

# Scratch It Up

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**Some may think:**

The tech industry is  
desperately trying to hire  
computer programmers in  
California

~~The tech~~ **every** industry is  
desperately trying to hire  
computer programmers ~~in~~  
~~California~~ **everywhere**

**Some may think:**

Computer science is just  
about learning technology

~~Computer science is just  
about learning technology~~

**Computer science is about  
logic, problem solving,  
and creativity**

# Objective

Design and create an interactive video game using Scratch within the designated time limit.

# Overview

- Pairs create a game within 60 minutes
- Labbooks may be used the day of event
- Ask Center host if teams need to provide own devices
- Limits may apply due to facilities

# Why?

- Prepare students for CS and technical Careers
  - Technical interviews
  - Hackathons



# Goals

- Implementation of CS Concepts
  - Code blocks not graded
- Design before creation
- Work within time constraints

# Points System – the game must have a point system

Variables

Make a Variable

- my variable
- Points
- Timer

set my variable to 0

change my variable by 1

show variable my variable

hide variable my variable

Points 0

Timer 0



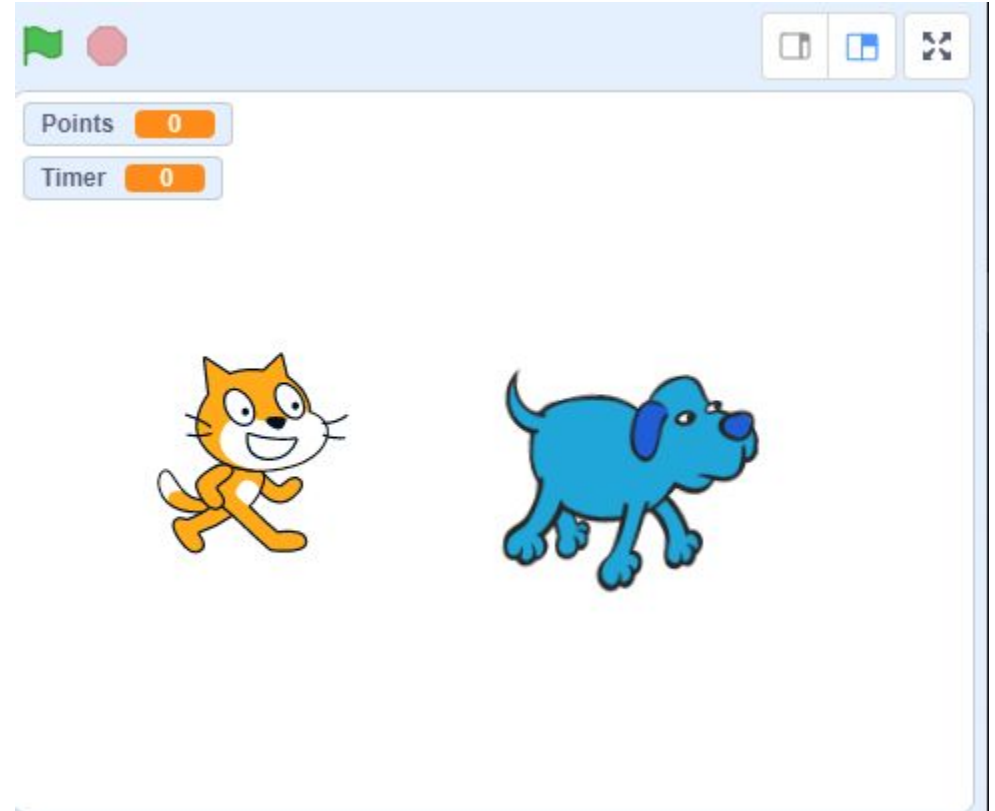
# A User Controlled Character

The image displays a Scratch script editor with two panels. The left panel, titled "Events", contains a vertical list of event blocks: "when clicked", "when space key pressed", "when this sprite clicked", "when backdrop switches to backdrop1", "when loudness > 10", "when I receive message1", "broadcast message1", and "broadcast message1 and wait". The right panel shows a grid of motion blocks: "when up arrow key pressed" followed by "turn -45 degrees"; "when left arrow key pressed" followed by "move -20 steps"; "when right arrow key pressed" followed by "move 25 steps"; and "when down arrow key pressed" followed by "turn 45 degrees".

