Clap Controlled Switch

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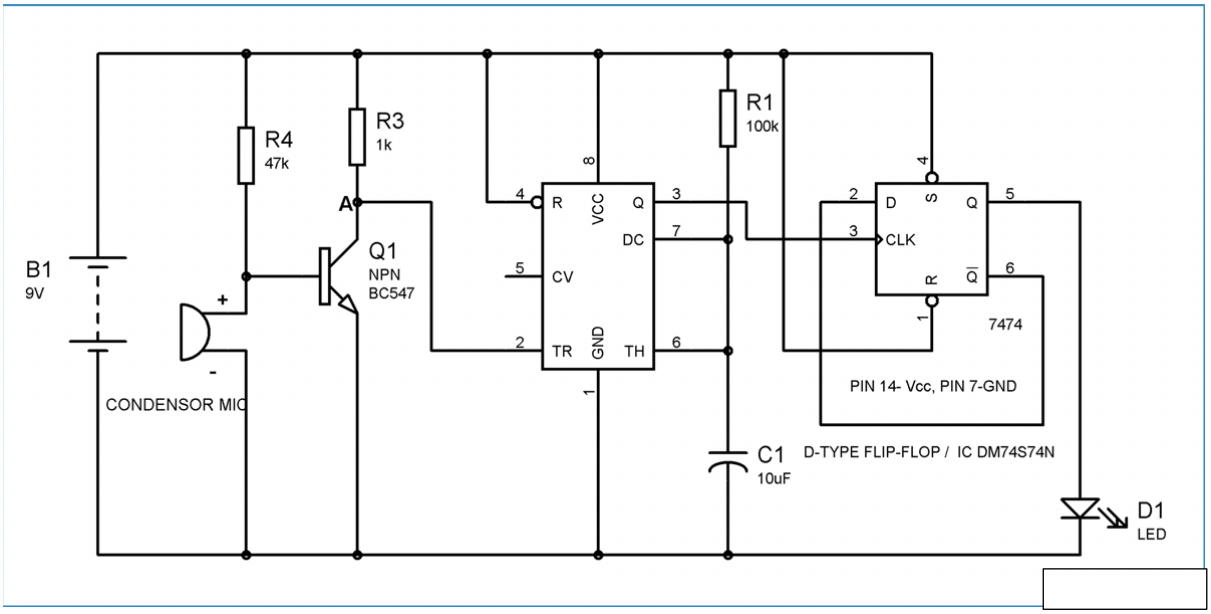
Overall Objective- This idea puts into use the utility of d flip flops that were taught in our class for home automation , where we can use the sound of our clap to trigger any electronic device.

Implementation – It would be implemented as RTL using Condenser Mic,555 Timer IC, Transistor BC547,Resistors (1k, 47k, 100k ohm),Capacitor (10uF),IC7474 more precisely DM74S74N (D-type flip flop) ,LED and Battery (5-9v)

Functionality- Here we are using Electric Condenser Mic for sensing the sound, transistor to trigger the 555 timer IC, 555 IC to SET & RESET the D-type flip flop and D-type flip flop to remember the logic level (LED ON or OFF) until next Clap/sound.

Circuit Diagram--



Also we can implement a clap lock with multiple secure combinations limit upto 8 claps with time gaps.

Water Level Control Mechanism

Overall Objective - This idea utilizes digital logic to control the water flow in the pump in accordance with the current water level in the tank.

RTL or Software - It would be implemented as RTL using IC4017 counter and a few NOT gates.

Functionality - An automatic water level controller is a device which senses undesired low and high water levels in a tank, and switches a water pump ON or OFF accordingly to maintain an optimal water content in the tank. A water-tank fill-up and overflow control mechanism with alarm. A circuit will be designed that displays the present level of water in the tank. The circuit also opens an outlet valve when the level in the tank exceeds a particular level, and finally opens the inlet valve when the water in the tank falls below a particular level.