U.S. CYBER RANGE WEBSITE

CS 4624 - Multimedia, Hypertext, and Information Access
Dr. Edward Fox
Virginia Tech, Blacksburg VA 24061
December 14, 2021

TRENTON DEEL, AIDEN ENGLAND, MATTHEW ROGERS, VIKRAMADITYA PRATHA

PROJECT REFRESHER

CUSTOM THEME STRUCTURE

HOW CLIENT USES IT

FUTURE WORK

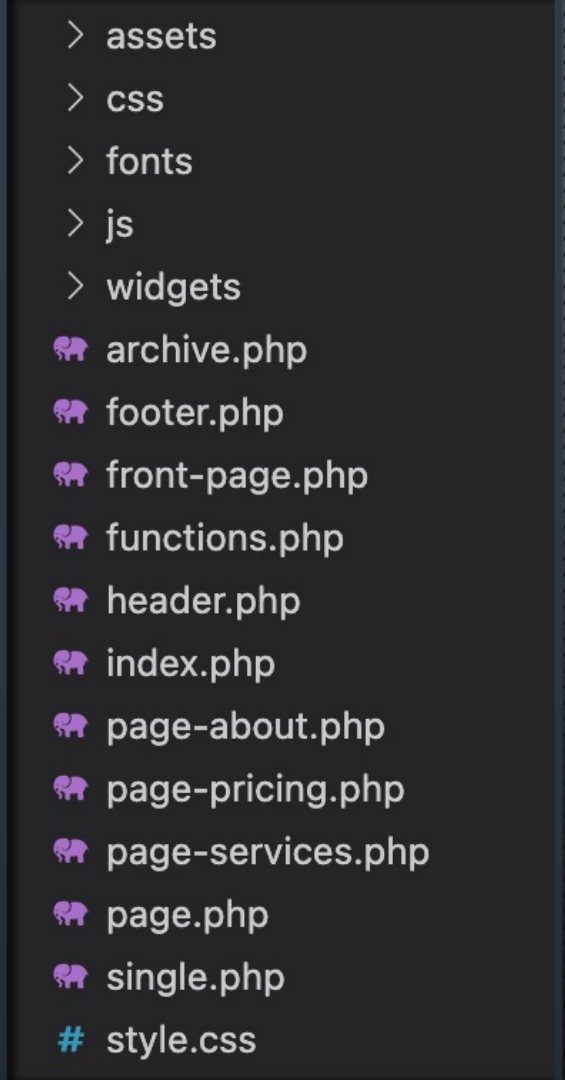
LESSONS LEARNED

ACKNOWLEDGE MENTS

OUTLINE

PROJECT REFRESHER

- U.S. Cyber Range website redesign
- Collaboration with FourDesign team
- Site will be client Maintainable



