BYLIGHT

LIGHTING THE PATH - TO INNOVATION

Vocational Horizontal Construction Engineer User Guide

Contents

Horizontal Construction Engineer System Features

By Light's Horizontal Construction Engineer (HCE) Experience is a tool for military recruiters to convert prospects into leads by storing lead contact information if they are within the correct age range. Contact information is stored locally on each system and can be retrieved by recruiters.

While no player is on the system, attract videos are played. These videos were supplied by the Army National Guard and relate to the Horizontal Construction Engineer military occupational specialty.

Players are tasked with demolishing a depreciated military base using a D9R Bulldozer. Points are gained by demolishing buildings and other structures. The experience ends when time runs out. The player's score gets placed into the leaderboard. The leaderboard is displayed after each experience and induces competition between players.
The HCE Experience includes the following features:

- Gameplay is for entertainment and awareness to Horizontal Construction Engineer military occupational specialty at recruiting events. The gameplay induces a taste of the empowerment an HCE operator experiences on the job.

- Lead Generator: Collects and stores contact information for prospects between the ages of 17 and 34.

- The system attracts and holds attention, giving recruiters greater opportunities to interact with prospects/leads.

- The HCE Experience promotes competition. A leaderboard is displayed between each attract video.

Setup and Shutdown

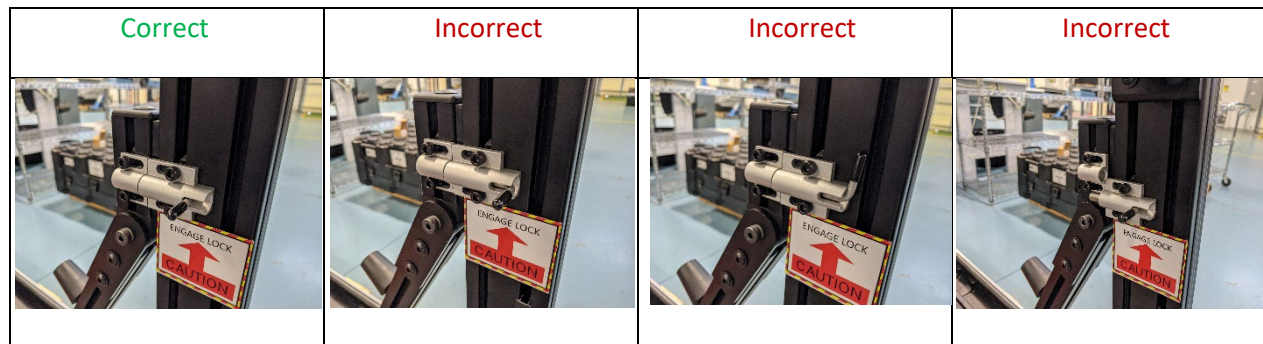Setting up and shutting down the system takes less than 3 minutes and requires no tools.

Setup

To setup the system, follow this procedure:

1. Open the case.
    a. With the system laying on the floor and the "This side up" labels in the correct orientation, unlatch all the case latches.
    b. Mount each case latch to the magnets to hold the latches in place.
    c. Open the case and allow the top section to rest on the restraints.
2. Remove Accessories from case
    a. Lift the foam packing from around the Left and Right Joystick Assemblies, then remove the joysticks from the case. Set the foam and joysticks aside.
    b. Remove the two Joystick Mount Assemblies from the case lid and set aside.
    c. Lift the seat cushion out of the case and set aside.
3. Unfold the secure the stand
    a. Grasp the orange lifting handle and raise the stand assembly to the upright position.
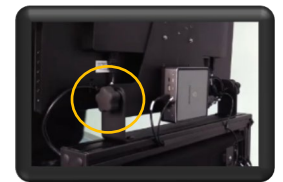
b. While supporting the stand assembly, secure the latch on the left and the latch on the right.

Make sure each latch is properly locked into position.

