

## Existing Market Document

- Lospec Pixel Editor (Harry Kim):
  - <https://apps.lospec.com/pixel-editor>
  - Lospec Pixel Editor allows users to draw sprite images with a multitude of tools and size adjustments for these tools as is standard for drawing applications. Advantages for Lospec is that using this editor is pretty intuitive and easy to start a new image, locate and adjust tools, and export the finished product. Lospec also allows users to pick and adjust colors to create their own pallet, though no preset pallets are available. There also exists a “layers” option if you toggle advanced mode in the editor tab which allows users to detail their sprites even further. A disadvantage Lospec presents is that it only has a limited number of tools which are the bare necessities for creating sprites. This includes pen, eraser, eyedrop color picker, fill, select, and movement. You can only make one shape, that of which being a rectangle, with adjustable width and height. Users cannot zoom in or out of the preset size of the canvas to make finer adjustments. There also doesn’t seem to be any shortcuts, or any information on shortcuts anywhere on their splash page or editor, a user can perform so creating sprites may become tedious after a while. Overall the program isn’t bad if users are looking for something simple.
- Photoshop (Adobe, 2021) (Joshua Taylor):
  - The popular imaging manipulation, photoshop, is used frequently to create sprites. There are a great variety of tools in photoshop, which is often overwhelming to newer users. But the generally excent quality of the tools, manipulating sprites in any manner (like transformations) is really effective and easy to polish. It uses a layer system for creating images, allowing the user to experiment with multiple styles without destroying the original image. The layering system includes special layers like masks, and grouping/file mechanics. Photoshop also has ways to animate images and multiple types of export files. The biggest drawback of photoshop is it requires an expensive subscription to use. From the adobe website, photoshop subscription starts at \$20.99 a month (<https://www.adobe.com/products/photoshop.html>).
- BobSprite (Cole Hanson):
  - <https://www.bobsprite.com/editor>
  - BobSprite is a fairly basic web based sprite editor that allows users to draw sprites using a variety of tools. You are also able to utilize layers similar to photoshop, which is very helpful, and the UI is simple so it is easy to get started. The first thing that I noticed was when you start a new project it prompts you with all the instructions and descriptions for each tool that you have to click through before you start drawing. I find this very helpful because it makes it easy to learn what each thing does right off the bat, rather than having to find a help button or hover over the tools to see what they do. One thing I dislike about BobSprite is

how the squares on the canvas were much bigger than the actual pixel size. Lots of sprite editors (such as Lospec) make the squares on the canvas the same size as the pixels so you can be more accurate, however BobSprite does not do this. Overall I think BobSprite benefits from having lots of tools with a fairly basic interface.

- Piskel Sprite Editor (Braden Morfin)

- <https://www.piskelapp.com/p/create/sprite>

- Piskel is a web browser based sprite editor that has a lot of cool features. You can change the color as well as size of the pixels you are drawing, fill the background to a specified color, create rectangles and circles using special tools, mirror your pen drawing across the y-axis, resize the canvas (width and height in pixels), erase using an erase tool, upload images for your sprite and download the sprite you have made, perform transformations like rotations and reflections via tools, a slider to preview your sprite at the specified fps, and much more. These were the features that were apparent after messing around with the application for a couple minutes. A small but useful feature is when you hover your mouse over a tool it displays the name of the tool and gives a brief description of what the tool does. There is also a useful icon that when clicked displays all of the keyboard shortcuts and what they do. There doesn't seem to be a clear all tool which is a bit annoying. While being able to make rectangles and circles is a nice tool, more shapes would be useful. The shortcuts and buttons that display and tell you what they do are very nice and could save a lot of tedious button clicks and mouse movement. You can zoom in or out using the mouse scroll which is a nice feature. Overall Piskel has a lot of nice features and tools to create and edit simple sprites.

- Pixlr X (Cory Theel)

- <https://pixlr.com/x/#editor>

- Pixlr is a web based photo editor with many basic features. In addition to a brush and eraser tool, Pixlr has a shape tool, which can draw a rectangle, circle, triangle, star, heart, and line. You can also zoom into images by scrolling the mouse wheel, so small sprites are easier to edit. Pixlr also has effects that you can apply to the sprite to easily edit its appearance. These include everything from simple color filters to a weird one called mozak that makes the picture look like it's made up of triangular pixels. However, one thing that is problematic about Pixlr is that the layout of tools is not intuitive. Many effects were split up into multiple tabs that made it tough to figure out exactly where one would be. Another problem with Pixlr is that once you choose a canvas size, you are unable to resize it without making a completely new project. A resize button is pretty universal, so its absence can cause a lot of confusion.