To start:

- Move the robot by lifting the red handles and rolling it around on its front wheels

- Turn the large gray knob clockwise

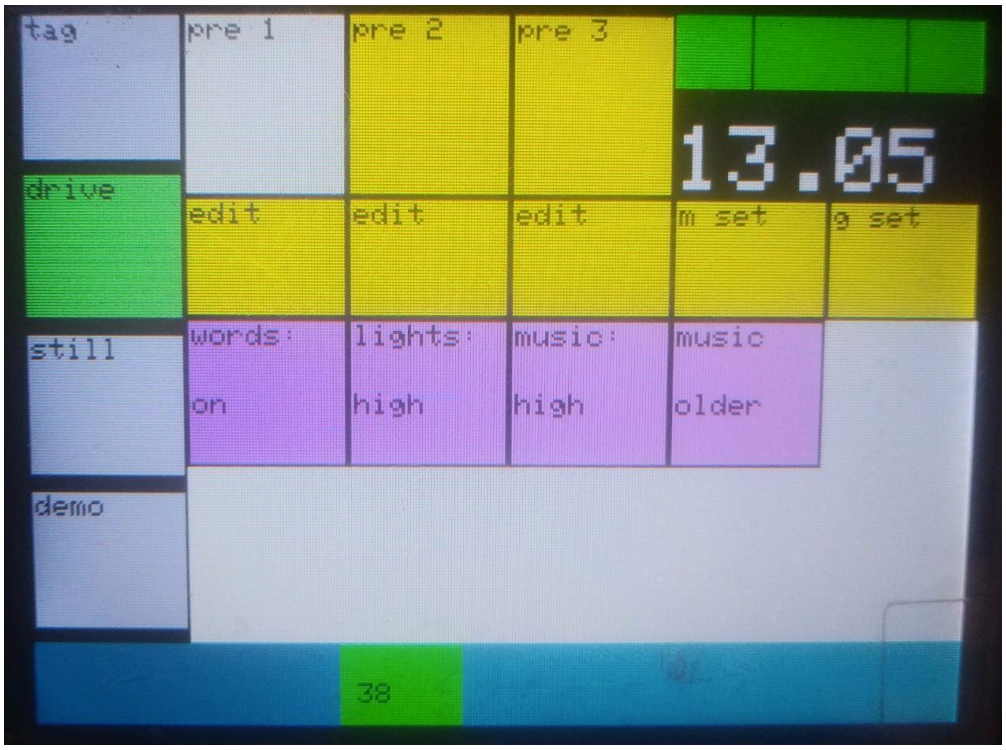
- Before using the remote, adjust the preset and any other settings on the screen to the patient's preferences (as described below in the Screen: section)

- Choose a mode:
    - Tag mode
        - Robot drives automatically in a loop through the north and west halls, waiting for the patient to catch up every few meters.
        - For tag mode, you need to start the robot at the tape on the floor at the beginning of the L, closest to the south entryway (Please ask Randy Phelps if you don't know where this is)
    - Drive mode
        - Robot can be controlled and driven with the remote.
    - Still mode
        - Robot doesn't drive, but head can be controlled with remote, and it can play music, tell jokes, and say some other phrases
    - *Demo mode*
        - *not recommended, used for testing code, ask Randy Phelps how to use this mode to play any audio file that's on the robot*

Screen:

The screen on the back of Shelbytron lets you change more settings than the remote does.

All settings are saved so Shelbytron starts in the same mode as it was in last.



modes:

Along the left side of the screen are Shelbytron's 4 modes. You can change the mode by tapping the one you want, and the active mode displays as green.

presets:

The buttons in the top row can be used to select which of the 3 presets you want to use for the current mode.

Preset 1 is slowest and preset 3 is fastest.

editing settings:

The second row which includes the "edit" buttons below the presets, the "m set," and "g set" buttons open menus for editing settings variables. This makes it easier to tune how Shelbytron drives, but the variables aren't named very well, so if you want to change any settings (for example if a preset has too fast of a speed or doesn't make the robot drive far enough) *please contact Joshua or Randy Phelps so we can try to make the change.*

third row of settings:

Tap the button to cycle through the options for each setting.

- words
    - on

        - shelbytron sometimes says encouraging or congratulatory phrases
    - off
        - shelbytron won't say those phrases
            - note: it will still say some things like warning that it's turning around or saying if it's low on power
- lights
    - off
        - eye and wheel lights are kept off
    - low
        - lights are sometimes used, but are kept more subtle
    - high
        - lights are more exciting
- music (amount)
    - off
        - no music plays
    - low
        - 20 second clips of music sometimes plays
    - high
        - music constantly plays
- music (playlist)
    - older
        - longest
    - young
        - annoying
    - chase
        - exciting
    - calm
        - a bit less overwhelming

volume:

The blue bar at the bottom of the screen is a volume control. Drag the green box left for quieter, and right for louder. This affects all sounds that Shelbytron plays.

battery monitor:

The top right corner has a battery gauge. At the top are three rectangles that turn red from left to right as Shelbytron's battery discharges and show roughly what state of charge the robot is in. The monitor also shows the voltage of the battery. Above 13 volts is charged, and below 12 volts means the battery is getting low. Battery voltage does not drop linearly. Shelbytron also has an audio low battery warning ("I'm tired, I need a nap").

