# Design Manual

*CS2121 - Microprocessors and Interfacing*

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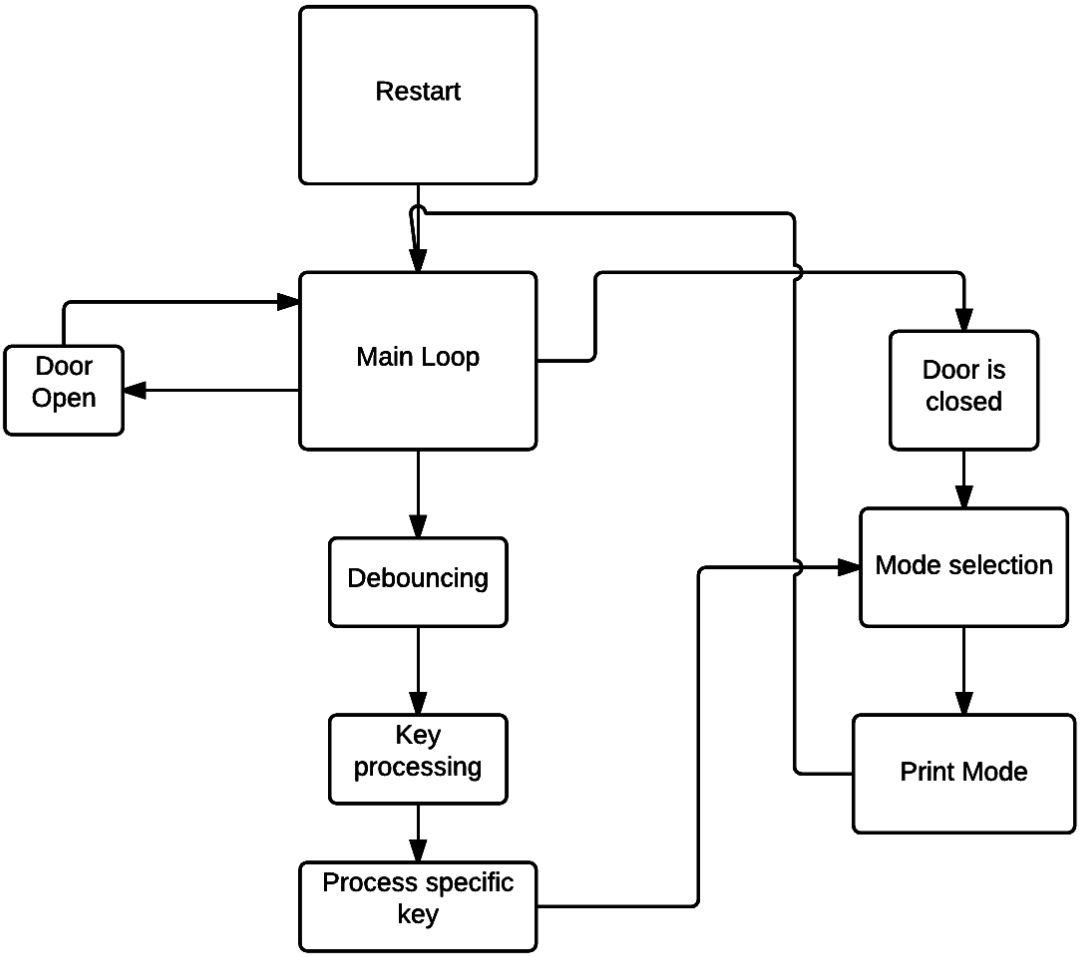
*Major Project*
*Microwave Simulator*
*Fraser Metcalf and Andrew Bennett*

