

Computer programming

Unit: Advanced JS: Games & Visualizations

Lessons

Intro to Games & Visualizations

Scene management

Buttons

Making a side scroller: Hoppy

Projects in progress



Project: Memory++
a day ago




Project: Hoppy Beaver Extreme
6 days ago

Intro to Games & Visualizations

A quick tour of the many components of games and visualizations, demonstrated by some of our favorite programs.







Learn

- Intro to Games and Visualizations

Scene management

Learn how to change between multiple scenes in your program, even if they're animated or interactive.





Learn

- What are scenes?
- Simple scene changes
- Challenge: Story teller
- Animated scenes
- Interactive scenes
- Button-controlled scene changes

Buttons

Learn how to create clickable buttons for your programs that are easy to customize.








Learn

- What are buttons?
- A button function
- A Button object type
- Challenge: Rabbit Racer

Making a side scroller: Hoppy Beaver

Learn how to make a simple side scroller, where you press a key to get your beaver to collect enough sticks for their den. You could easily extend this to make your favorite flappy game!







Learn

- Intro to Hoppy Beaver
- Beaver character
- Forest environment
- Challenge: Pong
- Stick collisions
- Scoring and winning
- Project: Hoppy Beaver Extreme

Making a memory game

Ever played the game where you flip over cards and try to find pairs? Learn how to program a digital version of it!









Learn

- Intro to "Memory"
- Memory game: Drawing a grid of tiles
- Memory game: Flipping tiles
- Memory game: Scoring and winning
- Challenge: Tic-Tac-Toe
- Project: Memory++

Transformations






Learn how to use `translate()`, `rotate()`, and `scale()` for easier manipulation of the shapes in your programs.

Learn

- Translation
- Challenge: Translation salvation
- Rotation
- Challenge: Rotation
- Scaling
- Challenge: Optical illusion
- Multiple transformations
- Challenge: Shining scaling sun

3D shapes



Learn

- What are 3D shapes?
- Describing 3D shapes
- Drawing 3D shapes
- Rotating 3D shapes
- Generating 3D shapes

Advanced development tools

Learn how to build more complicated games and visualizations by using desktop editors and debugging tools.

Learn

- Using ProcessingJS outside Khan Academy
- Using different code editors

About this unit

Once you've taken Intro to JS, go here to learn techniques to help you make multi-scene programs, 3d graphics, button menus, and scored games.

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Change language