CUSTOM THEME

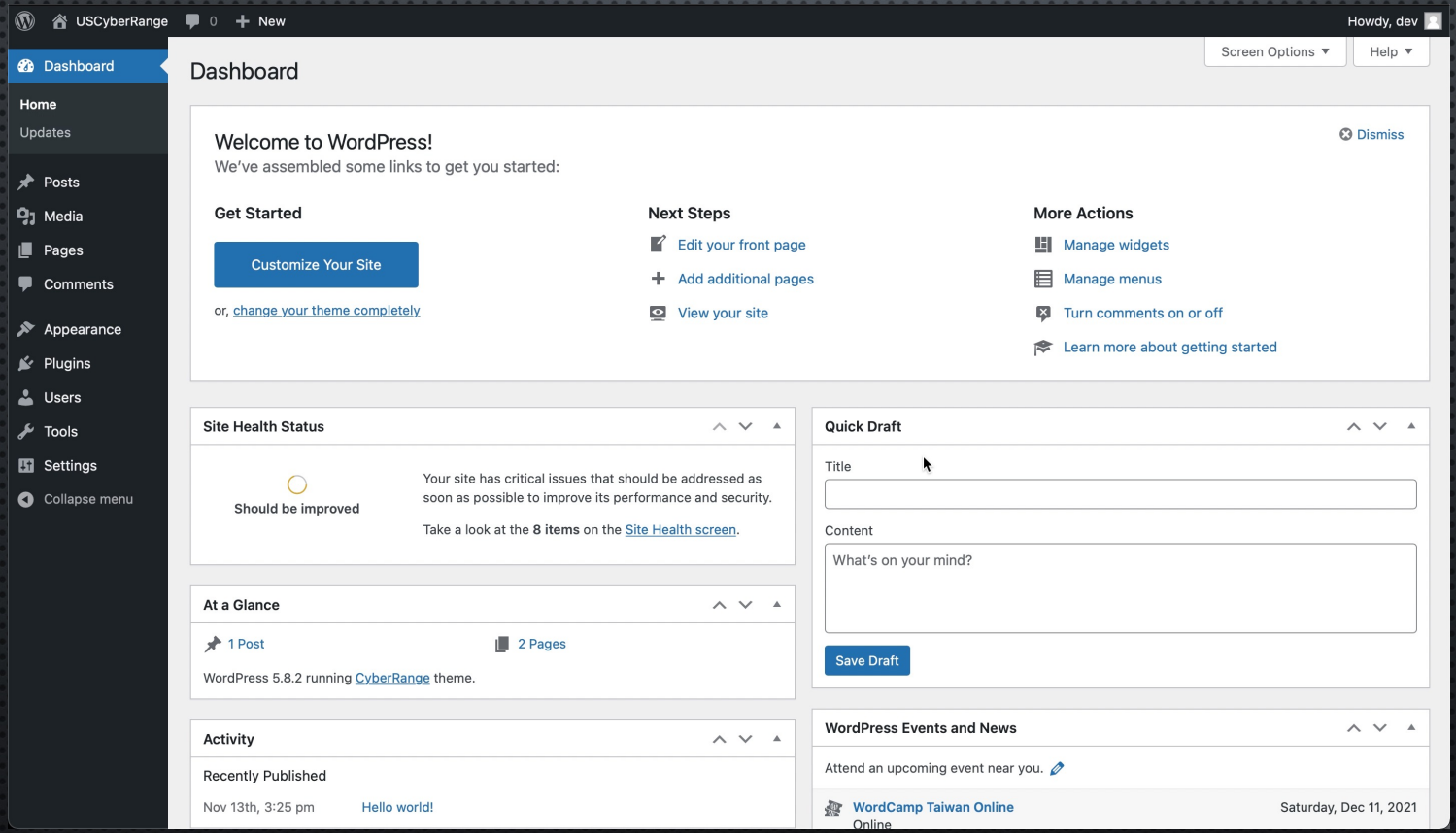
- MAIN DELIVERABLE TO CLIENT
- CONSISTS OF
  - WORDPRESS OVERHEAD
  - PAGE TEMPLATES
  - WIDGETS
  - ACCOMPANING CSS/JS FILES

WIDGETS/WIDGET AREAS

```php
<?php get_header(); ?>
<div class="about_page">
<div class="container page-title">
<?php dynamic_sidebar('about-title-widgetarea') ?>
</div>

<?php dynamic_sidebar('about-description-widgetarea');
```

