CLAIMS:

1. A target display device for assisting to aim at a target beyond a vision obstructing object, the device comprising:

a forward-facing camera;

a target marker projector; and

an orientation marker projector,

wherein:

the forward-facing camera is adapted to capture an image beyond the vision obstructing object;

the target marker projector is adapted to project a target marker;

the orientation marker projector is adapted to project an orientation marker; and

the forward-facing camera is adapted to capture an image in alignment with the target marker and the orientation marker along a longitudinal axial plane through the target display device.

2. The target display device according to claim 1, wherein, in use:

the forward-facing camera is adapted to be placed to have the target in line of sight;

the target marker projector is adapted to project the target marker on the vision obstructing object, the target marker location being indicative of a location of the target; and

the orientation marker projector is adapted to project the orientation marker in alignment with the forward-facing camera and the target marker.

3. The target display device according to claim 2, wherein the target marker indicates one or both of: a height for aiming at and a height range for aiming at.

4. The target display device according to either one of claim 2 and claim 3, wherein the target marker is a reticle pattern.

5. The target display device according to claim 4, wherein the reticle pattern comprises one or more of: a line, a dot, a circle, intersecting lines and a rectangle.

6. The target display device according to any one of claim 1 to claim 5, the target marker projector and/or the orientation marker projector projects the target marker and/or the orientation marker in laser in a visible spectrum or an infrared laser.

7. The target display device according to any one of claims 1 to 6, wherein the target display device has a longitudinal axial plane extending in a forward-rearward direction of the target display device, the forward-facing camera, the target marker projector and the orientation marker projector are substantially aligned along the longitudinal axial plane, the target marker projector is adapted to project the target marker upward and forward onto the object where the longitudinal axial plane intersects the object, and the orientation marker projector is adapted to project the orientation marker rearward and downward onto a surface on which the display device is placed where the longitudinal axial plane intersects the surface.

8. The target display device according to any one of claims 1 to 7, further comprising a communication unit adapted to transmit the image captured by the camera.

9. A target display system comprising the target display device according to claim 8 and a display device communicably coupled to the communication unit of the target display device, the display device adapted to display the image captured by the camera together with a reference marker indicating a centre of the image.

10. The target display system according to claim 9, wherein the display device is a wearable device adapted to be worn on a body of a system operator positioning the target display device.

11. The target display system according to claim 10, wherein the display device is a wearable device adapted to be worn on the arm of the system operator.

12. The target display system according to claim 10, wherein the display device is a head-mounted device.

13. A target display module to be fitted onto a camera module having a forward-facing camera adapted to capture an image beyond a vision obstructing object, the module comprising:

a target marker projector; and

an orientation marker projector,

wherein:

the target marker projector is adapted to project a target marker and the orientation marker projector is adapted to project an orientation marker such that, when the target displaying module is fitted onto a camera module, the target marker and the orientation marker are projected in alignment with the field of the forward-facing camera.

CLAIMS:

1. A target display device for assisting to aim at a target beyond a vision obstructing object, the device comprising:

a forward-facing camera;

a target marker projector; and

an orientation marker projector,

wherein:

the forward-facing camera is adapted to capture an image beyond the vision obstructing object;

the target marker projector is adapted to project a target marker;

the orientation marker projector is adapted to project an orientation marker; and

the forward-facing camera is adapted to capture an image in alignment with the target marker and the orientation marker along a longitudinal axial plane through the target display device.

2. The target display device according to claim 1, wherein, in use:

the forward-facing camera is adapted to be placed to have the target in line of sight;

the target marker projector is adapted to project the target marker on the vision obstructing object, the target marker location being indicative of a location of the target; and

the orientation marker projector is adapted to project the orientation marker in alignment with the forward-facing camera and the target marker.

3. The target display device according to claim 2, wherein the target marker indicates one or both of: a height for aiming at and a height range for aiming at.

4. The target display device according to either one of claim 2 and claim 3, wherein the target marker is a reticle pattern.

5. The target display device according to claim 4, wherein the reticle pattern comprises one or more of: a line, a dot, a circle, intersecting lines and a rectangle.

6. The target display device according to any one of claim 1 to claim 5, the target marker projector and/or the orientation marker projector projects the target marker and/or the orientation marker in laser in a visible spectrum or an infrared laser.

7. The target display device according to any one of claims 1 to 6, wherein the target display device has a longitudinal axial plane extending in a forward-rearward direction of the target display device, the forward-facing camera, the target marker projector and the orientation marker projector are substantially aligned along the longitudinal axial plane, the target marker projector is adapted to project the target marker upward and forward onto the object where the longitudinal axial plane intersects the object, and the orientation marker projector is adapted to project the orientation marker rearward and downward onto a surface on which the display device is placed where the longitudinal axial plane intersects the surface.

8. The target display device according to any one of claims 1 to 7, further comprising a communication unit adapted to transmit the image captured by the camera.

9. A target display system comprising the target display device according to claim 8 and a display device communicably coupled to the communication unit of the target display device, the display device adapted to display the image captured by the camera together with a reference marker indicating a centre of the image.

10. The target display system according to claim 9, wherein the display device is a wearable device adapted to be worn on a body of a system operator positioning the target display device.

11. The target display system according to claim 10, wherein the display device is a wearable device adapted to be worn on the arm of the system operator.

12. The target display system according to claim 10, wherein the display device is a head-mounted device.

13. A target display module to be fitted onto a camera module having a forward-facing camera adapted to capture an image beyond a vision obstructing object, the module comprising:

a target marker projector; and

an orientation marker projector,

wherein:

the target marker projector is adapted to project a target marker and the orientation marker projector is adapted to project an orientation marker such that, when the target displaying module is fitted onto a camera module, the target marker and the orientation marker are projected in alignment with the field of the forward-facing camera.