## *System Flow Control Diagram*

See below a diagram of the way the code flows between modes



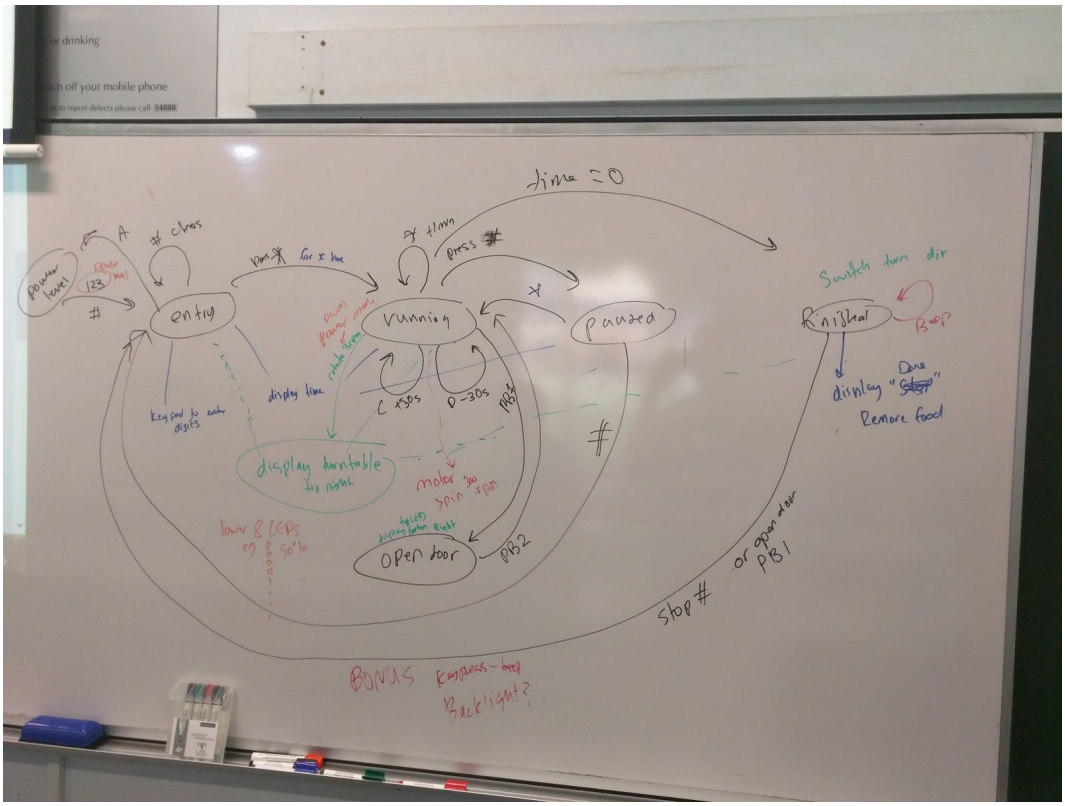

## *Data Structures*

Initially we had intended to use just two registers, using individual bits to denote specific things, however this did not prove viable as this proved too difficult to implement on my own. So instead I elected to use various registers to denote things like power level and the mode. This was incredibly wasteful, however the time that would have been required in order to achieve storage in data memory was simply too great.

## *Algorithms*

The only real algorithms that were used in this simulation have already been detailed in the various diagrams presented. There was a specific method of processing the key presses that we learnt in lectures however this probably does not warrant note except to say that it was this we implemented