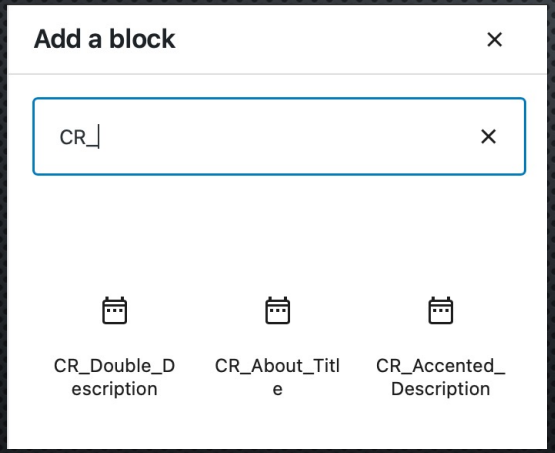
```php
class CRAboutTitle_Widget extends WP_Widget {

    /**
     * Register widget with WordPress.
     */
    public function __construct() {…
    }

    /**
     * Front-end display of widget.
     *
     * @see WP_Widget::widget()
     *
     * @param array $args     Widget arguments.
     * @param array $instance Saved values from database.
     */
    public function widget( $args, $instance ) {…
    }

    /**
     * Back-end widget form.
     *
     * @see WP_Widget::form()
     *
     * @param array $instance Previously saved values from database.
     */
    public function form( $instance ) {…
    <?php
    }

    /**
     * Sanitize widget form values as they are saved.
     *
     * @see WP_Widget::update()
     *
     * @param array $new_instance Values just sent to be saved.
     * @param array $old_instance Previously saved values from database.
     *
     * @return array Updated safe values to be saved.
     */
    public function update( $new_instance, $old_instance ) {…
    }
```

SAMPLE USE CASE

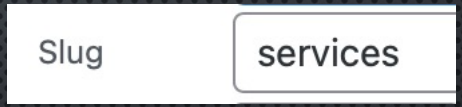


FURTHER CUSTOMIZATION OPTIONS

Some of the custom widgets created shown on the WordPress dashboard



A snippet, from the WordPress dashboard, of using the services template that we created.