Correct	Incorrect	Incorrect	Incorrect

4. Setup Monitor
    a. Loosen the locking knobs at the base of the monitor, rotate the touchscreen display to the upright position, and then tighten the locking knobs.

5. Install the seat
    a. Unhook the loop strap, remove the seat pedestal from the case, align the seat pedestal with the seat base and press down firmly until the plastic release tab snaps into place.
    b. Align the seat cushion on the pedestal and press down.
    c. Lift up on the adjustment lever (circled) to adjust the seat position up or down.
6. Install Joysticks
    a. Loosen the locking knobs and align the Joystick Mount Assembly so it is oriented at 90° to the side rail of the frame, with the upper mounting surface pointed to the outside of the case. Install the captive carriage bolt head on the bottom of the joystick Mount Assembly into the track on the side rail, then slide the joystick mount forward while rotating it so the second captive bolt also enters the track. Slide the Joystick Mount Assembly as far forward as it will go, then tighten the locking knobs. Repeat for the second Joystick Mount Assembly.
    b. Align the Left Joystick Assembly so the Dual Lock fasteners line up and the inner edge of the joystick assembly is lined up with the inner edge of the mounting surface. Route the joystick cable down the mount assembly, securing in the cable clamps, and connect to the cable permanently mounted along the edge of the stand frame.
    c. Repeat steps above for right joystick.
7. Power up the system
    a. Plug in the power strip's cable into a power outlet and switch it on. After a few moments, the system will be ready to go.

Shutdown

To shut down the system, follow this procedure:

1. Power Down
    a. Turn off the computer by briefly pressing the power button on the computer. Allow Windows 10 to go through the shutdown process before proceeding.
    b. Turn off the switch on the power supply, unplug, and stow the cable.
2. Fold down monitor
    a. Loosen the knobs at the base of the monitor while holding the monitor in place.
    b. Carefully rotate the monitor back against the frame and tighten the knobs.

    Do not allow the monitor to rotate to quickly as this may cause damage.

3. Remove the Joystick and joystick mounts and set aside.
4. Remove the seat and set aside.
5. Fold down the stand
    a. Unlock the two latches on the left and the right
    b. While holding the orange handle, carefully lower the stand down into the case.

    Do not allow the stand to fold down quickly as this may cause damage.

6. Stow the seat, seat pedestal, joysticks, and joystick mounts into the case.
7. Close the case

    Make sure all accessories are stowed properly and everything is strapped into place.

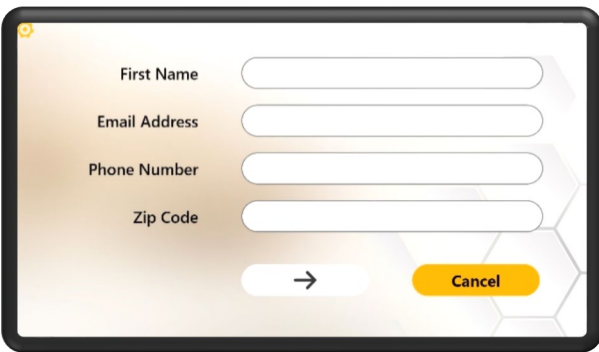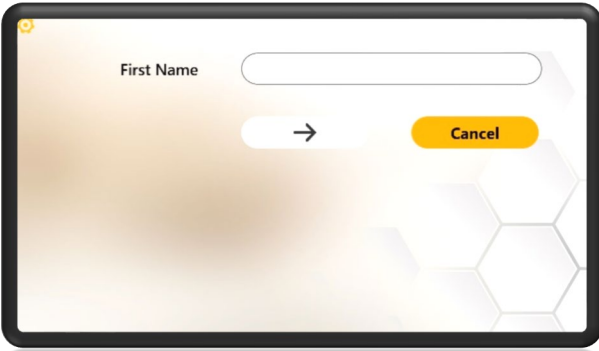   a. Close the lid.
    b. Latch all case latches.

Player Instructions

The following includes instructions on how a player uses the HCE experience from start to finish.

