

truck simulator

Topics:

- clean code
- extendability
- plugins
- logging
- documentation
- modularity

Task description:

basic task:

- we will create a truck driving simulator.
- the user can create a road inside a file in the format:
 - [
 - {
 - road_type:X
 - length: Y
 - },
 - ...
 -]
- Each terrain type takes a diff toll on your truck.
- terrain effects the following things:
 - fuel consumptions
 - wheel wear and tear (if the road is bad - the normal rate to fix wheels will grow, and vice versa if the road type is easy)

- driver mental health (easy to drive road contribute to the driver mental health, a bumpy one decreases it)
- create a truck. a truck has the following stats:
 - max fuel amount
 - km per liter
 - price to repair wheels per km
 - brand
- create 4 basic road types with the following stats:
 - name
 - terrain hardness
 - mental effect
 - wheel damage effect.
- when the user is creating a road in the file, you need to load it, check if the truck can do it (if the sum of the road kms is smaller than max km the truck can do with a full tank of fuel), and if you can - start the ride.
- log every change in road type, sum the damage to the wheels and the fuel used on every change, the mental health change etc.

maintainability

- write modular code
- use logical positions
- add flow chart and readme
- use good names
- add documentation

extendability

- support adding new types of roads
- support adding new types of trucks