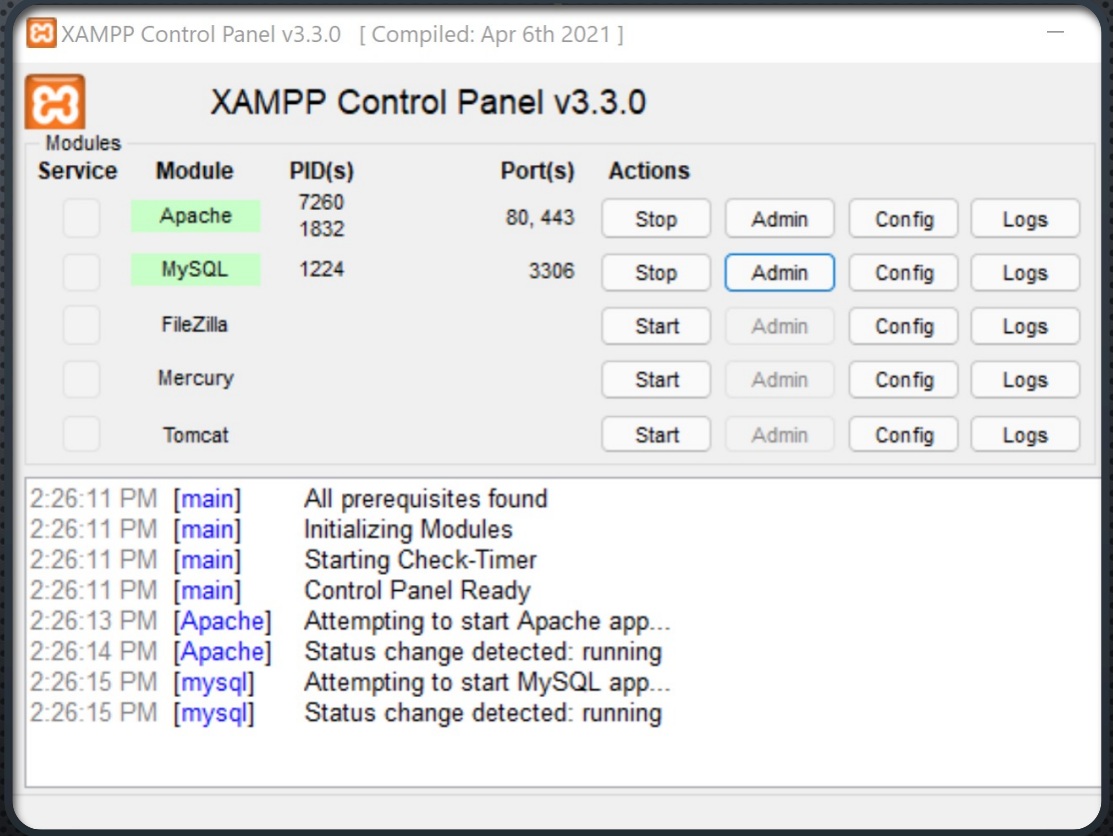


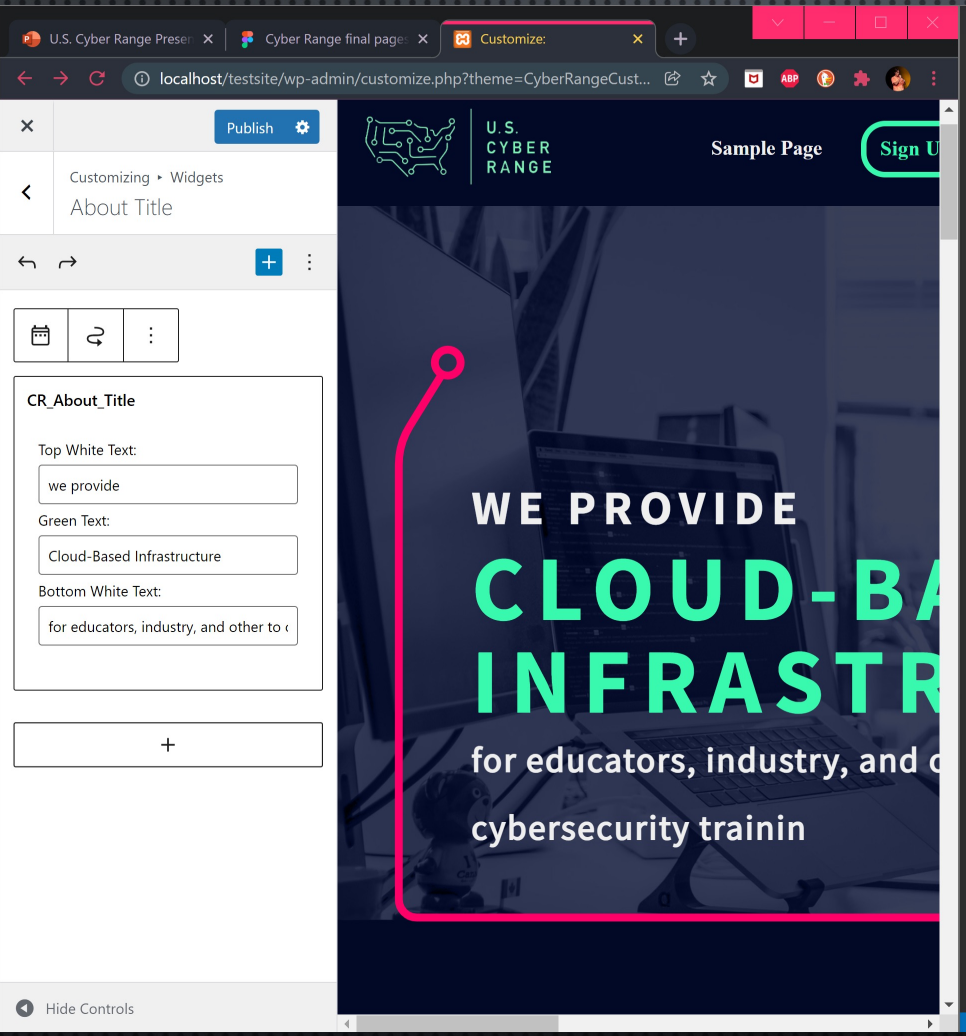
INDEPENDENT DEVELOPMENT

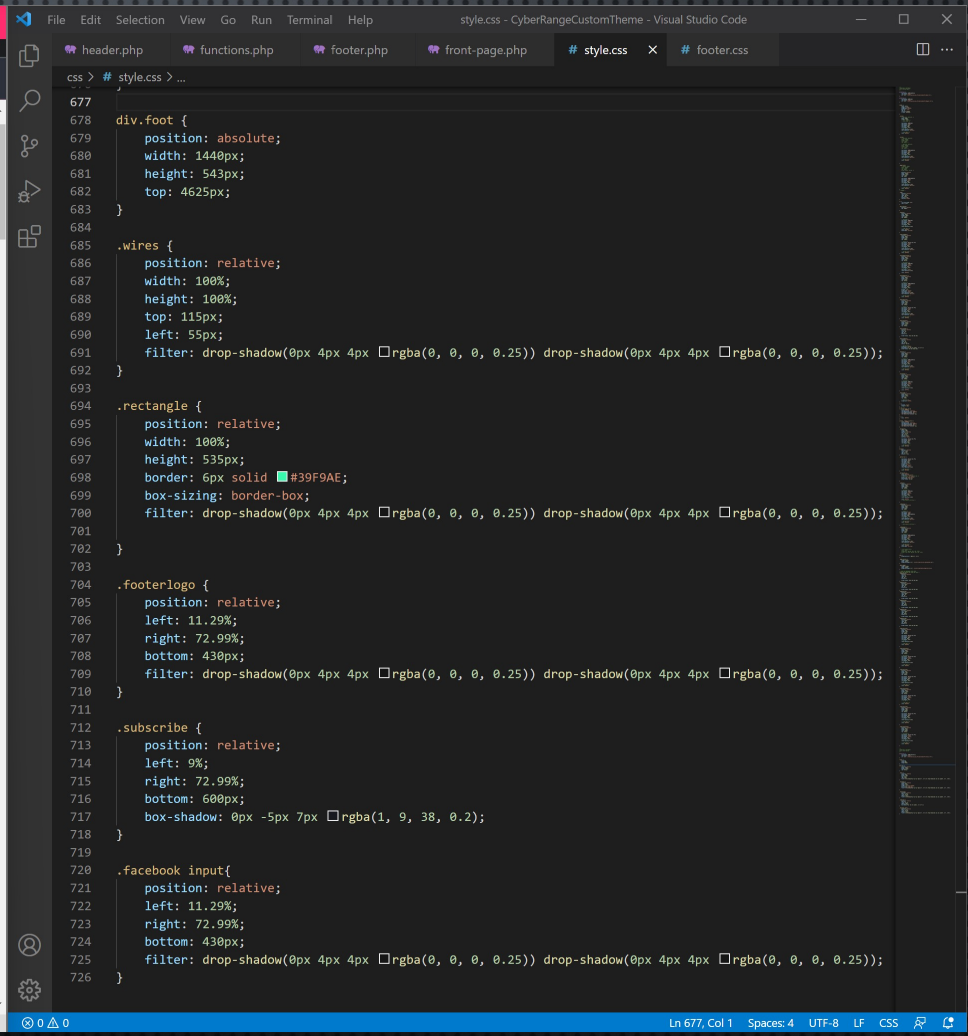
- CLIENT UNABLE TO PROVIDE HOSTING ENVIRONMENT IN TIMEFRAME – COULDN'T GET AN ENVIRONMENT FOR US IN A TIMELY MANNER
- RUNNING AN INSTANCE OF WORDPRESS THROUGH XAMPP RUNNING MYSQL AND APACHE CONCURRENTLY