Registration

Once a player touches the monitor, the application will enter registration mode.

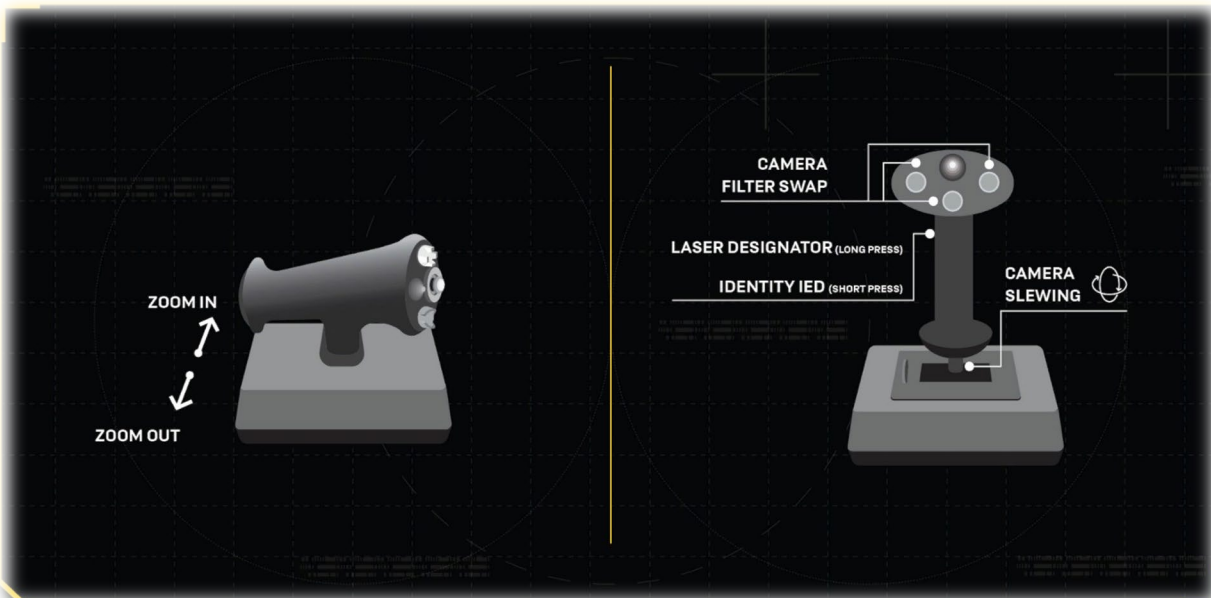|	
Configuration Menu ARE YOU 17 TO 34 YEARS OLD? Yes No Cancel	The player than answers if they are within recruitment age of 17 to 34. *If the Yes and No buttons are not registering properly, please try double tapping the buttons.*
First Name Email Address Phone Number Zip Code → Cancel	If the player answered Yes to the previous question, they must then enter their contact information which includes First Name, Email Address, Phone Number, and Zip Code. Tap inside the text fields to open the virtual keyboard. Use the touch keyboard to enter contact information. The email address field must have "@" and "." characters to allow the user to proceed. Tap "Enter Arrow" to proceed to the experience.
First Name → Cancel	If the player answered No to the previous question, they only need to enter their first name. Tap the text field to open the touch keyboard at the bottom. Tap "Enter Arrow" to proceed to the experience.

Gameplay Instructions

After submitting registration data, the HCE experience will load. Follow the onscreen instructions after the experience has fully loaded. Touch the screen to continue when instructed.

After the introduction story and goal instructions are presented, the player is ready to go. Read the billboard in the player's view to learn the controls.

Use the bulldozer to demolish as many structures and objects as possible within the given time limit. The time remaining can be seen on the top right of the screen. Below the time remaining is the player's

score. The score is increased by demolishing structures and objects. Each fragment gives the player +10 points which can be seen onscreen when a fragment is demolished.

As objects are demolished, more objects from the base will be activated. Continue demolishing objects until all objects are demolished or until time runs out!

