Batmobile 2D

Create a car dashboard with the following elements:

1) Tachometer: A gauge displaying the engine RPM with a needle of arbitrary color. The needle's color changes over time. The current engine RPM is obtained by calling the method car.getTachometer() within the rendering loop. The needle is represented as a line with a thickness greater than 1 pixel. The tachometer is implemented as a texture.

2) Kilometer Progress Bar: A progress bar indicating the distance traveled in kilometers. The progress bar has 10 segments that fill up as the distance increases. When the distance exceeds 10 kilometers, the progress bar resets. The distance traveled is obtained by calling the method car.getOdometer() within the rendering loop, returning a floating-point value. If the car travels 11 kilometers, the progress bar has one filled segment.

3) Warning Indicators: "Check Engine" and Battery Problem indicators. These warning indicators are active when the return value of the methods car.getCheckEngineLight() or car.getBatteryProblemLight() is true. Pressing the C key activates the Check Engine indicator, while pressing the B key activates the Battery Problem indicator. The Check Engine indicator is activated by calling the method car.setCheckEngine(true), and the Battery Problem indicator is activated by calling the method car.setBatteryLight(true).

4) Transmission Gear Indicator: A circular indicator that flashes from black to an arbitrary color based on the current gear. The higher the gear, the faster the indicator flashes. The gear is obtained by calling the method car.getGear() within the rendering loop. Ensure noticeable differences in flashing speed between adjacent gears.

5) Graphic Display: A graphical display featuring a simplified symbol of a blind mouse that moves using the WASD keys. The symbol cannot leave the display boundaries. When the car is in first gear, only the vertices of the triangles forming the blind mouse are displayed. In second gear, only the edges of the triangles are displayed. In third, fourth, and fifth gears, the interior of the polygons is also shown. Pressing the P key makes the blind mouse transparent (the display color is visible through it, but it doesn't disappear entirely from the scene). The blind mouse cannot be implemented using a texture. Pressing the X key makes the blind mouse opaque again.

6) Name: The name, surname, and student ID of the student working on the task should be displayed in an arbitrary corner on the dashboard.