XAMPP DASHBOARD

- XAMPP IS AN APACHE DISTRIBUTION THAT INCLUDES PHP, PERL, AND MYSQL FOR EASE OF DEVELOPMENT WORKSPACE SETUP AND MANAGEMENT




U.S. Cyber Range Preser
Cyber Range final page
Customize:
localhost/testsite/wp-admin/customize.php?theme=CyberRangeCust...
Publish
Customizing ▸ Widgets
About Title
CR_About_Title
Top White Text:
we provide
Green Text:
Cloud-Based Infrastructure
Bottom White Text:
for educators, industry, and other to
Hide Controls
U.S. CYBER RANGE
Sample Page
Sign U
WE PROVIDE
CLOUD-BA
INFRASTR
for educators, industry, and c
cybersecurity trainin


File Edit Selection View Go Run Terminal Help
style.css - CyberRangeCustomTheme - Visual Studio Code
header.php
functions.php
footer.php
front-page.php
style.css
footer.css
css > style.css > ...
677 /*
678 div.foot {
679 position: absolute;
680 width: 1440px;
681 height: 543px;
682 top: 4625px;
683 }
684
685 .wires {
686 position: relative;
687 width: 100%;
688 height: 100%;
689 top: 115px;
690 left: 55px;
691 filter: drop-shadow(0px 4px 4px rgba(0, 0, 0, 0.25)) drop-shadow(0px 4px 4px rgba(0, 0, 0, 0.25));
692 }
693
694 .rectangle {
695 position: relative;
696 width: 100%;
697 height: 535px;
698 border: 6px solid #39F9AE;
699 box-sizing: border-box;
700 filter: drop-shadow(0px 4px 4px rgba(0, 0, 0, 0.25)) drop-shadow(0px 4px 4px rgba(0, 0, 0, 0.25));
701
702 }
703
704 .footerlogo {
705 position: relative;
706 left: 11.29%;
707 right: 72.99%;
708 bottom: 430px;
709 filter: drop-shadow(0px 4px 4px rgba(0, 0, 0, 0.25)) drop-shadow(0px 4px 4px rgba(0, 0, 0, 0.25));
710 }
711
712 .subscribe {
713 position: relative;
714 left: 9%;
715 right: 72.99%;
716 bottom: 600px;
717 box-shadow: 0px -5px 7px rgba(1, 9, 38, 0.2);
718 }
719
720 .facebook input{
721 position: relative;
722 left: 11.29%;
723 right: 72.99%;
724 bottom: 430px;
725 filter: drop-shadow(0px 4px 4px rgba(0, 0, 0, 0.25)) drop-shadow(0px 4px 4px rgba(0, 0, 0, 0.25));
726 }
Ln 677, Col 1 Spaces: 4 UTF-8 LF CSS

FUTURE WORK

- Implement Remaining Site Elements
- Ensure site maintains accessibility standards (WCAG 2.1 Level AA)
- Search Engine Optimization (SEO)
- Implement further revisions as site develops

LESSONS LEARNED

- Time Management and Efficient Scheduling
- Team Communication
- Design Process (Design, Revisions, Approval)

ACKNOWLEDGEMENTS

Jeff Joiner – Leader of Four Design Team

DR. FOX – PROFESSOR

References

- *U.S. Cyber Range of Virginia Tech*. (2019) *About the U.S. Cyber Range*. uscyberrange.org. Retrieved November 11, 2021, from https://www.uscyberrange.org/about.
- "Apache Friends," *Apache Friends RSS*, 2021. [Online]. Available: https://www.apachefriends.org/index.html. [Accessed: 30-Nov-2021].
- *WordPress.org*. Main Page " WordPress Codex. (n.d.). Retrieved December 1, 2021, from https://codex.wordpress.org/Main_Page.
- M. Achour, Betz, et al. "PHP Manual," *php*, 30-Nov-2021. [Online]. Available: https://www.php.net/manual/en/index.php. [Accessed: 30-Nov-2021].

QUESTIONS?