Reset
If the player vehicle gets stuck, press any of the reset buttons to move the player vehicle back to the start point.

Changing View
Press a trigger button to move through the three different camera views. The available views include:

- 3rd Person follow mode
- 3rd Person Orbit view
  - Camera Rotate: While in orbit view, use the left or right POV switch to move the camera around the vehicle.
- 1st Person view

Ending Experience
The experience ends when time expires.
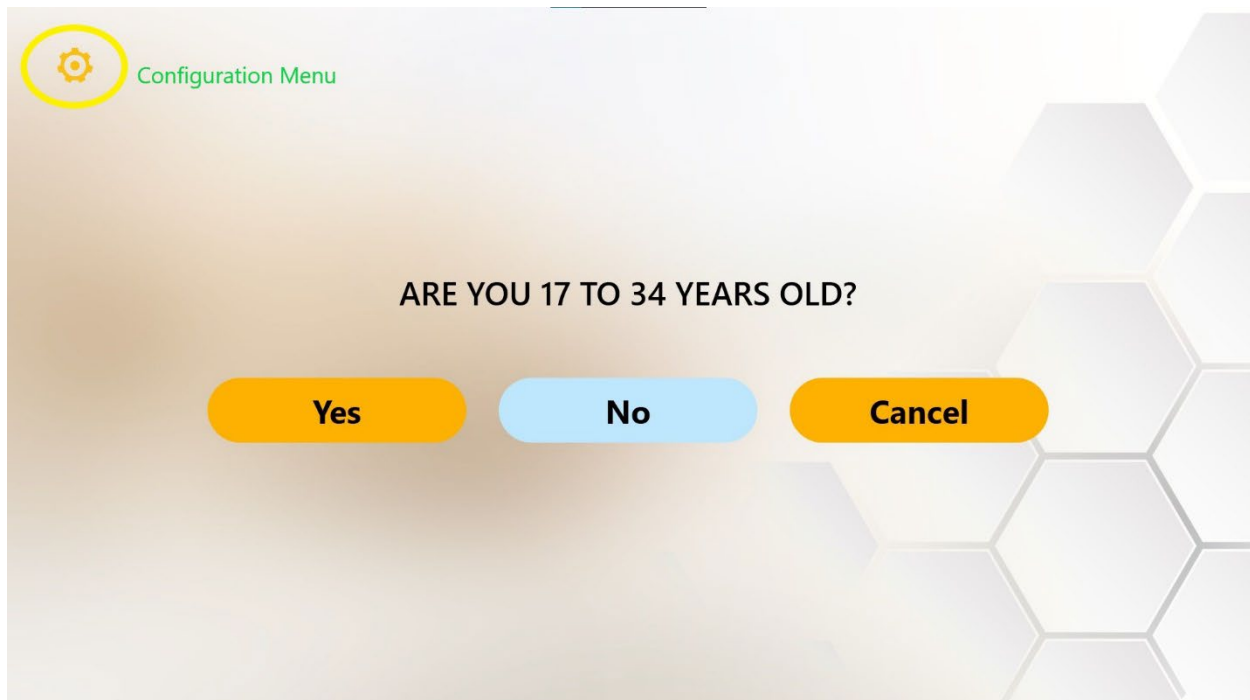
Operator Instructions

Configuration Menu
The configuration menu gives the operator several options. Please see below for more information.

