

### **Game Board: Snakes and ladders**

In this game, we would normally use a dice and a board that has a box full of number from one to a hundred. In some of those boxes, there are some ladders that are facing upward. Some of the boxes also contain snakes. So basically, the rule of the game is to role the two dice and whatever number they might give, you have to move your pawn with it. If you fall into the box that has a snakehead, you have to fall back down to wherever its tail ends. Now, by using a rotary encoder as an additional feature to the game, we can make it a lot more fun. How you may ask? Well for starters, we can make the board game in electronic form. It will still follow the images and rules from above but instead of moving the pawn manually by hand, we can use the rotary encoder to do it for the players who will be represented as different LED colors. As for the dices, we can leave it in its form. If the player falls into a box that has a ladder, he or she will spin the rotary encoder to the right until the ladder's end (ladder always goes up). If the player falls into box that has a head of a snake, he or she will spin the rotary encoder to the left until they stop at the box where the snake's tail ends. In other words, as the player moves up, he or she will always spin right. As the snakes bite the player, he or she will always spin left until the snake's tail ends.