CS 418 Web Programming Extra Credit Project 1

Dontavus Riddick
Old Dominion University
Department of Computer Science
Norfolk, VA 23508
Dridd013@odu.edu

ABSTRACT

In this report, I'll describe the procedure I took to complete an additional project to my semester assignment of making a social media website. To explain the type of website that I have built is that is has similar functionality to the web app Slack. If you are not too familiar with Slack, the functionality is that users can communicate in different groups called channels and share text, files, pictures, and computer code. Each user has log in credentials consisting of a username and password where upon entering the user will be granted access into the website to chat with others. This is the main required process in order to access website content for millions of webpages. In today's time, it has become necessary to implement extra security and identity verification. My additional project was to implement a feature that would verify the user's identity called Two Factor Authentication. Implementing the Two Factor Authentication into my code for the social media had a simple process. I will be sharing my process in three steps which was research, implementation, and demonstration. In the research section I explain what I looked up, how to do the things necessary to complete this project. In the implementation part, I walk through the steps I took from what I researched. In the demonstration is where the steps are explained in a live setting.

CCS Concepts

• **Web Development** → **Database management system engines**
• **Programming Languages** → **HTML, CSS, and jQuery.**

Keywords

OpenSearch; Two Factor Authentication (2FA); YouTube; phpMyAdmin; query; SQL; QR code; reCAPTHA;

1. INTRODUCTION

The Internet can have many means of communication and limited security. As I incorporated the Two Factor Authentication into my website, I see why features like Two Factor Authentication are useful in today's online society. It is very common for users to have their accounts hacked into by unknown cyber perpetrators and predators. Two Factor Authentication is used because of the protection it provides against attacks like hacking into accounts. Out of a few suggestions for an additional project to use, this leads me to sharing how I researched, implemented, and demonstrated the Two Factor Authentication project.

2. TWO FACTOR AUTHENTICATION

Ever logged into a webpage and the username and password wasn't enough? Did the next page ask for confirmation that the user was human in order to proceed? Authentication like this Implementing something similar, I can now explain what this is and why it is important. The The Two Factor Authentication is like the reCAPTHA feature, which is described earlier, where the user is to confirm is there are in fact living and breathing. These two features are similar because they both add security making sure the user is in fact who the user seems to be. The thin difference is when the Two Factor Authentication is used to verify identity in a more personal way, through the use of mobile devices or email instead of selecting matching images. I had to explain the difference because the when it comes down to the research of how to do the project it is easy to think the implementation is similar as well.

2.1 RESEARCH

I was uncertain on how to start this project of authentication, so I took to the internet. I found a video off the world-famous video sharing YouTube. The content creator's name was MyPHPNotes whose video helped. The video was a tutorial of how to implement an 2FA system using Google Authenticator, an account security mobile app. Furthermore, MyPHPNote posted a link to the source code from their website in the video description which is common for YouTube tutorials. This person explained why he used Google products to fulfill something as secure insuring as this saying Google is one of the top information companies (Turki, 2017). I also was happy to see that the app was free to download in order to complete what I was going to be building.

2.2 IMPLEMENTATION

Implementing this feature, I created 3 new PHP files; authenticator, authentic, and check. I will talk about the features embedded into these files. In authenticator, many functions are declared to be used in authentic and check. The authenticator file is where everything is defined from how the QR code is generated to the passcode received on the user's cellular device. The authentic file is the landing page of where the QR code will be after entering user credentials. From this page the user is prompted to scan the QR code with their device and enter the six- digit pin that is provide into the page. The six-digit pin is to reset every 30 seconds which is in check by the check.php file.

2.3 DEMONSTRATION

In Figure 1 is a screen shot of the login screen. The user is prompted to enter their credentials on this page and if the credentials are correct, the screen will be sent to authentic.php where the user is now prompted to scan the QR Code. Once the user has scanned the QR code like the in Figure 2, the user will be sent to the main landing page.
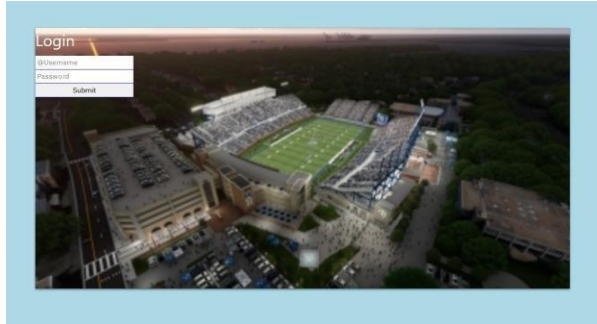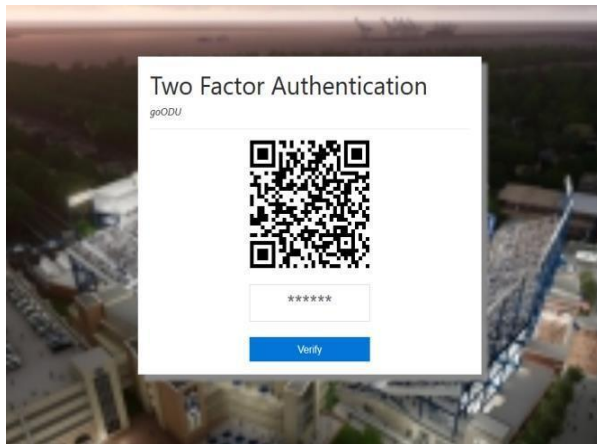

Figure 1: Login Screen

Figure 2: QRCode on authentic.php

3. FIGURES/CAPTIONS

Figure 1: Login Screen
Figure 2: QRCode on authentic.php

4. CONCLUSION

I noticed that in finishing the requirements of the different milestones and finishing these extra credit projects that it is amazing the effort that goes into the social media sites users seem to abuse. This assignment helped me see why as developers we want the user to be compelled by the aesthetics, functionality, and security of what we create. There is nothing as a developer I would change concerning the execution of these two projects. The reason why I used YouTube heavily was due to the time I had to get this complete. YouTube served as a tutor and instructor.

5. ACKNOWLEDGMENTS

Thanks to Dr. Justin Brunelle for being so kind and for showing grace, allowing me an extension. I would also like to thank him for his advice. I'm a better programmer now because of what he showed me about debugging and troubleshooting. I would like to thank the many content creators who made this process that much easier by showing each step in their content. Lastly, I will like to acknowledge friends and family who echoed how I needed to finish this project.

6. REFERNCE

Turki, A. H. (2017, September 21). *Intergrating Google Authenticator into your Custom PHP Project*. Retrieved from myPHPnotes: https://www.myphpnotes.com/post/integrating-google- authenticator-into-your-custom-php-project