

What Is Claimed Is:

1. A personal immersive display device comprising:
a personal immersive display including a first display panel, a second display panel, and a camera;
the first display panel to which first content data is provided;
the second display panel to which second content data is provided;
the camera receives data associated with positions of a user's left pupil and right pupil;
and
a data processor that processes the data associated with the position of the user's left pupil and right pupil to determine a right gaze point and a left gaze point, detects a first gaze area on the first display panel and a second gaze area on the second display panel based on the right gaze point and left gaze point, wherein the data processor reduces resolution or brightness of the first and second content data provided to areas outside the first gaze area and second gaze area.
2. The personal immersive display device of claim 1, wherein the data processor sets the first gaze area centered around the left gaze point and the second gaze area centered around the right gaze point, wherein the first gaze area and second gaze area are set based on a distance between the left and right gaze points.
3. The personal immersive display device of claim 2, wherein, if a difference between a distance between the left and right gaze points and a distance between the two pupils is below a preset threshold, the first and second gaze areas are set to a size of a reference gaze

area, and if the difference obtained by subtracting the distance between the two pupils from the distance between the left and right gaze points is equal to or greater than the preset threshold, the size of the first and second gaze areas is set to a size larger than the reference gaze area.

4. The personal immersive display device of claim 3, wherein, if the difference obtained by subtracting the distance between the right and left gaze points from the distance between the two pupils is equal to or greater than the preset threshold, the size of the first and second gaze areas are set to a size smaller than the reference gaze area.

5. The personal immersive display device of claim 1, wherein the data processor provides the first content data to a first pixel and a second pixel in the areas outside the first gaze area of the first display panel and the second content data to a third pixel and a fourth pixel in the areas outside the second gaze area of the second display panel.

6. The personal immersive display device of claim 1, wherein the data processor reduces the data provided to the pixels outside the first and second gaze areas to an amount lower than the data received by the data processor.

7. The personal immersive display device of claim 1, further comprising a first drive circuit and a second drive circuit, and wherein the first display panel is driven by the first drive circuit and the second display panel is driven by the second drive circuit.

8. A method of driving a personal immersive display device, the method comprising:

- providing first image data for a left eye to a first pixel array;
- providing second image data for a right eye to a second pixel array;
- capturing a first position of the left eye and a second position of the right eye;
- detecting a left gaze point based on the first position and a right gaze point based on the second position;
- detecting a first gaze area on the first pixel array based on the left gaze point and a second gaze area on the second pixel array based on the right gaze point; and
- reducing a resolution or a brightness of the first and second image data provided to areas outside of the first and second gaze areas.

9. The method of claim 8, wherein the detecting of the first and second gaze areas comprises:

- setting the first gaze area centered around the left gaze point and the second gaze area centered around the right gaze point, wherein the first gaze area and second gaze area are set based on a distance between the left and right gaze points.

10. The method of claim 9, wherein, if a difference between the distance between the left and right gaze points and a distance between the two eyes is below a preset threshold, the first and second gaze areas are set to a size of a reference gaze area, and if the difference obtained by subtracting the distance between the two eyes from the distance between the first and second gaze points is equal to or greater than the preset threshold, the size of the first and second gaze areas is set to a size larger than the reference gaze area.

11. The method of claim 10, wherein, if the difference obtained by subtracting the distance between the right and left gaze points from the distance between the two eyes is equal to or greater than the preset threshold, the size of the first and second gaze areas are set to a size smaller than the reference gaze area.

12. The method of claim 8, wherein the first image data is provided to a first pixel and a second pixel in the areas outside the first gaze area of the first pixel array and the second image data is provided to a third pixel and a fourth pixel in the areas outside the second gaze area of the second pixel array by a data processor.

13. The method of claim 8, wherein the data provided to pixels outside the first and second gaze areas is reduced by a data processor to an amount lower than the image data received by the data processor.

14. The method of claim 8, wherein the personal immersive display device includes a first drive circuit and a second drive circuit, and wherein the first pixel array is driven by the first drive circuit and the second pixel array is driven by the second drive circuit.

15. A personal immersive display device comprising: one or more processors; and a computer-readable medium including one or more sequences of instructions which, when executed by the one or more processors, cause:

providing first image data for a left eye to a first pixel array;

providing second image data for a right eye to a second pixel array;
capturing a first position of the left eye and a second position of the right eye;
detecting a left gaze point based on the first position and a right gaze point based on the second position;
detecting a first gaze area on the first pixel array based on the left gaze point and a second gaze area on the second pixel array based on the right gaze point; and
reducing a resolution or a brightness of the first and second image data provided to areas outside of the first and second gaze areas.

16. The personal immersive display device of claim 15, wherein the detecting of gaze areas comprises:

setting the first gaze area centered around the left gaze point and the second gaze area centered around the right gaze point, wherein the first gaze area and second gaze area are set based on a distance between the left and right gaze points.

17. The personal immersive display device of claim 16, wherein, if the difference between the distance between the left and right gaze points and a distance between the right and left eyes is below a preset threshold, the first and second gaze areas are set to a size of a reference gaze area, and if the difference obtained by subtracting the distance between the right and left eyes from the distance between the left and right gaze points is equal to or greater than the preset threshold, the size of the first and second gaze areas is set to a size larger than the reference gaze area.

18. The personal immersive display device of claim 17, wherein, if the difference obtained by subtracting the distance between the right and left gaze points from the distance between the right and left eyes is equal to or greater than the preset threshold, the size of the first and second gaze areas are set to a size smaller than the reference gaze area.

19. The personal immersive display device of claim 15, wherein the processor provides the first image data to a first pixel and a second pixel in the areas outside the first gaze area of the first pixel array and the second image data to a third pixel and a fourth pixel in the areas outside the second gaze area of the second pixel array.

20. The personal immersive display device of claim 15, wherein the processor reduces the data provided to the pixels outside the first and second gaze areas to an amount lower than the image data received by the processor.