Software Engineering: JavaScript and React Utilization for Startups

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ABSTRACT

RevArt, a Charlottesville-based startup art company, strived to change the art market by allowing artists and companies a medium of exchange where communication and transactions were significantly easier compared to the traditional art market. As an intern, I assisted the RevArt team with various JavaScript and React elements that users would see upon login. My solution utilized Visual Studio Code and GitHub to provide through numerous user interface (UI) design choices and function calls for the login website through Visual Studio Code and GitHub. I found that React had many elements which made my UI changes significantly easier than using HTML elements, and React elements such as the Ant Design (ANTD) library made the elements I altered visually pleasing to users. To fully complete my work, I would polish certain UI elements and conduct further testing.

1. INTRODUCTION

Finding employment between positions is always an extremely worrisome and stressful period in one's life. Artists are no different when it comes to finding those to purchase their artwork, whether it is individuals or companies. In fact, artists on average find themselves struggling to obtain consistent positions compared to other career fields. They have an extremely hard time getting into contact with various corporations to advertise their art, as artists typically do not possess the connections to truly allow their work to shine in various corporations. Often, artists would have to go out of their way to create their own websites to promote their art.

Artists learning how to create their own website is an extreme hassle and that takes time away from their artwork.

Contrariwise, companies requiring large amounts of artwork to decorate various facilities also struggle to find artists. Artists receiving these requests are overwhelmed at the number of artworks required. This then leads to burnt-out artists and a more skewed art market for those who have had contracts with brands in the past.

RevArt strived to change the art market completely by allowing artists to simply worry about uploading their art to RevArt's database site. Upon an account creation, the artists would see an intuitive UI. From this login, artists could see sections where they could upload their artwork, look at the purchases made to companies, and update their portfolio for future employers. Not only did RevArt help with artists, but they also helped with companies in search of artists. RevArt employees would take artists' portfolios to a wide range of companies seeking artwork for a multitude of projects. Or, if a company is

wanting to look for artists purely on their own, RevArt provides an option for doing so through the website's AI artwork search.

2. RELATED WORKS

My internship work was inspired by the issues presented by Sylvain Levy regarding the traditional art market. He proposed that speed is a huge factor in the art market today, which was less prevalent until recently. However, this emphasis on speed comes at the cost of the overall quality of the artwork. He also proposed that there is a conflict of interest between the aim of growing new artists and the interests of traditional art fanatics, with the wealth being centered around those with more traditional tastes (Levy, 2022). My internship work addresses these issues by allowing the artists to focus on their work while negotiations are made for the artists' pieces, ensuring that they receive payment.

Patti Pan addresses these concerns of Levy's on RevArt's "About" page, specifying why the company was formed in the first place. She stated the extreme difficulty of finding artists that fit with projects from the industry she was working in at the time (Pan, 2020). Pan hoped to democratize the art industry moving forward.

3. PROCESS DESIGN

The work I had performed at RevArt consisted of reworking many elements of the UI to allow artists to understand the navigation of the website more easily. Specifically, I worked on the Smart Art Manager (SmART) profile that all users are shown when signing onto RevArt and many of the elements present in this SmART profile. The SmART profile contained a side ribbon where users could access the many elements of their account, as seen in Figure 1. I worked on most of the elements contained in this list and reorganized the contents and labels of the list itself many times over during my internship.

Figure 1: Side Ribbon from SmArt Page
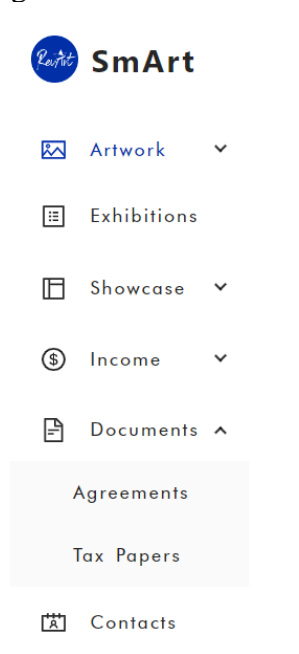
All these elements that I modified came about from discussions during numerous meetings with the company employees and fellow interns about the current direction of my work and what needed to be done. Visual indicators of what I needed to change were provided to me through Figma, an online UI design tool enabling any user to create various web designs. These Figma diagrams, drawn by employees, provided essential features and what they should look like. I took the information from all these drawings and utilized my newfound skills in JavaScript coding to implement these visual changes on my local environment. I modified the code by adding or rearranging elements, functions, or icons to fit the design decisions of supervisors to create a better-looking application overall.

Another element of the SmArt page I had to resolve was the notification system, for which I took preexisting elements from the previous notification system to make it more intuitive for users. This was done by adding functionality to mark a single message as read

and by indicating which messages were unread with a dot icon that I used from the ANTD library. My design resembled that of Figure 2, with all currently unread messages showing up in the notification center.

Figure 2: Notification Center
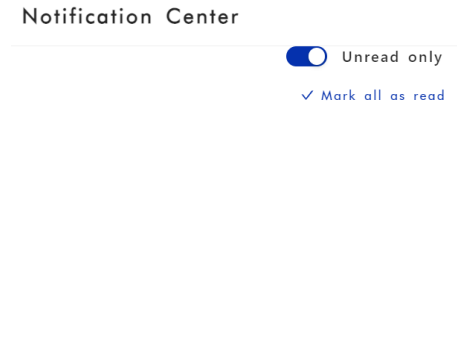
Unfortunately, I was unable to complete all the tasks assigned to me during this period. Most notably, the contents underneath the "Income" tab from Figure 1 were left unfinished due to the challenges presented to me during the semester, along with my internship ending around the time I was assigned the task.

4. RESULTS
The results of my work with this internship led to the SmART interface becoming more user-friendly. Previously, a user would be completely confused about where all their login information would reside, as the side ribbon contained a "My Profile" and a "My Account" label, both of which contained vastly different contents. However, all related confusion was eliminated with the UI changes I implemented, relegating both labels to a more formal profile image on the top right of the SmART page. Moreover, to reduce user confusion while navigating the website, I changed the "Cancel Account" label from the side ribbon as seen in Figure 1 to a link that redirects to a different form page when scrolling down to "My Account".

5. CONCLUSION
The work that I did at RevArt gave me lots of insight into how software development can vastly change the market for specific industries, like the art industry. Along with this impact on markets, during development I learned that there are many moving parts that goes into creating such a successful company. For everything that everyone did, there was always a discussion about the intuitive nature of our work and if it truly made sense for users. This discussion absolutely helped with ensuring that all the changes I made helped push the website to be even more accessible for all users. Personally, I was able to develop my software development skills with JavaScript and React along with the knowledge of how web-based development is conducted in a startup environment.

6. FUTURE WORK
JavaScript and React are great tools to begin a website, along with introducing a new way to conduct business to markets that still struggle to include some online component to them. Those with the ability to seamlessly integrate software development into these industries will find great success. I will certainly be researching the kinds of industries that can utilize my newfound skills with software, UI, and web development.

REFERENCES
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