

An abstract graphic on the left side of the slide, consisting of white lines and circles on a dark blue background, resembling a circuit board or a stylized tree structure.

# UATTEND

BY: CODY CAIN

MAJOR: CYBERSECURITY

ADVISOR: DR. HAYES

# THE PROBLEM

- Taking attendance is a time consuming process which takes up the beginning of every class period
- In a post pandemic world, it is important to track attendance outside of academics in order to track exposure to viruses in places like events or conventions
- It can take time for manual attendance records to be updated, so students may not know their true attendance until days or weeks later

# THE SOLUTION: UATTEND

- uAttend is a web-application which tracks user's attendance based on their GPS location or a passcode for the class
- It allows a professor to begin class immediately
- It also allows students and professors to view attendance in real time

The background is a blue gradient with abstract white lines resembling circuit traces or data paths in the corners. The word "DEMONSTRATION" is centered in the upper half of the image.

# DEMONSTRATION

# LANGUAGES, SOFTWARE, AND HARDWARE

- Languages used: PHP, HTML, JavaScript, Bootstrap
- Software used: Visual Studio Code, phpMyAdmin
- Does not required specialized software to run
- Needs a web server but does not have any specific hardware requirements

# BACKGROUND

- I took a few programming classes my freshman year
- I did not encounter any programming in my two years of professional experience working in IT
- In the beginning, my programming knowledge was not sufficient to complete the project without extensive research.

# RESEARCH: APACHE CORDOVA

- Cordova is meant to convert web applications into native applications for mobile devices
- I wanted to use this because it would allow me to write the code once and deploy it on multiple platforms
- I found through a prototype that Cordova was not capable of the database interactions that my project required

## RESEARCH: LARAVEL

- Researched web frameworks to facilitate a web based design
- I chose Laravel because of its ease of database interactions



# RESEARCH: LARAVEL LOGIN SYSTEM

- I began by creating my own login system
- I soon found that Laravel had a built-in which was more powerful and more secure than the one I created

# REQUIREMENTS

- Requirements 14-17 were not completed because they involve push notifications which were not implemented after the project transitioned away from a phone app
- Requirements 21-23 were also not completed because the QR code system is incomplete. The app should be able to accept QR codes but cannot generate them
- All other requirements were met

# CHALLENGES OVERCOME

- The biggest challenge was the large amount of research I had to do
- It was difficult to work on something so far outside of my usual skill-set and sphere of influence
- It was also difficult to overcome my perfectionism to complete the project on time

# TEST PLAN

- The plan was to develop test cases as each major feature is completed
- These test cases were run both when the individual features were completed and when the entire project was complete to ensure everything was still functioning properly
- Once all test cases pass simultaneously testing concluded

# TEST RESULTS

- I found that the queries used in the GPS attendance had broken after some database changes so they were rewritten
- I also found that instructors seeing total attendance of their students was not implemented so I added it

# FUTURE ENHANCEMENTS

- Email system: this includes email notifications for low attendance and options for password reset/recovery
- Ability to use QR codes instead of passcodes
- Ability for instructors to set a custom passcode
- Ability to set all students in a class period to a given status