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Technicolor

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Abstract

TechniColor caters to the unique needs of women of color pursuing technology by providing user profiles, coding tutorials, and information about other women of color in the technology field in the accessible format of a web application that can be used on a mobile device. The expected impact of TechniColor is to make the girls who use it feel supported and as if they have valuable social support, role models, and informational resources to continue to pursue STEM. Support and representation are the basis for continuation in many aspects of life, notably in fields of high rigor. Women of Color are underrepresented in many fields especially in those that revolve around the sciences, technology, engineering, and mathematics (STEM). The intersectionality of being a woman of color brings a unique perspective and struggle that requires nurturing to facilitate success in fields where they are the minority. Many technology applications either focus on being a resource for technologists, or on creating a support network for a singular identity. This project raises the interest levels of the girls, aged 13-17, who want to pursue STEM fields. As well as, pursue the girls who need support and mentorship from women who have paved the way before them. These girls are able to create their own user account and track the progress that they have made on different coding languages. Alongside their progress they have the opportunity to explore women of color who are in the technology field. The women who are featured are chosen from a variety of backgrounds and industries and their pages are manually maintained by myself. TechniColor is developed using PHP, Javascript, HTML, CSS, and a MySQL database with a database management system of PHPMyAdmin.

1. Introduction

The project is about women of color in technology and making information about their careers more accessible to girls of color with an interest in pursuing technology/ STEM careers. The structure of the project is webpages of interactive and informative sub sections, learn about different women of color in the technology field and possibly engage in an activity, such as coding to see if a person wants to go into the field. It will look like an interface to learn new basic technology skills and learn about a woman of color in the field.

Being a woman of color in technology is a role that misunderstood and misrepresented. Throughout the years there have been minimal women, especially those of color, in the technology field or in positions of high rank. Those that do work in these fields have less name recognition and visibility, than their peers. Minimal representation is not what is strived for the girls of the next generation, these aspiring technologists need to see and know about women who look like them in roles they want. Representation matters, especially in the end game when it comes down to deciding to continue your passion or to leave because of lack of support.

Women of color are in an interesting position being an intersection of two marginalized communities. They must navigate society's gender expectations and society's racial stereotypes. This means that resources for them need to be curated in a way that is different from the category of generalized women and different from those that are just for people of color or technologists.

The stakeholders of this project are everyone, in and outside of the technology field. The project may be catered to women of color who are in or trying to come into the technology field, but the algorithms that these women make are beneficial to everyone. The teams these women are on also get a different perspective and a valuable contribution.

2. Background

There are several existing resources for women to learn to code and to learn about the technology field, but there is one caveat; These resources are not specifically for just women of color, they are more generalized to women as a whole. The intersectionality of their identities is what creates a larger gap in education, resources, and success amongst women of color. Their White counterparts have a greater exposure to higher education, technology, and representation in many of the fields they want to pursue, which gives them the motivation and opportunity to succeed in the fields. However, many women of color do not possess the resources, funding, or representation to feel supported, let alone wanted in their fields. The perception of lacking support or feeling unwanted due to visible lack of representation, deters these women and girls from fully pursuing these fields as a career. Exposure to technology, coding, and mentorship both in and outside of the classroom can raise interest and foster professional development.

3. Project Description

TechniColor caters to the unique needs of women of color pursuing technology by providing user profiles, coding tutorials, and information about other women of color in the technology field in the accessible format of a web application that can be used on a mobile device.
TechniColor is a web application that is also accessible by mobile device. There is an achievement system that gives virtual awards or points when users finish a tutorial. This function works similar to w3schools and Codecademy's code tutorials.

