Vending Machine

In this assignment, you will be designing a vending machine that works in the following fashion:
1- The vending machine has three products that user can select using the FPGA buttons;
2- The machine will display on the 7-segment the price of the product;
3- User will then enter money using the switches on the board;
4- If the amount of money entered is equal to the price of the product then product will be issued by displaying a message;
5- If the amount of money entered is greater than the price then product will be issued and change will be returned by displaying the refund amount;
6- End of transaction (product and change) will be indicated by LED;
7- A reset button to reset the machine to idle state.

Deliverables
1- FSM diagram
2- State Transition Table, Outputs Table
3- Next-State equations, Output equations
4- Implementation in Verilog
5- FPGA Demo