

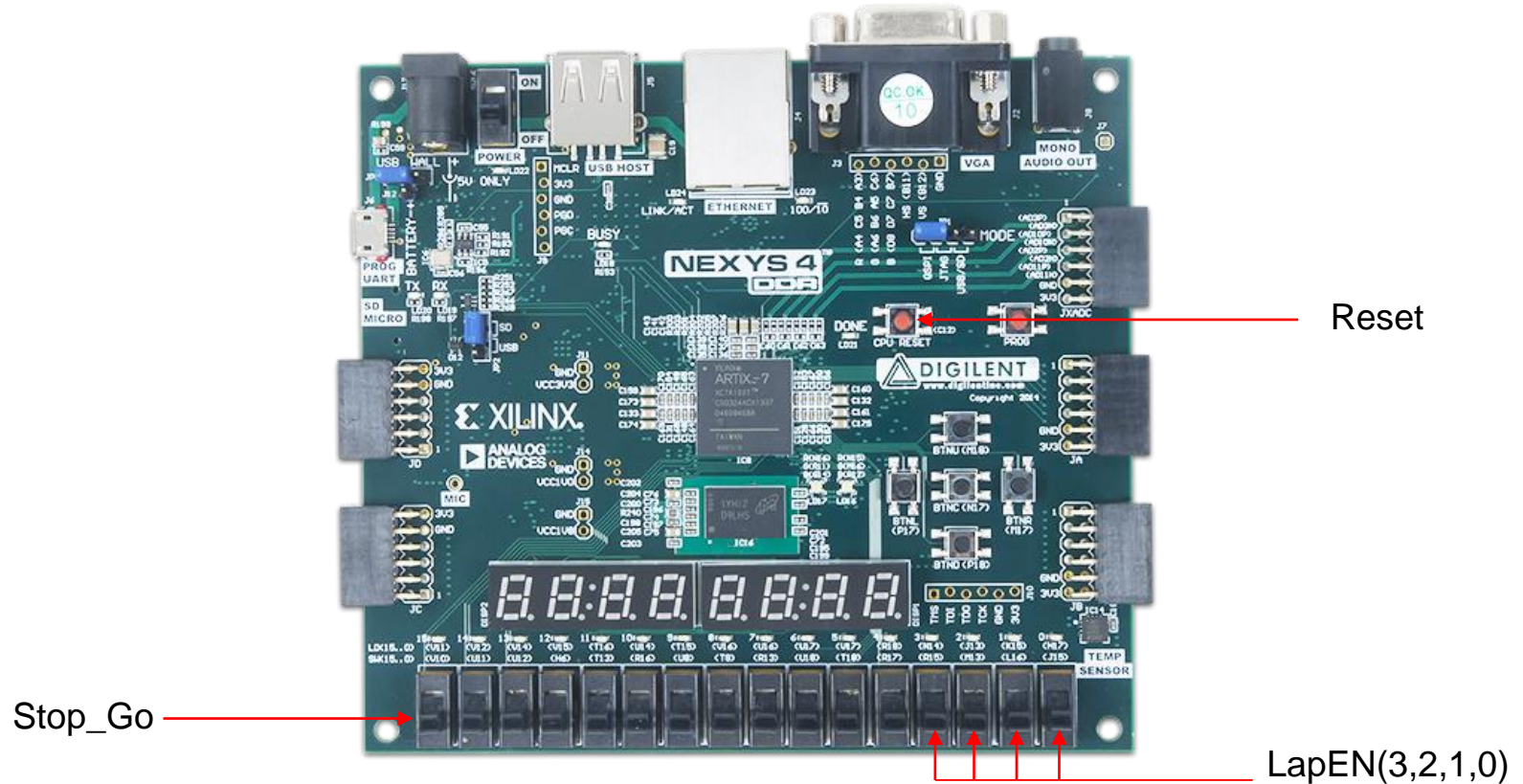
# Digital Stopwatch with Lap Function

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# What is it?