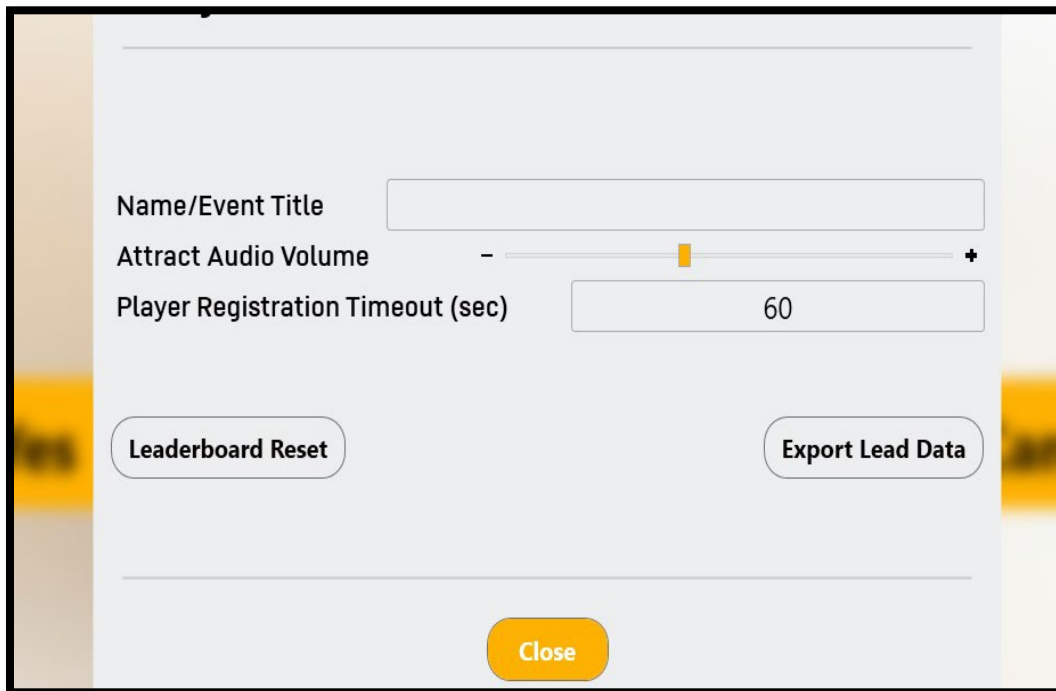To open the Configuration menu, perform the following procedure:

1. If not a touch screen model, plug a USB keyboard into the computer.
2. Touch screen. It should take you to the start of the User Registration.
3. While in the User Registration, press the cog icon in the top left corner.

Configuration Menu

ARE YOU 17 TO 34 YEARS OLD?

Yes   No   Cancel

4. This will open the Configurations menu.
   - Username: admin
   - Password: operator

Name/Event Title

Attract Audio Volume   −   +

Player Registration Timeout (sec)   60

Leaderboard Reset   Export Lead Data

Close

5. Configuration settings can be set per operators' preferences.
6. Attract Video Volume will adjust the master volume of the Attract Videos.

7. Player Registration Timeout will be for the user registration entry screen. If the screen isn't interacted with, within that set time, it will revert to the Attract Screen.
8. Leaderboard Reset will reset Lead Data displayed between attract videos
   - Note: This does <u>not</u> delete the data file. It only clears the leaderboard that is displayed in attract mode. This feature may be useful for promoting competition. For example, if the leaderboard is cleared at the beginning of a school-based event, everyone on the leaderboard will be from the same school.
9. Export Lead Data will allow the operator to gain access to the Lead Generation Web Application/User Data

Export Lead Data

Once the operator clicks the Export Lead Data button in the Configuration Menu, the following screen will pop-up.

Export Lead Data ✕

1. Connect your device to "**Kiosk 1**"wifi.

2. Login with:
Name: **admin**
Password: **operator**

3. Scan the QR Code with the camera or go to "**http://192.168.100.102**" in your web browser.

Lastly, add a name to the configuration login window. That way there is a name and a password entry required to get in.

The default login data is
Name: "**admin**" and Password: "**operator**"

Close

For Cellular Devices:

1. Ensure wamp64 virtual server is operating on Kiosk (Start > wamp64 > wamp64).
2. Connect your device (Android or iPhone) to Wi-Fi "Kiosk 1" (default name).

