

8.1 Magical Camera

Intro

Just now Mike saw a display screen inside of the Mike No.1. And now he wants to talk to Mike No.1 thru it, do you know how?

Task

1. Realize the goal of video interaction

Start Learning

1. Video Interaction

Mike turned on the video and communicated with Mike No.1 through the display. Let's first get familiar with the blocks we will use in this section.

Block	Explanation	Example
	Turn on the camera	
	Set the transparency of the camera from 0 to 100. 0 for non-transparent and 100 stands for completely transparent.	
	The motion of the item on the video.	

★ Practice

Turn on your camera, and compare the effect when the transparency is set at 0, 50, and 100.

☆ Explore

Can you find other methods to turn on the camera in Scratch 2.0?

2. Interact with Mike No.1

Sprite	Animation	Scratch Script
Space ship	Click the green flag to turn on the camera; Set the transparency; When the motion value of the item/sprite on the video is detected to be over 10, say "Hi, I am Mike No.1".	Events: When Green Flag is clicked Looks: Say Control: Repeat, if...then Sensing: Turn video on, Set video transparency to.., Video motion on sprite Operator: ..>..
My	plan:	My Script: _____

☆ Explore



Write the script according to the designed animation scene.

Tips

The motion detection function of the video can detect the moving speed and direction of the user. It can be applied to the script of the stage or the sprite. This function is realized by the principle of "optical flow". If you are interested in this, use a searching engine to get more info.



Achieve

Import "Mike's side face.png", "Spaceship.png" and the backdrop "Encounter.png".

Sprite	Program	Effect
 Spaceship	<pre> when green flag clicked turn video on set video transparency to 50 % forever loop if video motion on this sprite > 10 then say Hi, I am Mike No.1! for 2 secs </pre>	

Additional Training

Achieve a more marvelous effect combining other blocks, e.g. If the motion is over 10, the spaceship will change its color.

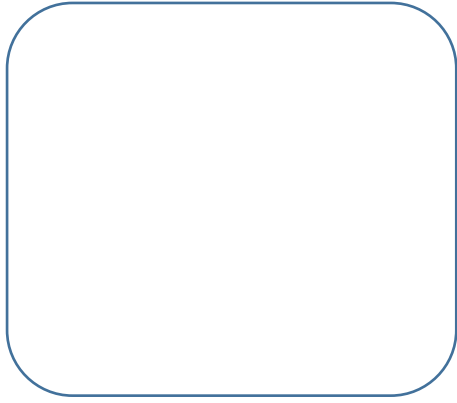
Sprite	Program	Effect
 Spaceship	<pre> when green flag clicked turn video on set video transparency to 50 % forever loop if video motion on this sprite > 10 then set color effect to 50 wait 2 secs else set color effect to 0 </pre>	

Homework

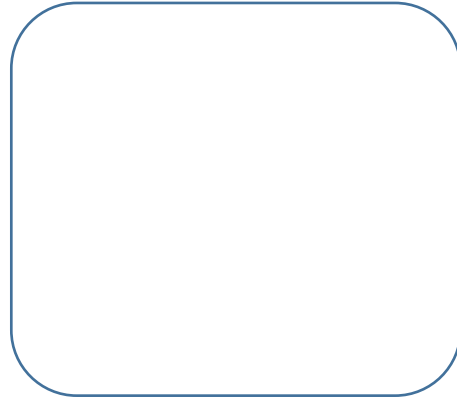
1. Use the interaction function of video to create an electronic reading machine which can read the pronunciation when a letter is touched.
2. Upload your work to the official website of Scratch, and share with others from all over the world!

What You've Learnt?

Adventure Diary (Self-Assessment)

A large, empty rounded square box with a thin blue border, intended for a self-assessment of the 'Adventure Diary' experience.

Gas Station (Other's Assessment)

A large, empty rounded square box with a thin blue border, intended for an assessment of the 'Gas Station' experience by others.