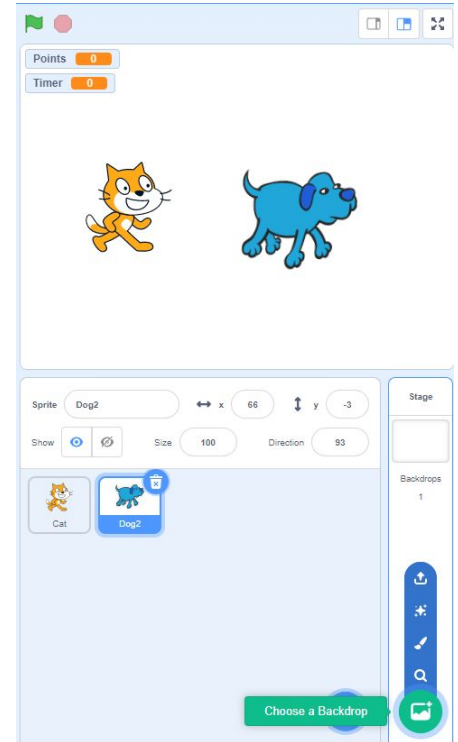
# non-Player Controlled (NPC) Character



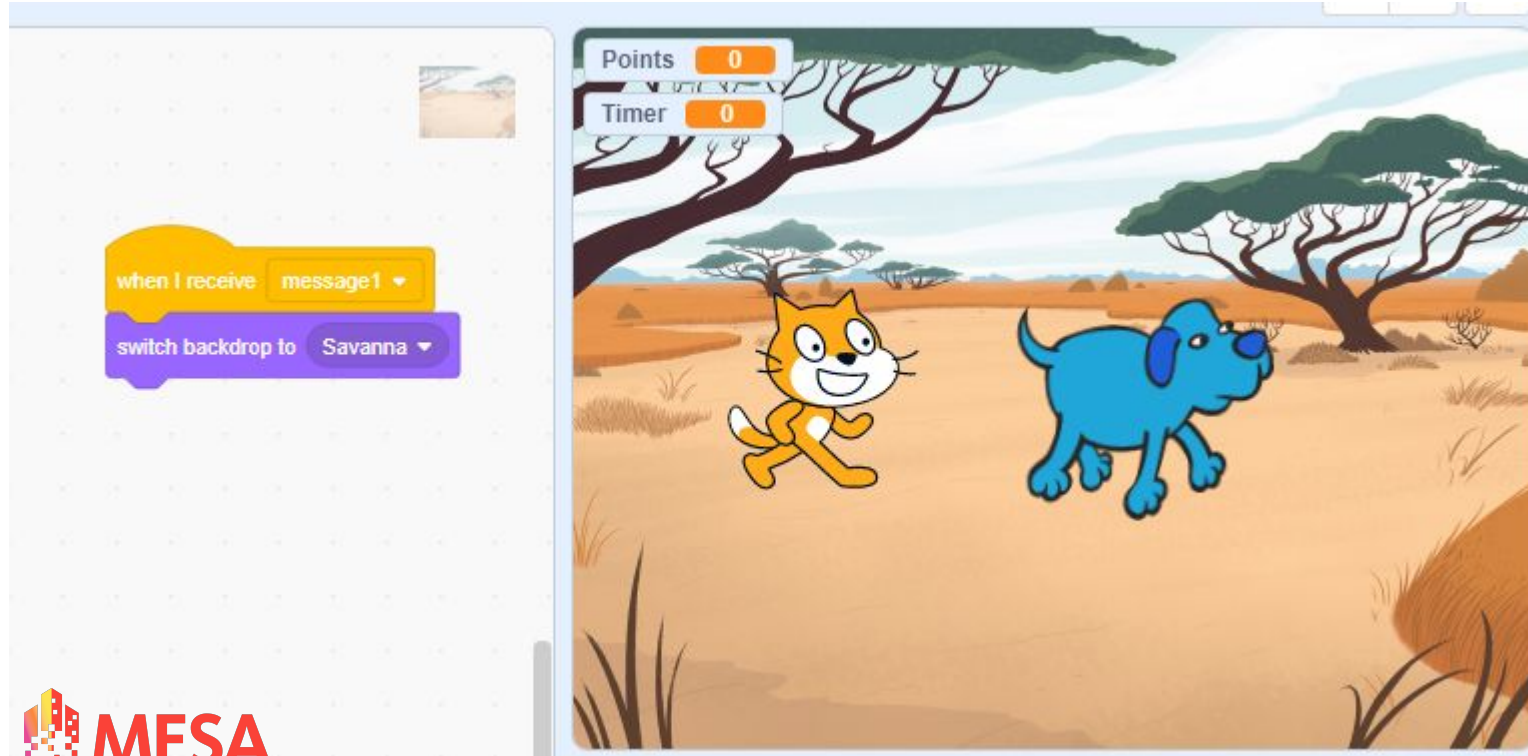
- Motion
- Looks
- Sound
- Events
- Control
- Sensing
- Operators
- Variables
- My Blocks