3. Wifi username/password should be: admin/operator
4. Once connected to the virtual server, use camera or QR Code reader to connect to http://192.168.100.102 in Safari, Google Chrome, or applicable browser.
5. Once the browser loads, login with username: admin   password: operator
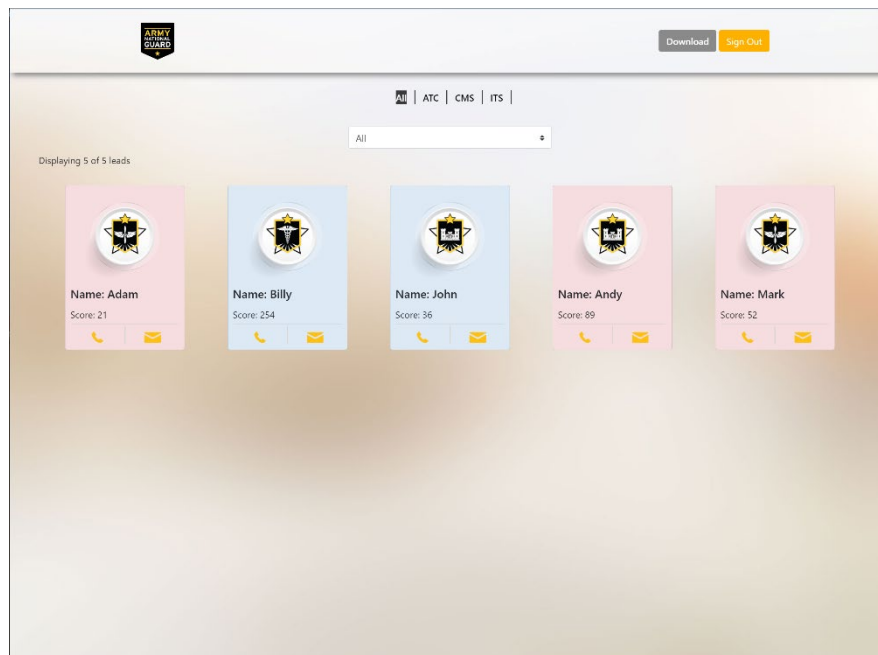
For Kiosk Web Browser:

1. Ensure wamp64 virtual server is operating on Kiosk (Start > wamp64 > wamp64).
2. Open Microsoft Edge, Google Chrome, or Mozilla Firefox and enter http://192.168.100.102 in the address bar.

Once the browser loads, login with:

- Username: admin
- Password: operator

Lead Generation Web Application Data

1. Each user experience will be recorded on the web server and will contain exact information pulled from recruit data files.
   - Please see Accessing the Data file for more information on data file retrieval.
2. Clicking on the Phone or Email icons will provide operator with the users entered information. If the player was under the age of 17, no identifiable information other than name will be available.

Adjust Audio volume of attract videos.

The Audio Volumes slider adjusts the volume of the attract videos, independent of the experience. This is useful if it is desired to increase or decrease the volume of attract vs. experience modes.

Data File

All player registration data and experience scores are stored in a .CSV data file. The data file is updated after each player's experience.

The data file stores the following data per player:

- OperatorCustomValue – This is a string of characters input in the Configurations menu.
- FirstName – First name entered by the player
- EmailAddress – Email Address entered by the player
- RecruitableAge – True of False. True if player entered Yes for the 17 to 34 age question.
- PhoneNumber – Phone number entered by the player.
- Zip Code – Zip Code entered by the player.
- ExperienceName – Name of Experience. This is useful if combining the data file with other data files from different experiences.
    - ITS – Information Technology Specialist
    - ATC – Air Traffic Control
    - MTO – Motor Transport Operator
    - HCE – Horizontal Construction Engineer
    - CMS – Combat Medic Specialist
    - FF – Fire Fighter
    - UAV – Unmanned Aerial Vehicle Operator
- Score – Score received in experience.
- StartTime – Time the player started the experience.
- EndTime – Time the player finished the experience.