- Electric Powered Digital Stopwatch
- Measures times
- Save time instant

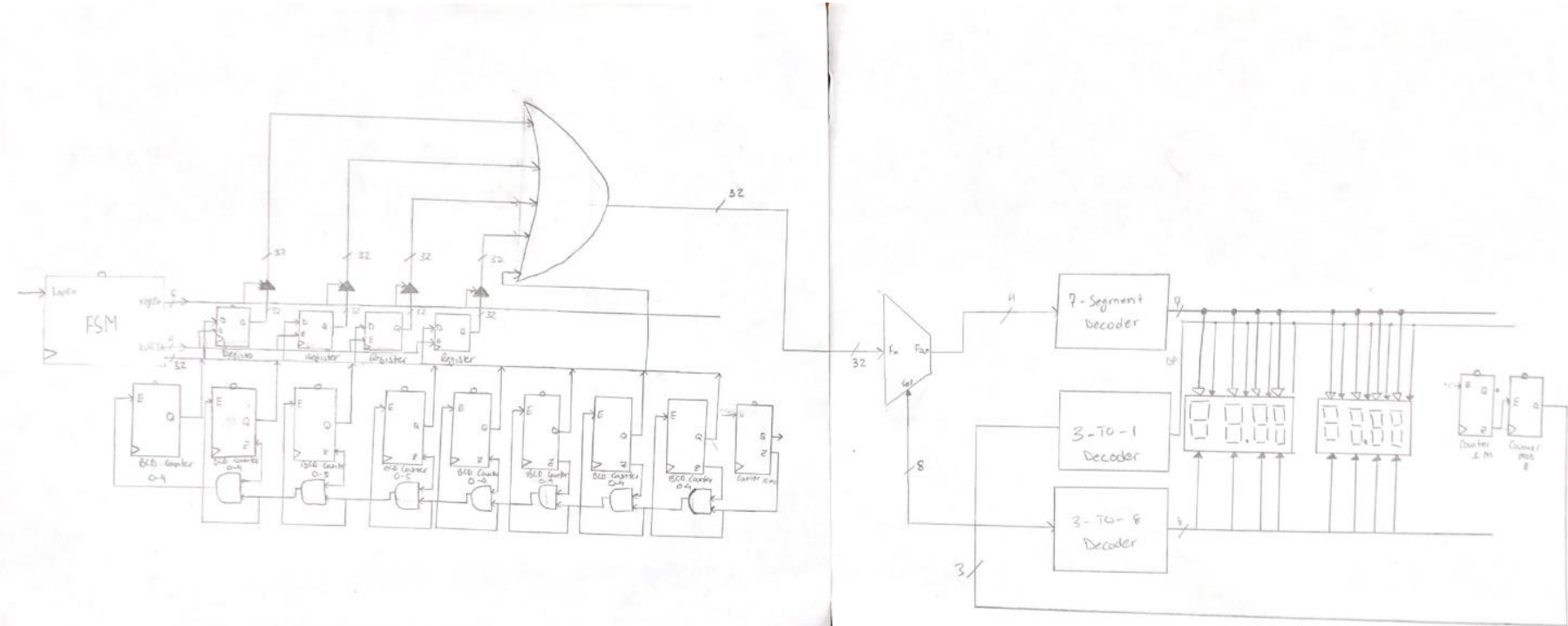
# Switches and Buttons Layout



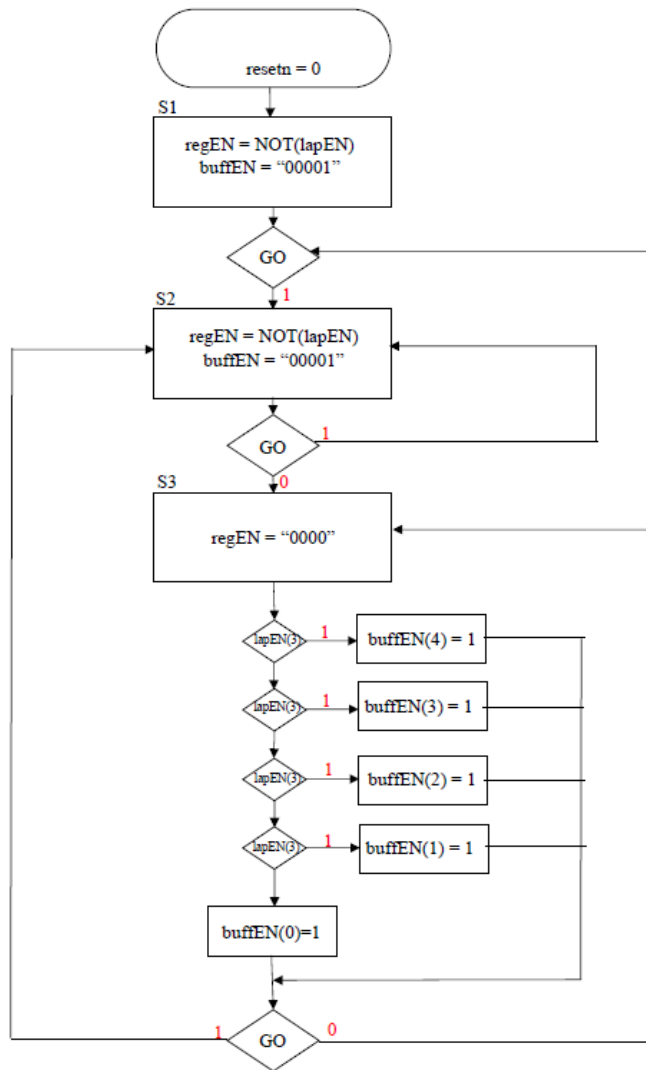
# Function

- 10ms (0.01s) increments
- Stop\_Go - starts and stops time
  - High - starts
  - Low - stops
- LapEn - record a certain instant of time
- Reset - reset time back to 0
- Clock - 100 mHz

