

# Design Concept – 1<sup>st</sup> Place



Presented to:

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# Design Concept – 2<sup>nd</sup> Place

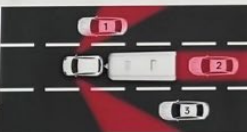


## Design

The design for my steering wheel is a sleek, easy to grip wheel. The rectangular design of the wheel makes it easier to turn and allows for more control over the wheel. It also makes the wheel efficient for tight cars with less space for things such as the dashboard or windshield wiper controls. The material is a forged carbon fiber to give it the more luxurious look while also making it harder for the wheel to get worn out. There are little indents inside the steering wheel to give your hands more grip while driving.

## Mirror Mode

When you are driving with a trailer or a boat on the back of your car/ truck, it is very difficult to see what is behind it. By pressing the mirror mode button on your steering wheel, it will change modes of your mirror. The first setting is normal mode. The mirrors will be the same as always. The second setting is to see behind the trailer. The mirrors will extend outwards and turn in so you can see. The third setting will be side view. The mirrors will point to the side of your trailer allowing you to see if there is a car next to it.



## LED Distance Sensor

The LED distance sensor will be a small led light that is on the front of the steering wheel. This will help to determine the distance you are from either a car in front of you in drive mode, or a car behind you in reverse mode. The light will be green when you are a safe distance from any surrounding car. If the light turns yellow that means you are getting too close to a car. If the light is red, then that means your car is too close to the car and you are not a safe distance away. When the light flashes red, that means you are accelerating too quick behind a car or a car in front of you is stopped, and you need to stop. This LED light will have other functions as well. If you are too far to the right side of the lane and about to cross the line, that side of the wheel lights will turn red. Same thing goes for the left side. This light will not be bright. It will be just bright enough so that you can see it right, but it doesn't hurt your eyes. If you are colorblind then you can change the colors in the settings on the screen in your center console.



## Maps

The top of the steering wheel will consist of a little screen that displays your maps. Yes, the maps will still be shown on the center console screen, but this will be used for quick look guidance. Instead of taking your eyes off the road completely, you can look at the top of your steering wheel for directions. This will be synced to your phone to get directions somewhere.

## Blind Spots

On each side of the maps screen is a little screen that displays the view of a camera on the side of your door. This view will be what your blind spots look like. It will show if there is something next to you or not. While designing this steering wheel, I tested myself while driving. Every time I would look in my blind spots, I would see how long my eyes were not looking in front of me. Then I would just look at the top of my steering wheel and see the difference between both. If I just had to look at my wheel for my blind spots, I would never take my eyes off the road. Unlike looking backwards to check if someone is next to me.



## Radio Controls

Although these buttons are already a thing, I made them easier to access with easy reach paddles. When I am driving, I have to almost unlatch my hand from the wheel just to press the volume up and down button on the back of the wheel. With the longer paddles you will be able to keep full control of my steering while changing the volume of your music.

## Presets

Yes, seat presets are a thing already. But the preset buttons on my wheel are different. When you want to save a preset, you have to use the screen in your center console. From there you put your weight, height, and adjust your seat to your liking. The detection system in the car will detect if your distance from the wheel is safe or not. This will help with safety from air bag. Airbags shoot out of the steering wheel at about 200 MPH. By April of 2021, there were nearly 400 injuries and 19 deaths due to people sitting too close to the air bag and it going off in their face.

## Heartbeat Sensor

The heartbeat sensor will be a little panel built into the wheel at "9 and 3" on the steering wheel. "9 and 3" is the safest position to put your hands while driving so that your arms don't get injured by the air bag. The heartbeat sensor will be able to detect your heartbeat rate and determines if you are safe to drive or not. This will help the safety of your body. High heartbeat rate can lead to stroke, sudden death, or heart failure. This will detect that before they happen and help you get help immediately.

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