Go/stop button

Pressing the push button that has a ring of illumination that is located to the left of the touch screen toggles the go/stop state of the robot (though it is usually more convenient to use the go and stop buttons on the remote).

The colors and patterns shown by the ring light on this button tell you what state the robot is in.

- Solid yellow-white
    - robot is in the “go” state, push to stop
- Pulsing purple-white
    - robot is in the “stop” state, push to start
- Solid yellow
    - robot is in the “go” state and the battery is getting low on power
- Pulsing yellow
    - robot is in the “stop” state and the battery is getting low on power
- Solid red
    - The battery voltage went below the minimum threshold. Movement is disabled. Please charge the robot.

Using the remote:

The remote needs to be pointed at the sensor near the red tape on the back of Shelbytron. If there is not a direct line of sight between the remote and the sensor, the remote probably won’t work.

Go/Stop “Go” and “stop” always change the robot’s state between being able to move and not moving.Press “stop” if the robot is about to hit a wall or person, or if you just want it to pause.

Mode always cycles through the 4 robot modes (tag, drive, still, demo)

Joke The “Joke” function has jokes and the corresponding punchlines alternate on each button push.

Yay Says an encouraging phrase

Hi greets the child

Bye says farewell/until next time/ ruff!

Some buttons on the remote operate a bit differently, depending on which mode you are in.

Tag mode

The robot should operate fairly autonomously in this mode. The buttons on the remote listed below have different functions than the labels in this mode. (Sorry this makes the remote a little harder to use in this mode).

Stop and Go buttons pause and start the robot's movement. (pressing go makes the robot start moving). Please be ready to press Stop if the robot is about to drive into something.

ok: when the robot is waiting for the patient, you can press the ok button to make the robot start driving again even if it hasn't detected the patient yet.

arrow keys: do nothing in this mode

Last track/next track (black): in "high" music mode you can skip or replay songs

Volume (black speaker symbols): change the volume of all audio

note button: says something encouraging

speed: changes preset (speed robot drives at)

bye: changes playlist

Joke: changes word mode

yay: changes lights mode

Hi: changes music mode

The child needs to be behind the robot for it to be able to sense them during the tag game

When the robot gets to either end of the "L" path, it is programmed to stop and wait until the child has a chance to get behind it before going the other direction.

When the child is behind the robot (or at least not right in front), press the go button to continue in tag mode.

Still mode:

Arrow Keys (purple): When in the "go" state, these buttons make the head move.

OK (purple): Pressing this button makes the eyes change color, and plays a short piece of music if the music mode is "low."

Last track/next track (black): in "high" music mode you can skip or replay songs

Volume (black speaker symbols): change the volume of all audio

Playlist (note): press to cycle through the 4 music playlists. (Sometimes the robot thinks this button is pressed even when it isn't, and if the robot is moving there is no indication on the screen. If the song suddenly changes, press this button to get back to the correct playlist)

Speed: instead of changing the preset, in the still mode the speed button plays "badumpbump" for after jokes.

Drive mode

arrow keys: When in the "go" state, these buttons make the robot go forward, backward, or turn.

You can either choose to drive the robot without any assistance, or you can get some assistance from the robot.

To switch back and forth between "you drive" and "I'll help you drive," press the OK button

In "I'll help you drive" mode, if you hold down the left or right arrow key, it will stop once it has turned 90 degrees

In the "I'll help you drive" mode, if you hold the forward button down, the robot is programmed to drive down the hall without bumping into the walls.

Trouble shooting:

If the robot says it's tired but the battery display says it's still above 12 V, try turning the robot off and then on again with the gray knob.

Remember that you can only start tag mode near the south entrance, so if you run into issues while using this mode, you could try pausing then restarting (stop/go). If this doesn't work and you are in the middle of the L route, the best bet would probably be to use the gray knob to turn the robot off and on and then switch to a different mode because the robot can't start tag mode in the middle of the "L."

You can also pause the robot when it is in tag mode and move it back into the center of the hall if needed.

If you experience any other problems with the robot, please tell Randy Phelps.

Charging the robot

The robot is programmed to warn you that it's getting low on charge by saying that it's getting tired and needs a nap. The second time the robot announces that it's tired, it will actually stop moving until it is recharged.

To charge the robot, put the plug on the back of the robot in an outlet, and turn the grey power knob counterclockwise. The next day or whenever you want to use the robot again, turn the grey power knob clockwise to the vertical position and unplug the robot. Randy Phelps should handle charging for you.

music:

list of all audio files on Shelbytron and their ID numbers: music index