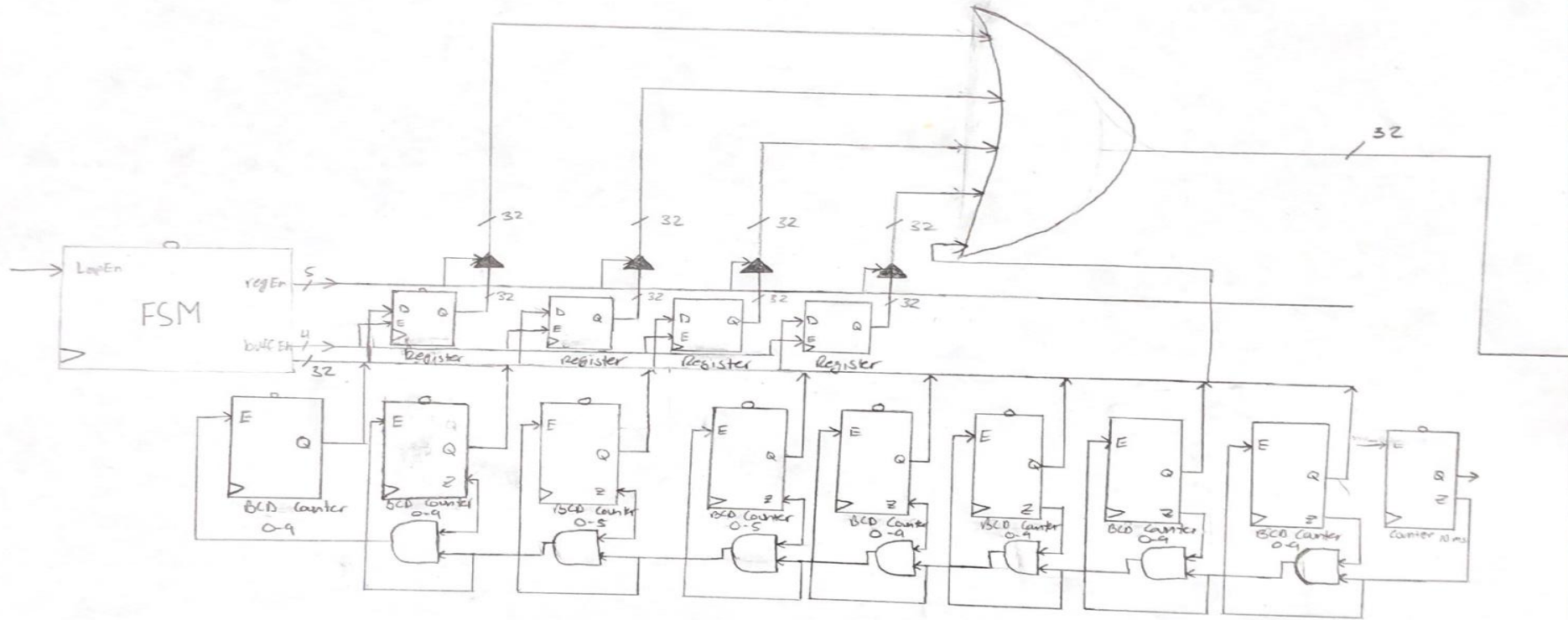
# Overall Circuit



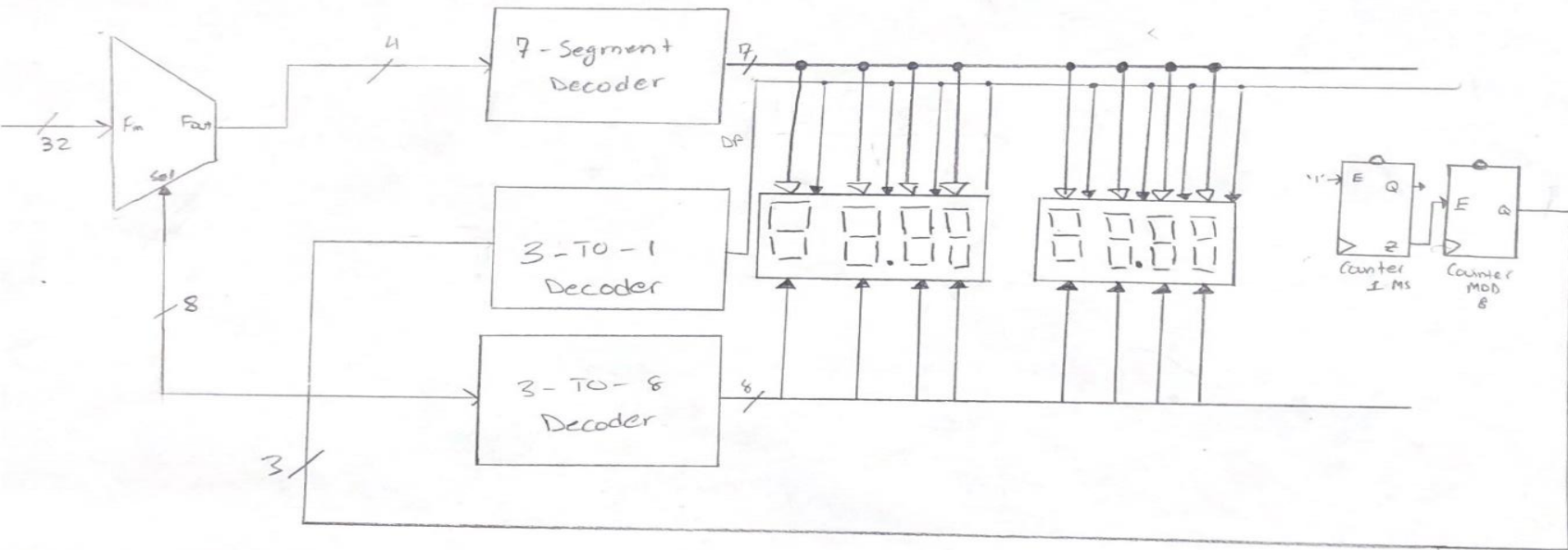
# FSM



# Counters and Registers



# Welcome to the Light Show





# References

- [http://www.secs.oakland.edu/~llamocca/Fall2019\\_ece2700.html](http://www.secs.oakland.edu/~llamocca/Fall2019_ece2700.html)
- <http://www.secs.oakland.edu/~llamocca/VHDLforFPGAs.html>
- [http://www.secs.oakland.edu/~llamocca/Fall2017\\_ece2700.html](http://www.secs.oakland.edu/~llamocca/Fall2017_ece2700.html)