

Chrome DevTools for GigaPet

Part 1: Debugging JavaScript

1) Reproduce the Example Bug

A bug is shown in a commented out part of the function clickedExerciseButton. The incorrect line is:

Pet_info.hunger += 10

This causes hunger to increase instead of exercising

To reproduce

- 1) Open index.html in the browser
- 2) Open DevTools
- 3) Click Exercise Repeatedly
- 4) Observe the hunger bar going up instead of down.

2) Sources Panel

- 1) Open DevTools and go to sources
- 2) The left is the file tree (open [script.js](#))
- 3) The middle is the code editor
- 4) The right are the breakpoints, scope, call stack, and watch

```
/* Header */
header {
  font-family: "Poppins", Arial, sans-serif;
  background: radial-gradient(circle at top, #3e4250, #1e2130);
  margin: 0;
  padding: 15px;
  color: #ff4f4f;
}

/*
 * Header *
 */
header {
  text-align: center;
  margin-bottom: 20px;
}

h1 {
  font-size: 2.4rem;
  font-weight: 700;
  color: #fffffe;
}

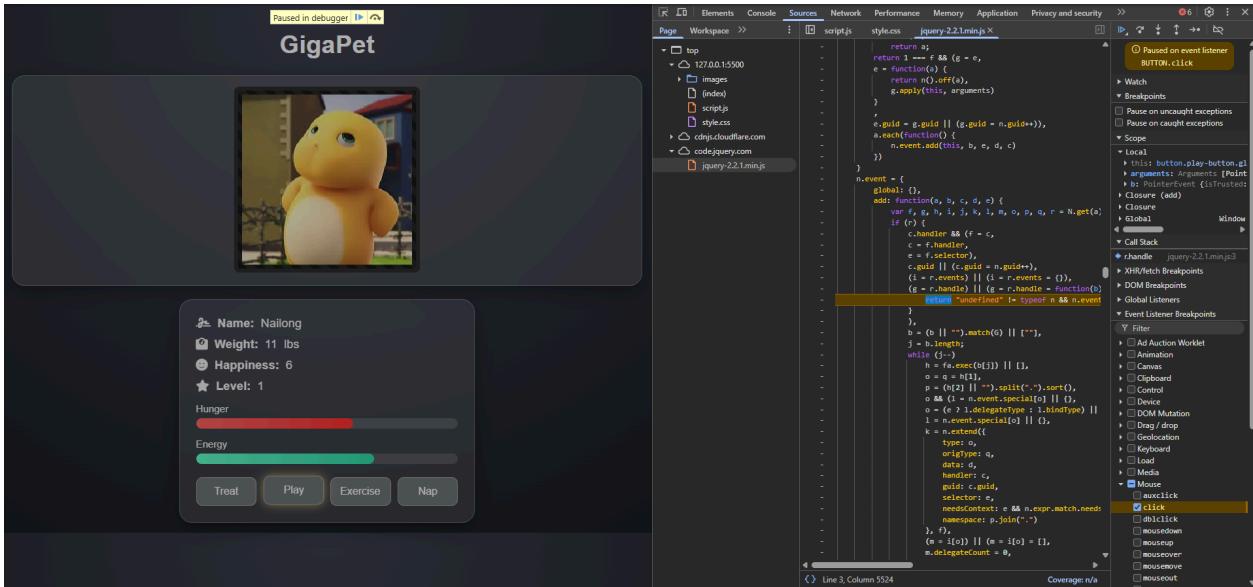
/*
 * Glassmorphism Cards
 */
.glassmorphism {
  background: #rgba(255, 255, 255, 0.12);
  border-radius: 20px;
  backdrop-filter: blur(14px);
  -webkit-backdrop-filter: blur(14px);
  border: 1px solid #d9e1f2;
  border-radius: 0 0 20px 20px;
  border-bottom: 0 0px 30px #ff9999;
  margin-bottom: 20px;
}

/*
 * Pet Card
 */
.pet-card {
  display: flex;
  justify-content: center;
  padding: 10px;
  margin-bottom: 20px;
}

.pixel-frame {
  height: 260px;
  border-radius: 8px;
  image-rendering: pixelated;
  padding: 6px;
}
```