4. Requirements/Specifications

4.1 Design and Required Resources

TechniColor is developed using PHP, Javascript, HTML, CSS, and a MySQL database with a database management system of PHPMyAdmin. The database will store all user information along with their progress inside their coding tutorials. It can be invoked on any mobile device with the latest iOS or a computer that is compatible with the following specifications:

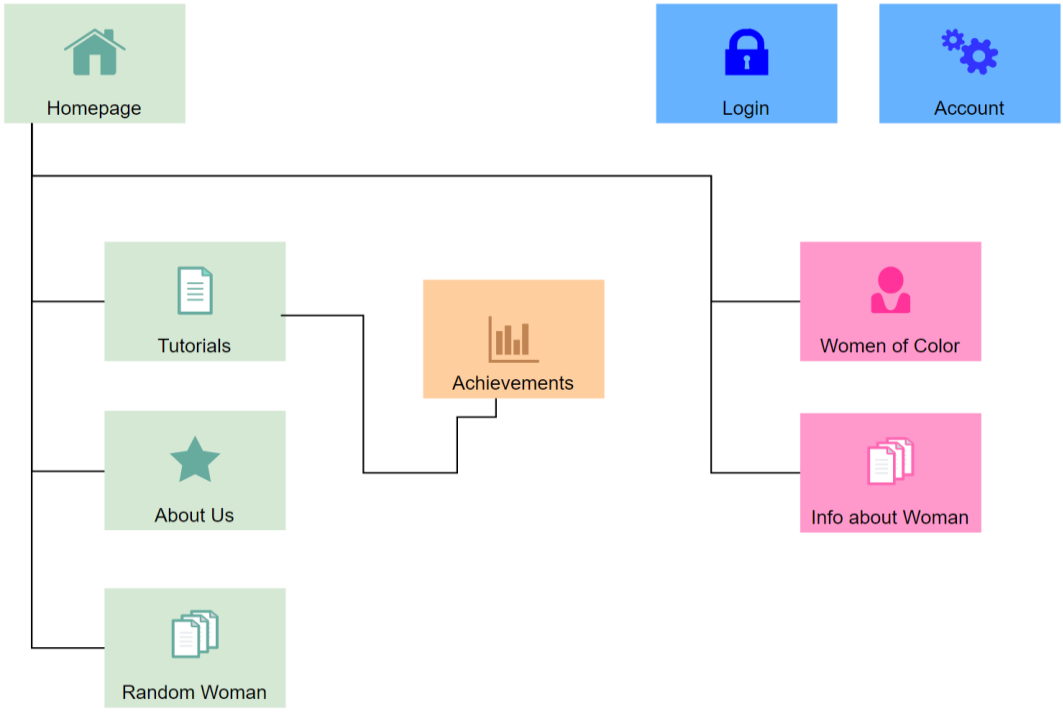
PC:
Windows 7, Windows 8, Windows 8.1, Windows 10 or later
An Intel Pentium 4 processor or later that's SSE3 capable

Mac:
OS X El Capitan 10.11 or later

Linux:
64-bit Ubuntu 14.04+, Debian 8+, openSUSE 13.3+, or Fedora Linux 24+
An Intel Pentium 4 processor or later that's SSE3 capable

The homepage of Technicolor links to different women for the users to explore. This was created specifically to show representation of women of color in the technology field as a prominent goal and not something underlying. There is also a navigation bar that will link the user to a random woman, the about page, or the tutorials page. The random woman feature allows the girls to be able to learn about a woman they may not have heard of before and be able to explore more about them. This appeals to the girls using it by making it seem less like learning and more like a surprise fun fact, or if they have no idea where to start they can feel less pressured to choose. The tutorials lead to the user's achievements and completed tutorials. If the user decides to click on a thumbnail of a woman or go to a random woman's page they will find information about her. The achievements that a user receives is a little notification and indicator on their page to show that they completed a tutorial or task. This reassures the users that they are doing good

and promote positive self-talk instead of negative self-talk. It also can be a physical indicator for the user that they are capable of moving along in STEM.



5. Conclusion

Women of Color are commonly marginalized and misrepresented in several fields that are predominantly White male, such as, technology fields. The key culprit of this reality is the lack of resources and support for the women, this project is a stepping stone to a solution. Through a mobile friendly web-based application that educates based on the specific needs of women of color.
It is expected that Technicolor can become a tool for young women coming into the technology field and educate them in programming basics, as well as giving them role models in the field.

6. References

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