# *Appendix*




*Initial state diagram created using the spec*

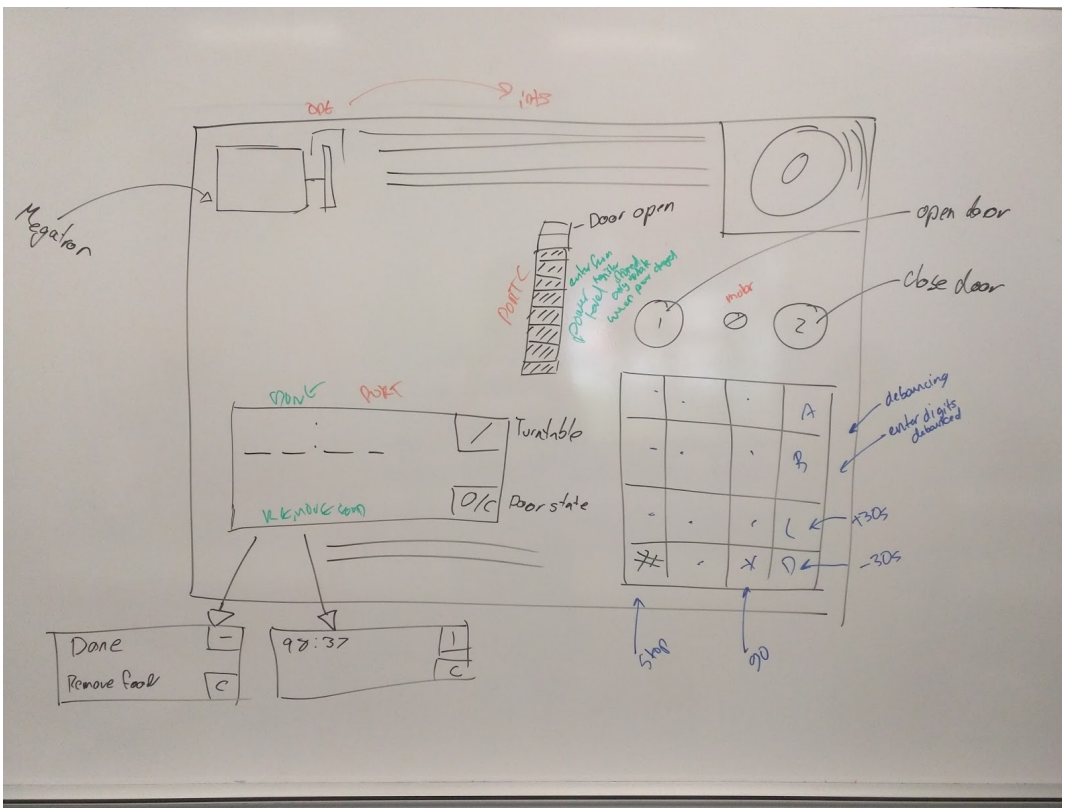
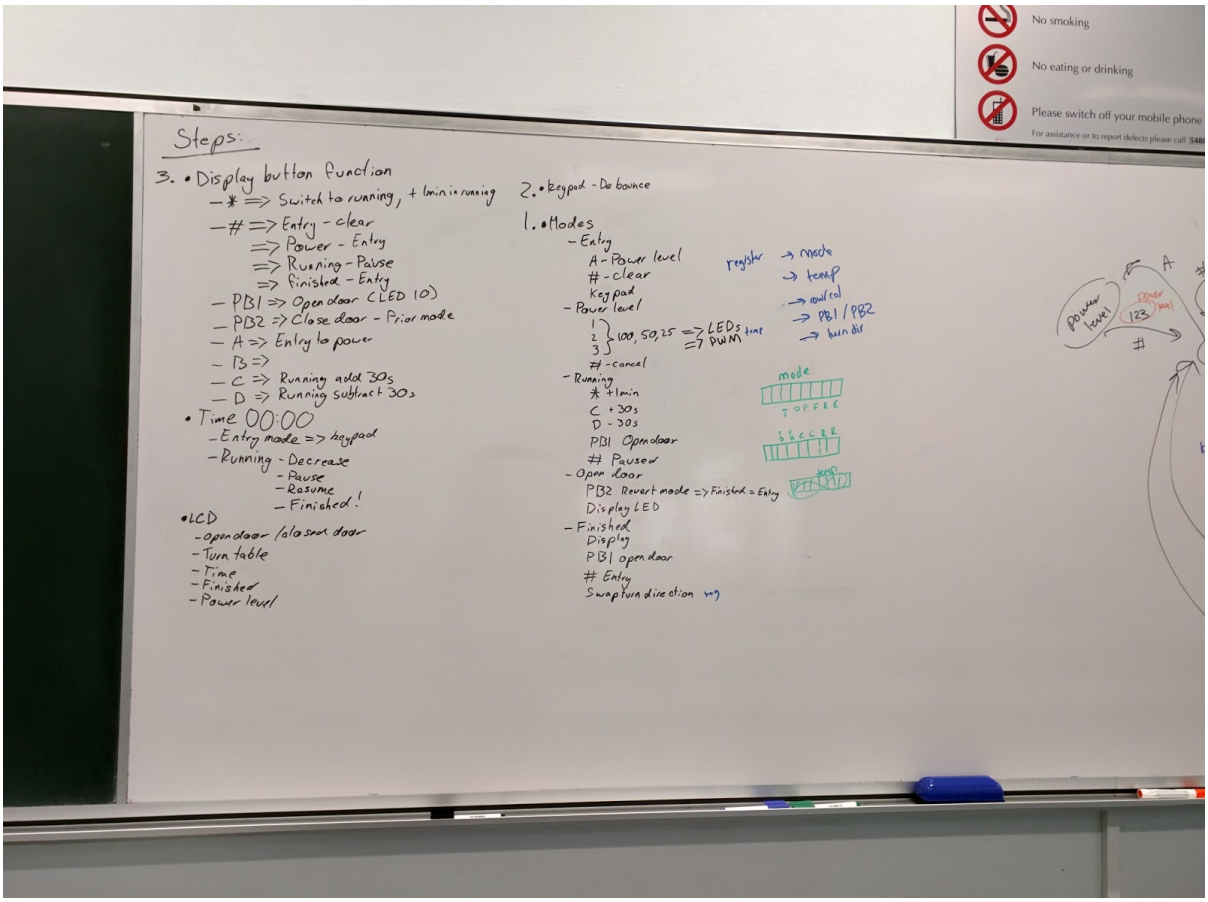



*Diagram of the board and what each part would be doing*




*Assorted thoughts on how each part should behave. Note here can be seen initial register planning*