Finding the Data File, within the PC

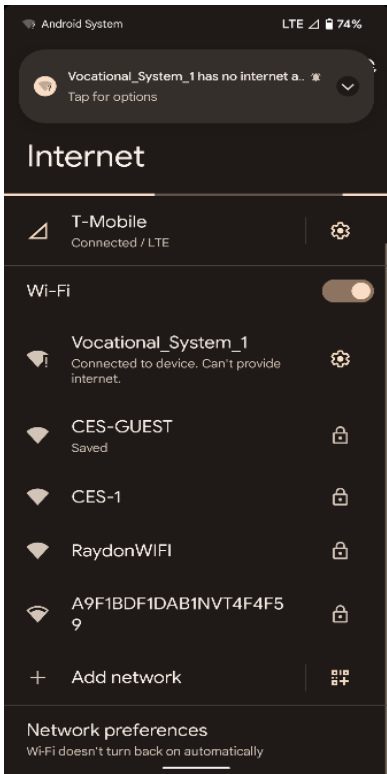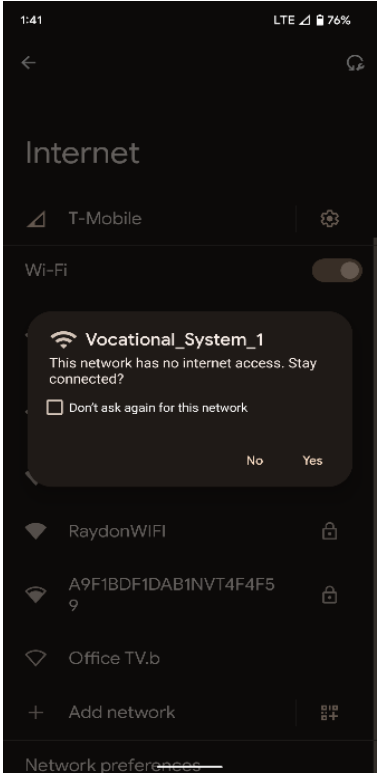To find the data file, perform the following procedure:

1. Plug in a USB keyboard into the computer.
1. If in Registration mode, please press the back button on the top left.
2. Press "**Escape**" in attract mode to exit the application back to the desktop.
3. Click on wamp64 server icon on task bar, by the clock.
4. Select Localhost.
5. A website page should autoload with the login page.
    - Username: admin
    - Password: operator
6. When the page loads, the user registration data should be visible, shown just like the Lead Generation Web Application Data.
7. Click "Download" and you should receive a prompt to "Open, Save, or Cancel."
8. Click "Save or Save as" to download the .CSV file.
9. The default save folder is This PC > Downloads.
10. The most recent file date should be the file saved (scoring-date). This is the CSV data file.

Please follow Department of Defense guidelines for copying the file to another computer. Alternatively, the data file can be opened on the system to be viewed/photographed.

Troubleshooting

Please see the following table for troubleshooting steps.

Problem	Possible Solution(s)
Unclear/Staticky Audio	• Check the connection on the back of the computer.
No audio	• Increase soundbar volume. • Check the power on the soundbar. • Check that the AUX input is selected on the soundbar.
Registration Buttons not working	• Double tap the registration button if a single tap does not progress to the next section.
Touch Screen Buttons not working	• May require multiple taps if a single tap does not progress to the next section
Not connecting to WIFI/Server	• Ensure Username and Passwords are correct • Make sure Wamp64 server is running • Ensure Raydon user is logged in as Windows user
Depending on Cell Device, when wirelessly connecting to the VR system, additional steps may be required	• Google Pixel 6 requires a notification prior to connecting to web server. Wait for notification and select yes. You *must* receive a notification to access the web server

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Vehicle constantly moving left, right, forward or in reverse	Check that the trim wheels on either joystick are centered. These are found on the base of the joystick. If the Throttle is pulled back during start, the vehicle will begin the experience driving in reverse.

Revision Log

This log identifies parts of this document revised since original issue.

Revision		Page No.	Paragraph No. Affected	Revision Date	Document Control No. (ECR & DCN)
Original Issue				12/05/2022	3949

*A – ADDED   M – MODIFIED   D – DELETED   NOTE: Add rows as needed.