

# Project Proposal

For my personal project I propose the programming of a microwave oven control panel. The primary part of the control panel would be the keypad, with keys for numbers ranging from 0 to 9, a start button, and a reset button. There would also be a door open button, which would cause the door to both open and the microwave to stop.

The control panel would also have a digital display to show the time input and the time remaining. This display would have enough room for 4 digits. The display would be dark after the reset button is pressed, or on first use. The display would start lighting up after number keys are pressed. The first key pressed would light up the right most number. The next key pressed would cause the right most number to move left one space, and then the new number would take its place in the right most position. This would continue until all four spaces were filled, or the start button was pressed (at which no new numbers could be entered until reset was pressed). No new input could be entered after the four digits were filled; it would have to be reset using the reset button.

Pressing the start button would begin a count down from whatever number was entered. Pressing start without any number entered would do nothing. Pressing reset after starting the countdown would stop the microwave and clear the time. The two left most digits would be minutes, and the two right most digits would be seconds. If for some reason a user entered something like 199, meaning one minute and ninety nine seconds, the microwave would counter down from 199 to 198 and 197 and so on until it reached 100, and then it would use standard time again and go to 59 seconds remaining. It would count down this way so that there would not be an error if 9999 was entered.

When the timer reaches 0, the microwave would turn itself off, the display would go dark, and the microwave would beep. The beeper should repeat itself three times.



**APPROVED**