with a brief description about its functions and how to use.

(No points for the manual, just make it clear.)