

## Save the Fish – Part II

Hello Everyone. Welcome back.

In the last video, we learnt about toxic oil spills and designed the screen for our 'Save the Fish' game.

It is now time to begin coding. We will start with coding the fish sprite. The fish should move in all four directions when the arrow keys are pressed.

Go to the events section and drag 'when flag clicked' block to the editor. Go to motion section, drag 'go to x and y' block and set the initial position of the fish. We are using -185 and 130 for x and y respectively.

From the control section, drag the forever loop block and move it to the editor. From the same section, drag 4 'if then' blocks and place them one after the other in the forever loop. We will use them to control the four arrows so that the fish can move in all directions.

Let us visualize the movement of the arrow keys with respect to the X & Y coordinates. We will use by the left and right arrow keys to control the X coordinates and the up and down arrow keys to control the y coordinates. Go to the sensing section, drag <key space pressed> block and put it inside the hexagonal slot of all the first 'if then' condition. Repeat this for the other three 'if then' conditions also.

We will use the first 'if then' block for the moving the fish to the right. From the drop down, select right arrow key. From the motion section, drag 'change x by 10' block and place it inside the first if then condition. Replace the number 10 by +2. This will ensure that the fish moves right on the x axis when the right arrow key is pressed.

To move the fish left, when the left arrow key is pressed, select left arrow key from the drop down. From the motion section, drag 'change x by 10' and place it inside the second if then condition. Replace 10 by -2.

Now we need to move the fish up and down. To move the fish up when the up-arrow key is pressed, select up arrow key from the drop down of the third 'if then' condition. From the motion section, drag 'change y by 10' and place it inside the if then condition. Replace 10 by +2.

To move the fish down, when the down arrow key is pressed, select down arrow key from the drop down of the fourth if then condition. As in the previous step, from the motion section, drag 'change y by 10' and place it inside the if then condition and Replace 10 by -2.

Wow! The fish can move in all four conditions now. Test with all four arrow keys.

### Task – III: Coding the Oil Spill sprites

Now that we have finished our task of coding the fish sprite, It is time to move to the next task of coding the oil spill sprites so that they move randomly in the ocean to make the game more interesting. Let us also add a few more oil spill sprites to make the game more difficult. We are duplicating two of our oil sprites. You can choose to do the same or upload new sprites.

Set the initial position of the oil sprites by dragging them to various random positions such that they block the path of the fish when it tries to swim to the finish point.

We will have to code each oil sprite one by one.

Click on any one oil sprite. Go to the events section and drag 'when flag clicked' block to the editor. From the motion section, drag 'go to x & y' block to the editor. Set the initial position of that oil sprite. In our case, it is -80 and 130.

From the control section, drag the 'forever' block to the editor. Place 'glide 1 sec to x & y' block from the motion section inside the forever loop. Go to the operators section, drag 'pick random 1 to 10' block and place it inside the oval next to x. Repeat this step for y.



It is now time to decide how much we want the oil spill to move randomly on the x and y axes. We think 10 positions in either direction should be enough. Hence, we will set the range for glide values for x between -90 and -70 and for y between 140 and 120. Oil Spill Sprite 1 is now ready.

We need to code the remaining oil spill sprites. You will have to follow the steps described earlier for each oil sprite. Set the initial x and y positions of the selected oil sprite. In the forever loop, place a glide block for x and y coordinates. Then, randomize the values of x and y so that the sprite moves within a specified range. You can play with the ranges to adjust the difficulty level of the game. You can also add more sprites if you want. As we had mentioned earlier, do remember to keep enough space between two sprites so that the fish can navigate through the ocean.

Now that we have managed to code all the oil spill sprites, let us test our code. It seems to be working fine!

In the next video, we will bring all the elements of the game together so that you can play it with your friends.