

Video Game Design Club – Sprite Design Guide with Adobe Photoshop

Introduction

Welcome to the Sprite Design Guide! In this project, you'll customize the sprites from the Chicken Jumper game using Adobe Photoshop. Sprites are 2D images used for characters, objects, and backgrounds in games. By editing and creating your own sprites, you'll bring your unique style to the game!

Consider focusing on using **low-resolution sprites (72 ppi)** for this project, keeping the game's vintage look while maintaining smooth performance and small file sizes. Or up your resolution to 150, 200 or even 300 if you prefer high resolution graphics (game may run slower).

Step 1: Locate Existing Sprites

1. Open your Chicken Jumper game in **GameMaker Studio**.
 2. Locate the **sprite files** in the **Sprites folder** within GameMaker's files on your computer's harddrive. Locate the folder titled GameMakerProjects/Chicken Jumper/Sprites
 3. Open a pre-existing sprite into **Adobe Photoshop** (e.g. open one of the .png files inside of the spr_chicken folder).
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Step 2: Preparing to Edit the Sprite

Before you begin, it's a good idea to **create a backup copy** of the original sprite in case you want to revert to it later.

1. Create a New Layer for Your Design

- In Photoshop, add a new layer above the original sprite. This allows you to work non-destructively.

2. Delete the Original Design (if needed)

- Use the **Eraser Tool** (shortcut: **E**) to remove parts of the original sprite you want to change.

- You can also select and delete sections using the **Marquee Tool** (M) or the **Lasso Tool** (L).
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Step 3: Designing Your Sprite in Photoshop

For this project, consider sticking to **low-resolution graphics (72 ppi)** to match the style of the Chicken Jumper game. If you choose to create a game with high resolution graphics, you'll need to up the resolution of the file before you begin editing. Create a new document with larger dimensions and resolution or go to **Image>Image Size** and make adjustments.

Basic Tools to Use:

- **Brush Tool** (B) – Draw or paint new elements on your sprite. Adjust the brush size for finer details.
- **Eraser Tool** (E) – Fine-tune the design by erasing unwanted parts.
- **Eyedropper Tool** (I) – Select colors from the sprite or other images.
- **Color Picker** – Click the color swatch at the bottom of the toolbar to choose new colors.

Design Tips:

1. **Keep it Simple** – Small changes like color adjustments or adding new shapes can make a big difference.
 2. **Stay Consistent** – Use similar colors and styles for all the game's elements.
 3. **Add Personality** – Customize the background, landscape, and enemy sprites to fit your theme.
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Step 4: Find Inspiration

Don't hesitate to look for ideas online!

- Use **Google Image Search** to explore sprite designs, game characters, or landscapes.
 - Study how other games create pixel art or low-res designs.
 - Consider sketching out your ideas on paper before creating them in Photoshop.
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Step 5: Save and Export Your Sprites

When you're happy with your design, it's time to save and export it for use in GameMaker.

1. **Save Your Work** – Save the Photoshop file (.psd) in case you want to edit it later.
2. **Export the Sprite:**
 - Go to **File > Save As**
 - Name your file and choose .png format (preserves transparency)
 - Click **Save**, and place the sprite in a dedicated folder.

Step 6: Import Your New Sprites into GameMaker

1. In the **spr_chicken folder**, you'll notice there are four individual sprites that complete the animation of the chicken running.
 2. We need to create 4 or more individual .pngs that add movement to our sprites.
 3. A .png series can consist of a few or even hundreds of images, but we recommend starting with 2-4.
 4. Even a small number of frames can create a convincing animation.
 5. Make sure to **name .pngs sequentially** as GameMaker will need to play through the sprite .pngs in the proper order based on file name.
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Step 7: Import Your New Sprites into GameMaker

Now that your custom sprites are ready, it's time to bring them into the game!

1. Open GameMaker and locate the sprite you want to replace.
 2. Right-click the sprite and choose **"Edit Sprite"**.
 3. Click the **"Import"** button and select all of your custom sprite .pngs.
 4. Test your game to see how it looks!
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Challenge: Create New Sprites

Want to take your game to the next level? Try designing brand-new sprites for:

- **Power-ups or Collectible Items**
 - **New Characters or Enemies**
 - **Custom Backgrounds**
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Final Thoughts

Sprite design is an exciting way to personalize your game and develop your artistic skills. Take your time, experiment with different ideas, and most importantly—have fun! Remember to test your game often and make adjustments as needed.