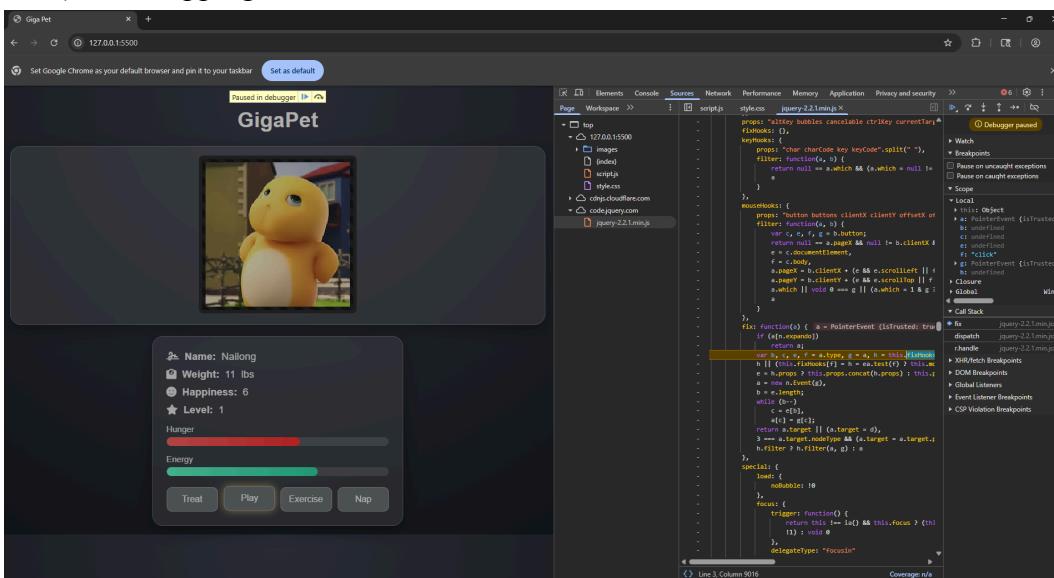
3) Pausing Code

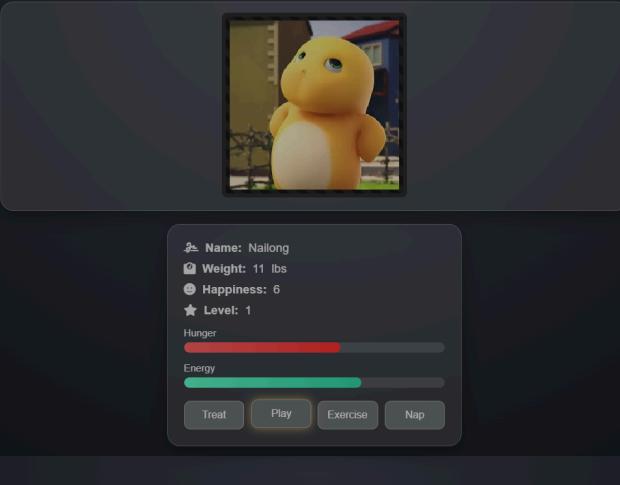
- 1) Go to the debugger
- 2) Then go to the event listener break points
- 3) Then go to mouse and check “click”
- 4) Clicking any button pauses inside its handler
- 5) For the line of code breakpoint click the left margin next to a line



4) Step Through the Code

- 1) While paused for stepping into, go inside the called function
- 2) For stepping over run the line without entering
- 3) For stepping out finish the function and return





The screenshot shows the GigaPet application running in a browser. A yellow chick pet is displayed. The pet's stats are: Name: Nallong, Weight: 11 lbs, Happiness: 6, Level: 1. Below the stats are two progress bars: Hunger (red) and Energy (green). At the bottom are four buttons: Treat, Play, Exercise, and Nap.

