Motion Paths

Each player piece has 8 motion paths with relative start points and a duration of 1 second.

- **P1L** (Player 1 Left) Moves the player piece left one square.
- **P1R** (Player 1 Right) Moves the player piece right one square.
- **P1U** (Player 1 Up) Moves the player piece up one square.
- **P1L1** (Player 1 Ladder 1) Moves the player piece up the ladder when landing on squares 4 or 7.
- **P1L2** (Player 1 Ladder 2) Moves the player piece up the ladder when landing on square 11.
- **P1S1** (Player 1 Snake 1) Moves the player piece down the snake when landing on square 14.
- **P1S2** (Player 1 Snake 2) Moves the player piece down the snake when landing on square 22.
- **P1S3** (Player 1 Snake 3) Moves the player piece down the snake when landing on square 28.

There are triggers attached to the Motion Paths for animation complete to enable the Roll button (change state to normal) and to change the state of the PlayerLabel to show Player 1 or Player 2.

Slide Layers

- **Roll1 to Roll6** These layers are used to simulate the roll of the die.
- **Check** This layer is used to determine if the player piece can be moved.
- **P1Move** (Player 1 Move) Move the player 1 piece: left, right, or up one square.
- **P2Move** (Player 2 Move) Move the player 2 piece: left, right, or up one square.
- **Snake** Move the player 1 or 2 piece down a snake.
- **Ladder** Move the player 1 or 2 piece up a ladder.
- **Sorry** This is a message to the player to notify that they can only roll a specific number (nSorry) or less to move.
- **Winner** This is a message to the player to notify that they have won.
Variables

1Position  A number used to track the position of player 1.
2Position  A number used to track the position of player 2.
DiceValue  A number that gets set to a random number between 1 and 6 when clicking the Roll button.
Player1    A True/False variable. If it is True, it is Player 1’s turn. If it is false, it is Player 2’s turn.
nCheck     A number that is used on the Check layer. It is used to see if the player piece can be moved. For example if the player piece is on square 29 and the DiceValue is 5, the player piece cannot move which then triggers the Sorry layer.
nMove      This number gets set to the value of DiceValue to start. There are slide triggers that when nMove changes to show one of the move layers or the Winner layer:
            P1Move layer (if Player1 = True and nMove > 0)
            P2Move layer (if Player1 = False and nMove > 0)
            Snake layer (if the player piece lands on 14, 22, 28 and nMove = 0)
            Ladder layer (if the player piece lands on 4, 7, 11 and nMove = 0)
            Winner layer (if the 1Position or 2Position = 31 and nMove = 0)
nSorry     A number that is used on the Sorry layer. It is used for a calculation to inform the player that they must roll a specific number or less to move.

Roll Button Click

1. Change the state of the Roll Button to disabled.
2. Make sure that the Roll1 to Roll6 layers are hidden.
3. Set DiceValue to Random number between 1 and 6.
4. Show the appropriate Roll layer depending on the DiceValue.

Roll1 to Roll6 Layers

1. Here there are images of a die stacked one on top of another at different time intervals to simulate the roll of the die.
2. After the roll of the die, there is a trigger to show the Check Layer.

Check Layer

On timeline start, there are triggers that check to see if the player piece can be moved. This is where the nCheck variable is used. Add the position of the player and DiceValue to nCheck. If nCheck is greater than 31 then show the Sorry layer. If nCheck isn’t greater than 31 then set nMove = DiceValue. (Remember that there are slide triggers to show the move layers or Winner layer when nMove is changed).
P1Move Layer

This layer is triggered to show when the variable nMove changes and if nMove > 0 and Player1 = True.

First, there is a trigger to hide the check layer.

Next we need to determine which Motion Path to use.

The P1R Motion Path can be used if the 1Position variable is < 7.
The P1R Motion Path can also be used if the 1Position variable > 15 and < 23.

The P1U Motion Path can be used if the 1Position variable is = 7 or = 15 or = 23.

The P1L Motion Path can be used if the 1Position variable > 7 and < 15.
The P1L Motion Path can also be used if the 1Position variable > 23.

After using a motion path, we need to add 1 to the 1Position variable. Here we also need to subtract 1 from the nMove variable. Adding 1 to 1Position and Subtracting 1 from nMove is done on timeline end. I have set the timeline length to 1 second because the motion paths are set to 1 second.

Because we changed the nMove variable this layer may be shown again.

P2Move Layer

This layer is the same as the P1Move Layer however P2 Motions Paths and the 2Position variable are used instead.

Snake Layer

This layer is triggered to show when the variable nMove changes and if nMove = 0 and (1Position or 2Position) = 14 or 22 or 28.

First we determine which Snake motion path to use. Here I will only discuss the triggers for moving the Player 1 piece because there are duplicate triggers for moving the Player 2 piece.

The P1S1 Motion Path can be used if 1Position = 14.

The P1S2 Motion Path can be used if 1Postion = 22.

The P1S3 Motion Path can be used if 1Position = 28.

Now we need to change the value of the 1Position variable. This is done on Timeline End.

- Set 1Position = 2 if 1Position = 14.
- Set 1 Position = 5 if 1Position = 22.
- Set 1 Position = 18 if 1Position = 28.

There is also a trigger to hide this layer on timeline end.
**Ladder Layer**

This layer is similar to the Snake Layer. It is triggered to show when the variable nMove changes and if nMove = 0 and (1Position or 2Position) = 4 or 7 or 11.

The P1L1 Motion Path can be used if 1Position = 4.
The P1L1 Motion Path can also be used if 1Position = 7.

The P1L2 Motion Path can be used if 1Position = 11.

On Timeline End:
- Set 1Position = 12 if 1Position = 4.
- Set 1Position = 9 if 1Position = 7.
- Set 1Position = 25 if 1Position = 11.
- Hide this layer.

**Sorry Layer**

The Sorry Layer is triggered to show from the Check Layer. This is where the nSorry variable is used to display a message to the player that they must roll a %nSorry% or less to move. nSorry is calculated by subtracting 1Position or 2Position from 31.

**Winner Layer**

The layer is triggered to show when the variable nMove changes if nMove = 0 and 1Position or 2Position = 31.

On Timeline Start there is a trigger to change the state of the message to either show Player 1 Wins or Player 2 Wins.

The Play Again button has triggers to reset the variable to default values and to jump to itself. There is a slide property that is set to: Reset to initial state when revisiting.

**When nMove Changes triggers**

Make sure that P1Move and P2Move layers are hidden.
Show P1Move if nMove > 0 and Player1 = True.
Show P2Move if nMove > 0 and Player1 = False.
Show Layer Snake if nMove = 0 and (1Position or 2Position) = 14, 22 or 28.
Show Layer Ladder if nMove = 0 and (1Position or 2Position) = 4, 7, 11.
Show Layer Winner if nMove = 0 and (1Position or 2Position) = 31.
Toggle the Player1 variable if nMove = 0.