**National University of Computer & Emerging Sciences**



**Project Proposal**

**DIGITAL LOGIC AND DESIGN**

**Section: J**

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**PROJECT: -**

**A STOP-WATCH**

**Project Proposal**

We will make a fully functional stopwatch using a simulator (not yet decided) and Microsoft windows 10.

To do this we are going to use basic cathode 7 segment display for good intelligibility and furthermore it looks alluring. To drive the 7-segment display, we are using IC 4026 which is 10 years counter made for 7 segment display. A solitary IC 4026 will tally from 0 to 9, we need to course a few ICs to tally more digits.

We realize that an IC 4026 or any decade counter checks till 9 and it will reset to 0 that is the characteristic way how 10 years counter functions. In any case, here the seconds can't go till 99 and reset to 00; a moment should reset to 00 following 59 seconds.

To do this we are using IC 4017 which is 10 years counter, it comprises of 10 yield pins and each will get "high" consecutively when we apply clock beats.

The IC 4017's 6th yield pin is associated with reset pin of IC4026 that drives the seconds digit. So, every 60 sec the subsequent digit reset to zero after 59.

The minutes and the milliseconds check can go up to 99, so there is no requirement for reset those tallies.

The clock beat which augments the check of stopwatch is created from IC 555 designed in Astable multi-vibrator mode. The IC 555 creates 100Hz sign which is applied to milliseconds check IC and different digits are increased with "partition/10" pin of IC 4026s.

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