The developer tools are open, showing the Sources tab with the file jquery-2.2.1.min.js selected. The code is paused at line 3, column 7101. The debugger sidebar indicates "Paused in debugger" and shows the current scope and call stack.



The screenshot shows the GigaPet application running in a browser. A yellow chick pet is displayed. The pet's stats are: Name: Nallong, Weight: 10 lbs, Happiness: 9, Level: 1. Below the stats are two progress bars: Hunger (red) and Energy (green). At the bottom are four buttons: Treat, Play, Exercise, and Nap.

The developer tools are open, showing the Sources tab with the file jquery-2.2.1.min.js selected. The code is paused at line 3, column 5622. The debugger sidebar indicates "Paused in debugger" and shows the current scope and call stack.

5) Breakpoint Example

1) Place a breakpoint on:

```
$(".hunger-fill").css("width, pet_info.hunger + "%");
```

Which pauses before the bar updates so you can inspect the hunger and energy values.

```

Paused in debugger ⏹ ⏹
GigaPet

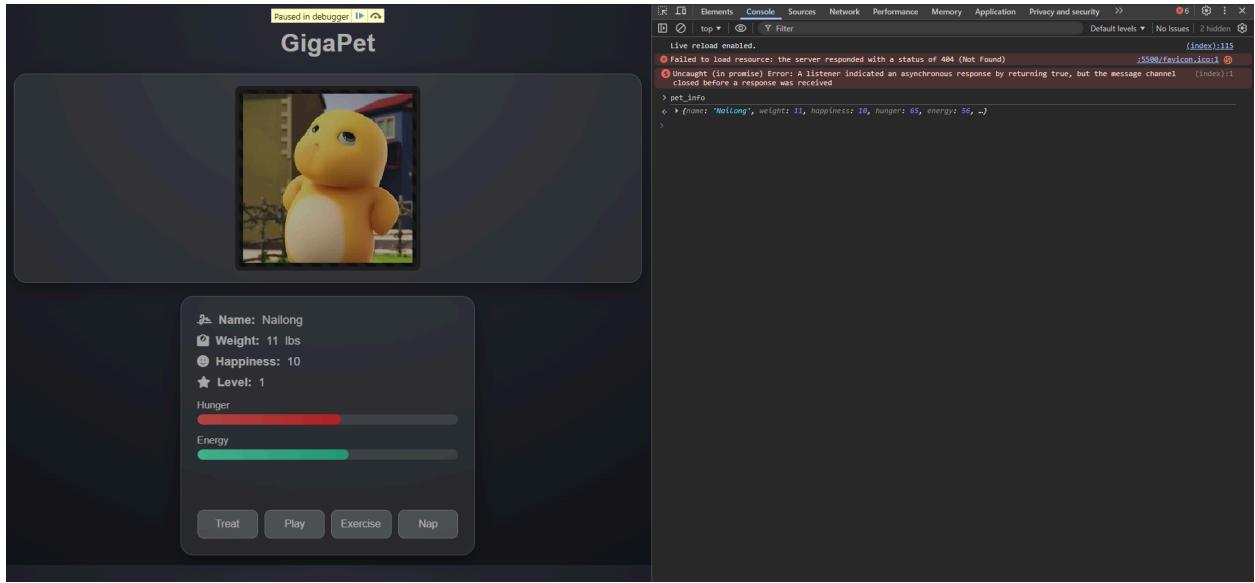
Name: Nallong
Weight: 11 lbs
Happiness: 10
Level: 1

Hunger
Energy

Treat Play Exercise Nap

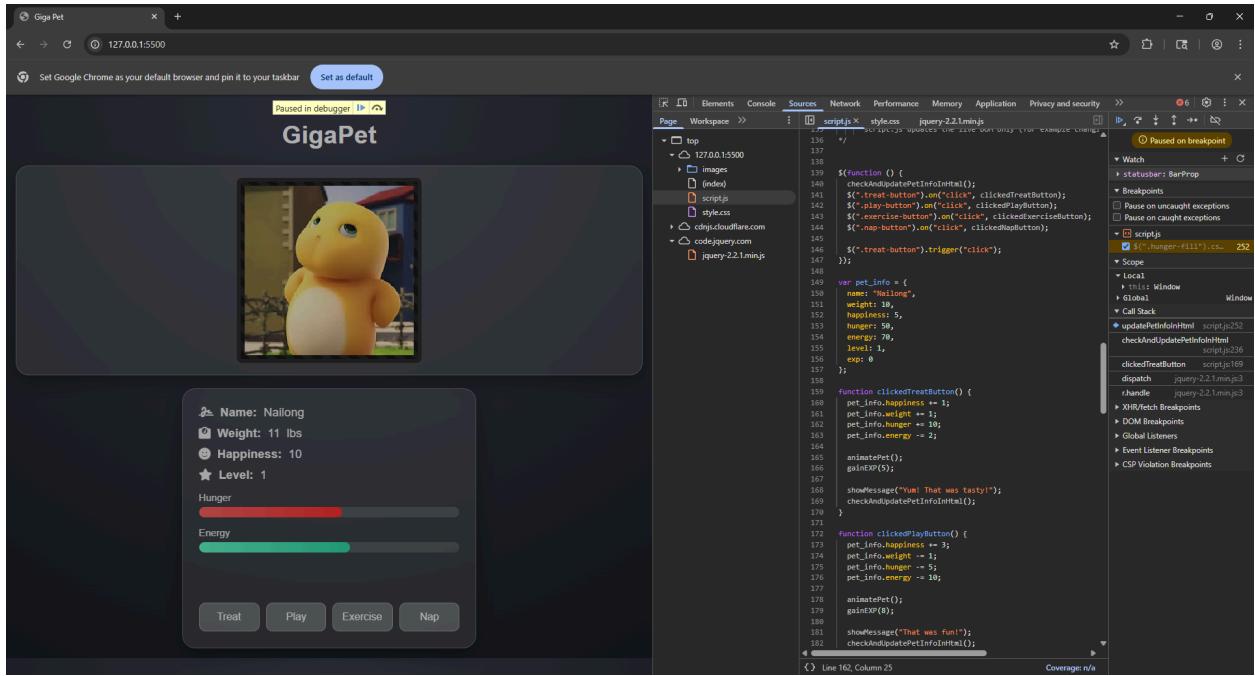
script.js X style.css jquery-2.2.1.min.js
Page Workspace > top 127.0.0.1:5590 (index) script.js style.css
  219
  220 showMessage("zzz... sovv nap!");
  221 checkAndUpdatePetInfoInitial();
  222
  223
  224 function gainEXP(amount) {
  225   pet_info.exp += amount;
  226   if (pet_info.exp >= 50) {
  227     pet_info.exp = 0;
  228     pet_info.level++;
  229     showMessage("LEVEL UP! New level: " + pet_info.level);
  230   }
  231
  232
  233 function checkAndUpdatePetInfoInitial() {
  234   clampStats();
  235   checkOwnerStates();
  236   updatePetInfoInitial();
  237 }
  238
  239 function clampStats() {
  240   pet_info.weight = Math.max(0, pet_info.weight);
  241   pet_info.happiness = Math.max(0, pet_info.happiness);
