Toll Collector
FSM
Design
Individual Project

LAB PROJECT: Toll Collector FSM

Requirements

- Design an FSM to accept 15 Cents using either Nickels (N = 0/1) or Dimes (D = 0/1). Accept money above 15 cents with no change.
- Two Push button switches are used to simulate the Nickel and Dime coins.
- A PLD is used to implement the FSM
- Two 7-segment displays shows the amount of money entered: (00, 05, 10, 15). Remain at 15 if money > 15 cents.
- LEDs are used to notify the driver when to stop (RED) & go (GREEN)
- A push button is used to reset the FSM (Display 00, Red light turned ON)
- Power is to be provided by a 9 volt battery
- Clocking is generated using a 555 timer chip

Main components

1. PLD
2. two 7-segment displays
3. Red LED
4. Green LED
5. 7805 voltage regulator
6. 555 timer chip
7. Three push button switches

Student Name: _____ Grade: _____ / 100

Toll Collector Project

Item	Weight	Points
Simulation	10%	
Nickel Detection	10%	
Dime Detection	10%	
Red STOP Light	10%	
Green GO Light	10%	
7-segment display (2)	20%	
Reliability	10%	
9 volt battery operated	10%	
555 clock generation	10%	

Total Grade: