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Draw a Webpage Project Report

Problem, Goals and Justification

There are several programs out there on the internet that give developers an intuitive GUI to help them create a webpage. Unfortunately, most of these applications such as Wix.com are not free and require the user to pay to even try out their full application. This can get rather costly for programmers just starting out creating webpages. The purpose of this project is to give novice computer programmers a free application to help create a basic webpage that can then be edited further. This will provide the novice programmer with the core HTML, CSS, and simple text and images as a starting point.

In developing the approach for this project, one key factor was how to make an application that could be used by anyone with a modern computer. This meant that the application had to be modular enough to not require a lot of dependencies with other programs and libraries. It would also be best if it was cross-platform. After a bit of research, it was decided that a browser-based application was the most effective way to get the program to as many users as possible.

Approach

The next step was to figure out what development tools and resources should be used. This required even more research since at this time I was a novice web developer myself and hadn’t used the standard web coding languages (HTML, CSS, and JavaScript) at all beforehand. After some searching, it was evident that this application was going to need to use some outside JavaScript libraries in order to make the product as fluid as possible. This research led to the discovery of the Konva library.

Konva is an HTML5 JavaScript framework that extends the uses of the HTML canvas’s interactivity for desktop and mobile applications. This library enables animations, transitions, node nesting, layering, filtering, caching, and event handling on the canvas “stage.” It allows the use of event listeners on individual objects (shapes) on the stage, so they can be interacted with and manipulated individually or as a group. This was perfect for the “drawing” aspect of this project.

Another library that was used later in the project was the Colors JS library. I found this library on GitHub and used it purely to keep color specifications in the source code more legible, using color names like “red” rather than hex codes like, “#FF0000.” With minor changes to the code, this library could be dropped if keeping it as a dependency turned out to be a problem.

Product Description

While several experiments were done, and dropped, along the way, the final application consists of three “code” files (index.html, sidebar.css, and sidebar.js), plus a directory of icons, all of which reside under the src folder. There are also some unused files in the src directory (canvas.js and shape.js) that were determined to unnecessarily complicate the application. These unused files were retained since this class requires that all work be shown. There is also another folder under src called test which was used solely for experimenting with how to write in HTML, CSS, and JavaScript. The icons folder in the src directory holds all the icons that were used in the application, mainly for the buttons under the Toolbar menu tab within the application. All the documentation for the application is stored under the docs folder for organizational purposes. This includes the initial designs, the starting plans for the application, and the weekly updates. It also includes end-of-project documents such as a presentation, a user manual, a description of sources used (README.txt), and this project report.