# Background



# Background

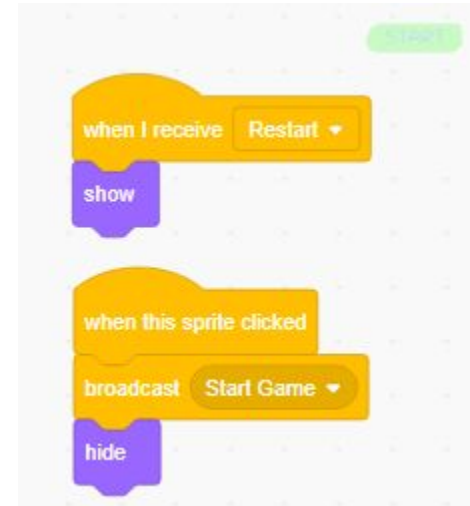
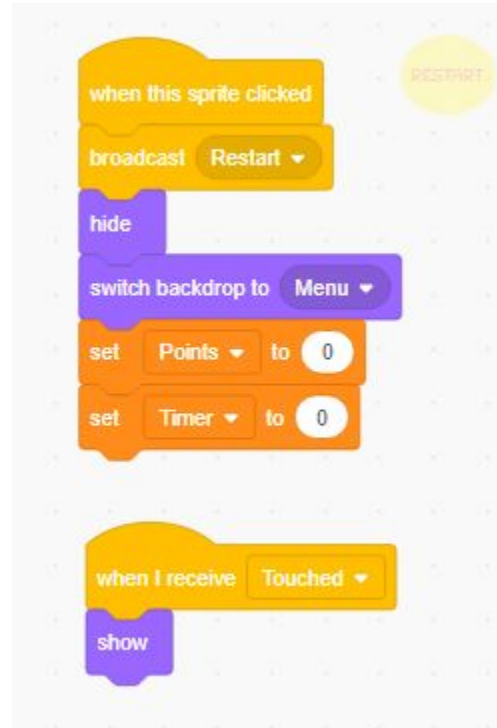
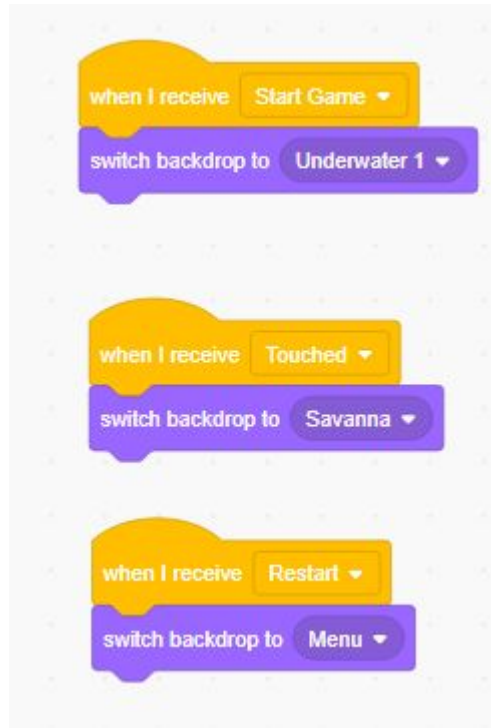


The image shows a Scratch workspace. On the left, a script area contains two blocks: a yellow 'when I receive message 1' block and a purple 'switch backdrop to Savanna' block. On the right, a preview window shows a savanna background with a yellow Scratch cat and a blue dog running. In the top-left corner of the preview window, there are two monitors: 'Points' with a value of 0 and 'Timer' with a value of 0.

# Instructions Start Menu and Restart

The screenshot displays the Scratch 3.0 interface. The top navigation bar includes 'Code', 'Backdrops', and 'Sounds' tabs. On the left, a 'Backdrops' panel shows five thumbnails: 'Menu' (348 x 109), 'Underwater 1' (460 x 360), 'Savanna' (460 x 360), 'Light' (495 x 373), and 'backdrop2' (2 x 2). The main workspace features a 'Costume' menu set to 'Menu' and a 'Fill' color selector. The central stage area contains two lines of purple text: 'Use the Arrow Keys to move the Cat' and 'Make contact with dog to stop the erratic movement'. A large green rounded rectangle with the word 'START' in blue is positioned below the text. The right-hand side of the interface includes a 'Points' and 'Timer' display, both showing '0'. Below this, a 'Sprite' panel shows a 'Name' field and 'x' and 'y' coordinates. A 'Show' panel contains 'Show' and 'Hide' buttons, along with 'Size' and 'Direction' controls. At the bottom right, a 'Stage' panel displays 'Backdrops' (5) and a score of '15'. The 'Sprite' panel at the bottom shows four sprites: 'Cat', 'Dog2', 'Sprite1', and 'Sprite2'.

# Instructions Start Menu and Restart







# Resources

- Google Game Design
  - <https://csfirst.withgoogle.com/c/cs-first/en/game-design/materials.html>
- Scratch Wiki
  - [https://en.scratch-wiki.info/wiki/Scratch\\_Wiki](https://en.scratch-wiki.info/wiki/Scratch_Wiki)
- Sample from presentation
  - <https://drive.google.com/file/d/1A9cpyGgas1HfaTp0bTq0wAnpuljFzBPZ/view?usp=sharing>