  242   pet_info.hunger = Math.min(100, Math.max(0, pet_info.hunger));
  243   pet_info.energy = Math.min(100, Math.max(0, pet_info.energy));
  244 }
  245
  246 function updatePetInfoInitial() {
  247   $(`#name`).text(pet_info.name);
  248   `#${"weight"}`.text(pet_info.weight);
  249   `#${"happiness"}`.text(pet_info.happiness);
  250   `#${"level"}`.text(pet_info.level);
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7) Applying a Fix

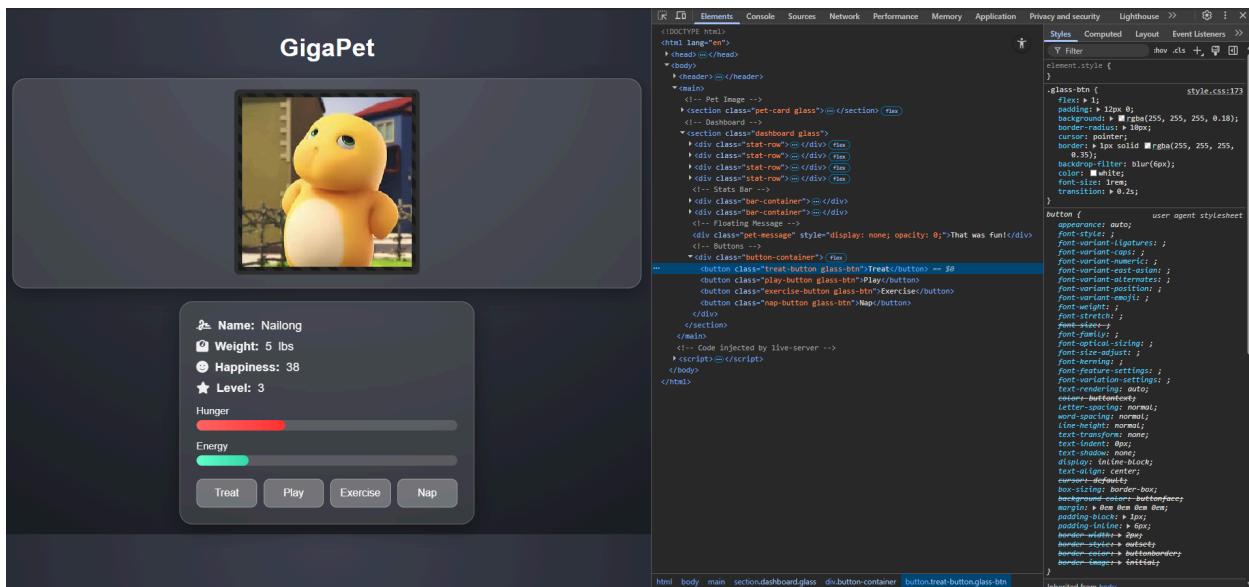
- 1) After identifying the wrong line (`+=` instead of `==`) edit it in the sources panel, save, execute, and test. Then apply actual fix to code.



Part 2: DOM Tools

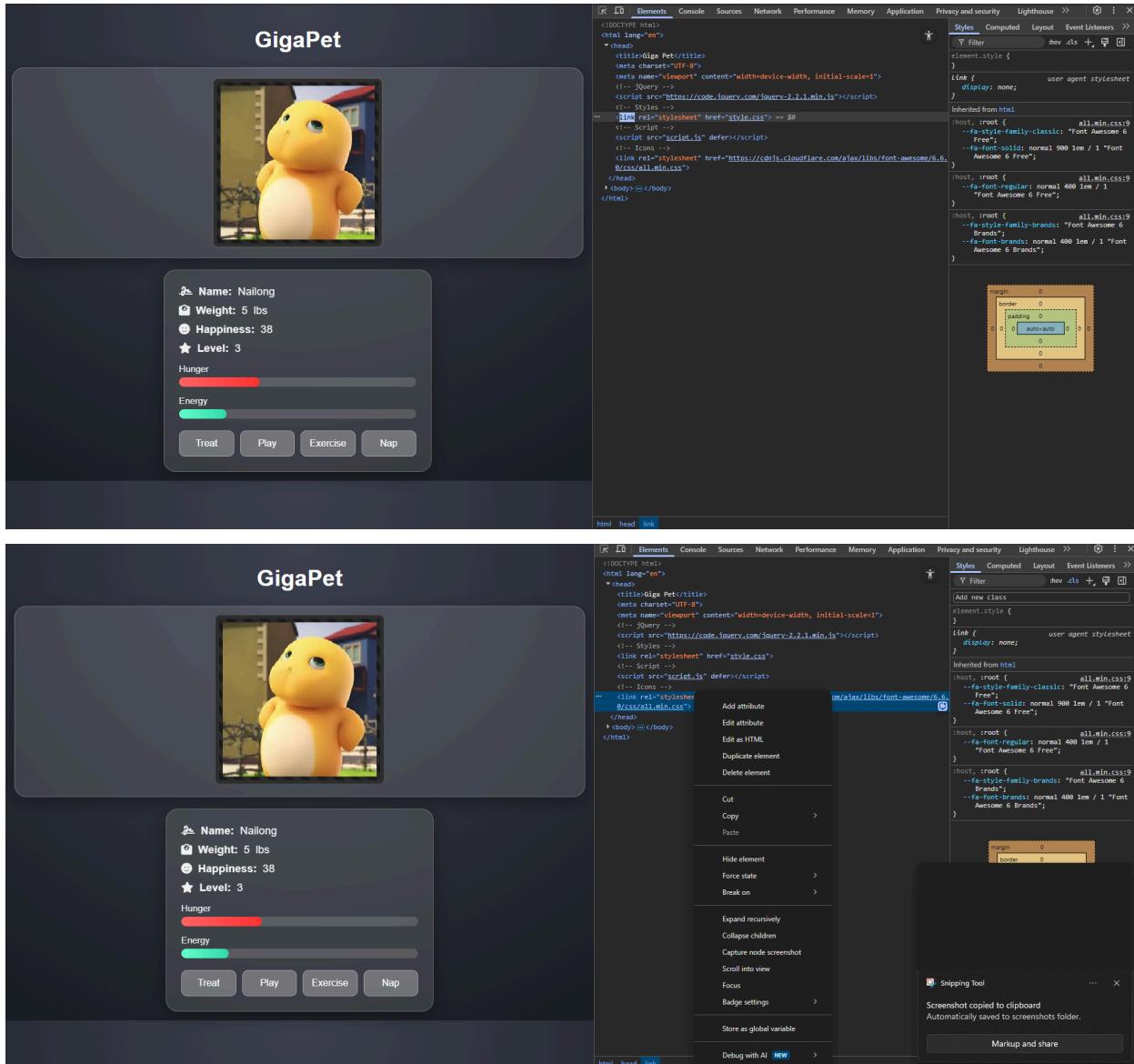
1) Viewing Elements

- 1) Inspect an element then use the arrow keys to navigate the DOM
 - 2) Scroll into view jumps to the location
 - 3) Rulers help visualize spacing
 - 4) Ctrl + f to search for classes or text



2) Edit the DOM

- 1) Edit text by double clicking it
 - 2) Edit attributes (like img or adding a title)
 - 3) Change tag type by double clicking the name of the tag
 - 4) Edit as HTML for structural changes
 - 5) Duplicate Nodes to test layout ideas
 - 6) Capture node screenshot
 - 7) Drag nodes to reorder
 - 8) Force states like :hover
 - 9) Press H to hide nodes
 - 10) Delete and undo with Delete with $\text{ctrl} + \text{z}$



3) Console Access to Elements

- 1) \$0 refers to the last inspected element in the DOM
- 2) Store elements as global variables (temp1 and temp2)
- 3) Copy JS path to generate a selector

4) Break on DOM Changes

- 1) Right click an element and go to break on
- 2) Then go to attribute modifications, subtree changes, or removal
- 3) It is useful for tracking where updates originate

5) HTML vs DOM

- 1) Index.html never changes while the page runs.
- 2) JS updates the live DOM only
- 3) updatePetInfoInHtml modifies the DOM but not the actual HTML file