WHAT IS CLAIMED IS:

1. An apparatus for adjusting a steering wheel, the apparatus comprising:

an image capturing unit configured to capture images of a current state of a steering wheel at multiple angles;

an analysis unit configured to create leveling information on zero adjustment of the steering wheel by processing the image acquired by the image capturing unit; and

a control unit configured to calculate an error from preset reference leveling information depending on the leveling information created by the analysis unit and to perform the zero adjustment on the steering wheel by controlling a drive unit for operating the steering wheel depending on the calculated error, and wherein the image capturing unit further comprises an obstacle detection sensor, and the obstacle detection sensor detects an obstacle on a route along which the image capturing unit enters or exits an interior of a vehicle having the steering wheel to capture the image of the current state of the steering wheel.

2. The apparatus of claim 1, wherein when a door glass of the vehicle is detected as an obstacle on the route, the control unit performs control to open the door glass of the vehicle.

3. The apparatus of anyone of claims 1 or 2, wherein the analysis unit measures a tilting angle of the steering wheel by processing an image of a lateral side of the current state of the steering wheel acquired by the image capturing unit and creates the leveling information on the zero adjustment of the steering wheel corresponding to the measured tilting angle.

4. The apparatus of anyone of claims 1 to 3, wherein the analysis unit measures a wheel off-center angle of the steering wheel by processing an image of a front side of the current state of the steering wheel acquired by the image capturing unit and creates the leveling information on the zero adjustment of the steering wheel corresponding to the measured wheel off-center angle.

5. The apparatus of anyone of claims 1 to 4, wherein the analysis unit further comprises a shape learning unit configured to create reference leveling information by extracting a plurality of feature points related to a wheel shape from an image of a front side of the steering wheel.

6. The apparatus of claim 5, wherein the analysis unit creates the leveling information on the zero adjustment of the steering wheel by extracting the plurality of feature points

related to the wheel shape from the image of the front side of the steering wheel acquired by the image capturing unit.

7. The apparatus of anyone of claims 1 to 6, wherein the image capturing unit further comprises a focal point adjustment unit having a plurality of reference points for performing the zero adjustment on a focal point of the captured image.

8. A method of adjusting a steering wheel, the method comprising:

capturing, by an image capturing unit, images of a current state of a steering wheel at multiple angles;

creating, by an analysis unit, leveling information on zero adjustment of the steering wheel by processing the image acquired by the image capturing unit; and

calculating, by a control unit, an error from preset reference leveling information depending on the leveling information created by the analysis unit, controlling a drive unit of the steering wheel depending on the calculated error, and performing the zero adjustment on the drive unit, and

further comprising:

before the capturing of the images, detecting, by an obstacle detection sensor, an obstacle on a route along which the image capturing unit enters or exits an interior of a vehicle

having the steering wheel to capture the image of the current state of the steering wheel.

9. The method of claim 8, wherein in the creating of the leveling information, a tilting angle of the steering wheel is measured by processing an acquired image of a lateral side of the current state of the steering wheel, and the leveling information on the zero adjustment of the steering wheel corresponding to the measured tilting angle is created.

10. The method of claim 8 or 9, wherein in the creating of the leveling information, a wheel off-center angle of the steering wheel is measured by processing an acquired image of a front side of the current state of the steering wheel, and the leveling information on the zero adjustment of the steering wheel corresponding to the measured wheel off-center angle is created.

11. The method of anyone of claims 8 to 10, further comprising:

before the creating of the leveling information, creating, by a shape learning unit, reference leveling information by extracting a plurality of feature points related to a wheel shape from an image of a front side of the steering wheel.

12. The method of claim 10 or 11, wherein in the creating of the leveling information, the leveling information on the zero adjustment of the steering wheel is created by extracting a plurality of feature points related to a wheel shape from the image of the front side of the steering wheel acquired by the image capturing unit.

13. The method of anyone of claims 8 to 12, further comprising:

before the capturing of the images, performing the zero adjustment on a focal point of the image captured depending on a plurality of reference points provided in a focal point adjustment unit.