

RoadMaster - Pygame

By Vedha & Aarnaa

User guide:

The purpose of the program:

Our program is designed to be an interactive and educational driving simulator, where users can learn about various topics, including road rules, parking, road signs, and more. Through our lessons, users can then take a multiple-choice test to assess their understanding of the material they have learned. They even get to use their knowledge of the road in our game by going through a driving simulator!

Hardware and operating system requirements:

Installing pygame

For Windows

1. Open Command Prompt
2. Type: `cd c:\python38\scripts`
3. Type: `pip install pygame`

For macOS

We recommend to use a virtual environment when using pygame on macOS

How to set up pygame with a virtual environment:

1. Open Terminal
2. Navigate to the PygameProject folder using the `cd` command
3. Setup virtualenv:
`$ python3 -m virtualenv venv`
4. Enter the virtual environment:
`$ source venv/bin/activate` or `$. venv/bin/activate`
5. Install dependencies:
(venv) `$ pip install -r requirements.txt`

Running the app

For Windows

1. Navigate to the PygameProject folder in Command Prompt using the cd command, the same way you did to install pygame
2. Type: python pygameProject_VedhaAarnaa

For macOS

1. Navigate to the PygameProject folder
 2. Make sure you are in the virtual environment. Terminal will have (venv) if you are. To enter the virtual environment, do: \$. venv/bin/activate
 3. Type: (venv) \$ python pygameProject_VedhaAarnaa
 4. To shut down the virtual environment after you've finished, type: (venv) \$ deactivate
- You can also run it with any IDE you might have installed if you wish.

How to use our program:

Navigation & Title Screen

- **Startup:** User lands on a Title Page.
- **Action:** Press "Start" to enter the Main Menu.

Main Menu Options

- **Lesson Module:** * Teaches street signs, road rules, and general safety.
 - **Controls:** Navigation buttons (Next/Back) for the slideshow.
 - **Home:** A button in the top-right to return to the Main Menu.
- **Quiz Module:**
 - Tests knowledge via a multiple-choice format.
 - **Scoring:** Results are calculated out of 6.
 - **Persistence:** Scores are saved automatically and only update if the quiz is retaken.
- **Interactive Game:**
 - Simulates a practical "driving test."
 - **Mechanic:** An instructor provides specific directions.
 - **Win/Loss Condition:** Success requires following all rules; any mistake requires a restart.

- **Quit Button:**
 - Displays project sources/citations.
 - Closes the application.

Troubleshooting tips:

The Game Won't Start

- Make sure the game files are fully downloaded and not missing.
- Close other programs and try opening the game again.
- Restart your computer if the game does not launch.

The Screen Is Black or Frozen

- Wait a few seconds to see if the game loads.
- Close the game and reopen it.
- Make sure your computer meets the minimum requirements to run the game. (eg. having pygame module installed)

Controls Are Not Working

- Click on the game window to make sure it is selected.
- Use the correct keys shown in the instructions.
- Try restarting the game if controls stop responding.

The Car Is Not Moving

- Make sure you are pressing the correct movement keys.
- Some stages require you to accelerate before moving.

Pedestrians or Obstacles Seem Impossible to Avoid

- Reduce your speed before intersections or crosswalks.
- Pay attention to warning signs and on-screen instructions.
- Practice braking early to improve reaction time.

The Game Feels Too Fast or Too Hard

- Take time to practice in the lesson mode before the test.
- Focus on smooth steering and controlled speed.
- Work on your reflexes as the game isn't easy to do first try

- Try again, your performance improves with practice.

Sound Is Not Playing

- Check that your device volume is turned on.
- Make sure the sound file is downloaded in the right place.
- Make sure the game is not muted in system settings.
- Restart the game if sound does not play.

The Game Closes Unexpectedly

- Reopen the game and continue playing.
- Avoid running many programs at the same time.
- Restart your device if the issue happens repeatedly

If any issues seem to be recurring, the best solution is to reopen the game or maybe restart your computer.