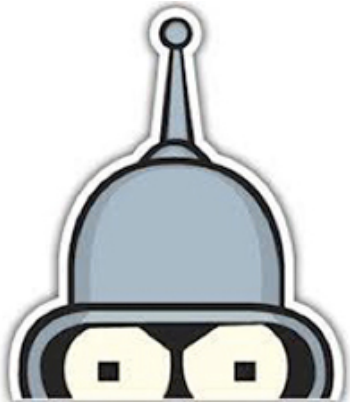
B2 - Elementary Programming in C

B-CPE-156

Rush4Stek

Take the control!

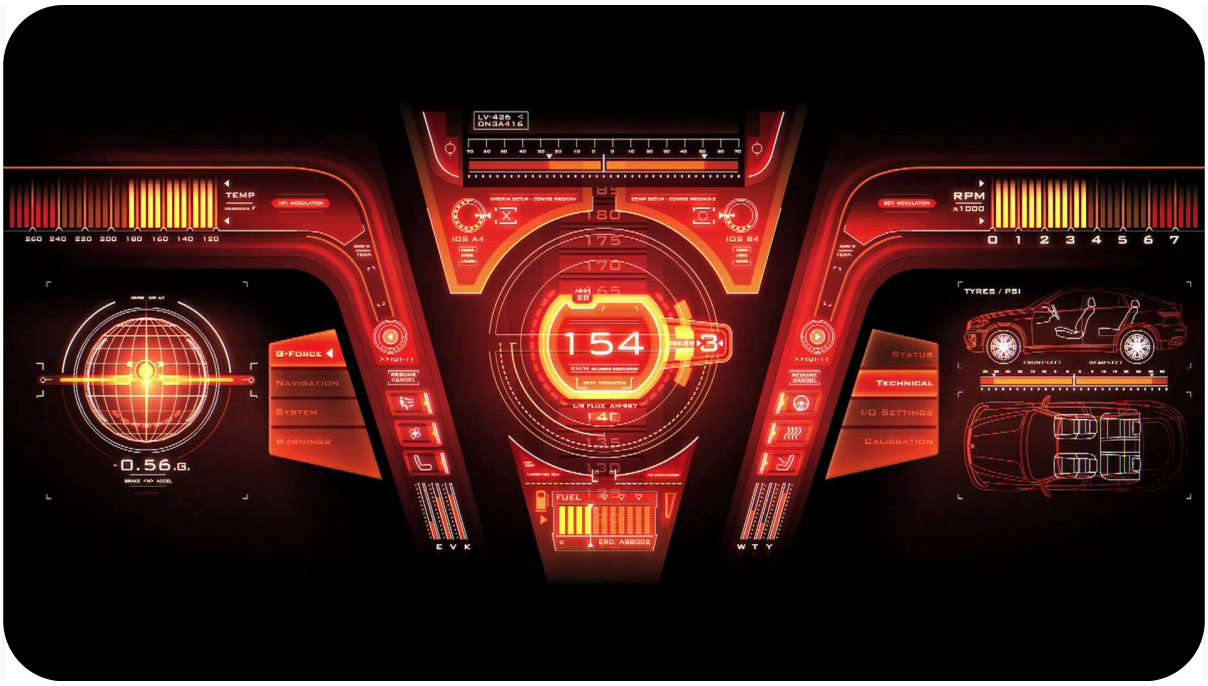


1.1

Rush4Stek

binary name: rush4stek
group size: 2
repository name: CPE_rush4stek_${YEAR}
repository rights: ramassage-tek
language: C

- Your repository must contain the totality of your source files, but no useless files (binary, temp files, obj files,...).
- All the bonus files (including a potential specific Makefile) should be in a directory named *bonus*.
- Error messages have to be written on the error output, and the program should then exit with the 84 error code (0 if there is no error).



DESCRIPTION

For this rush, you have to make a program that will allow you to manually control the Need4Stek's car inside VREP and display some informations.
The way you control the car (keyboard keys, controller, joystick, wheel, ...) is totally free and will be evaluated accordingly to the difficulty/awesomeness.

You program have to display these informations in real-time:

- The car's current speed and wheels direction
- A representation of what the car currently "see" (with the informations of the LIDAR)
- The time since the start of the program
- The number of lap done

A nice feature can be a way to display a representation of the track (including the position of the car) in real-time from the informations you got from the LIDAR since the start of the simulation.
You can also add every feature that you judge interesting. Think of a HUD for the pilot or it's technical team and what they might need!
The way you display these informations is up to you ! It can be in a terminal or in a more graphical way.
The evaluation will exclusively be done during the oral presentation based on the functionality and the look of it.

For all the useful informations abour VREP and the communication protocl to use, please refer to the Need4Stek subject.

Be smart, be creative, be awesome!

You can use anything as long it is in C.