# Digital Stopwatch

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# Abstract

Here we present the design and implementation of a digital stopwatch using a 555 timer as the clock source. The stopwatch displays time in minutes and seconds, utilizing basic digital electronics components such as counters, decoders, and seven-segment displays. The 555 timer is configured in astable mode to generate a clock pulse with a frequency of 1 Hz, serving as the time base for the stopwatch. A series of 60-second counts is accumulated for the seconds, and upon reaching 60, a minute counter increments. These counters are implemented using combination of binary and decade counters, and the output is decoded and displayed on four seven-segment displays, two for minutes and the other two for seconds. Control functionalities include start, stop, and reset buttons are also present to control the operation of the stopwatch.