

Claims

1. A mobile assembly having:
 - a case having a first face and a second face opposite to the first face;
 - a display screen positioned on the first face, the display screen configured for receiving display instructions used to position display data on a display surface of the display screen;
 - a computer processor mounted in an interior of the case;
 - a memory mounted in the interior of the case for storing instructions for execution by the computer processor to implement one or more operations of a display module providing the display instructions;
 - an electronic component positioned on the first face within a peripheral boundary of the display surface; and
 - a physical cut out region in the display surface, the physical cut out region located on the first face about the electronic component.
2. The mobile assembly of claim 1, wherein the physical cut out region is located on the first face around a connector socket as the electronic component, the connector socket for receiving a connector plug of a peripheral device of the mobile assembly.
3. The mobile assembly of claim 2, wherein the connector socket is a headphone jack.
4. The mobile assembly of claim 1, wherein the physical cut out region is located on the first face around an imager lens as the electronic component, the imager lens operatively coupled to an imager device mounted in the interior of the case.
5. The mobile assembly of claim 1, wherein the physical cut out region is located on the first face around a light source as the electronic component, the light source powered via a power source mounted in the interior of the case.

6. The mobile assembly of claim 5, wherein the light source is a flash device operatively coupled to an imager device mounted in the interior of the case.
7. The mobile assembly of claim 1, wherein the physical cut out region is located on the first face around a hardware button as the electronic component, the hardware button operatively coupled to the computer processor mounted in the interior of the case.
8. The mobile assembly of claim 1 further comprising the first face being a curved surface such that the display surface follows a curvature of the curved surface of the first face.
9. The mobile assembly of claim 8 further comprising the case configured such that the first face is positioned opposite to the second face and the case has one or more third faces positioned between the first face and the second face.
10. The mobile assembly of claim 8 further comprising the case configured such that the first face is positioned opposite to the second face and the first and second faces are in contact with one another along at least one side of the case.
11. The mobile assembly of claim 10, wherein a degree of curvature of the curved surface is greater in a first surface region adjacent to said contact as compared to the degree of curvature of a second surface region spaced apart from said contact.
12. The mobile assembly of claim 11, wherein the second surface region is in a middle of the display surface.
13. The mobile assembly of claim 10, wherein the case comprises the first face as a first case panel and the second face as a second case panel, such that the first case panel and the second case panel connect with one another to form the interior and the display screen is the first case panel.

14. The mobile assembly of claim 13, wherein a degree of curvature of the curved surface is greater in a first surface region adjacent to said contact as compared to the degree of curvature of a second surface region spaced apart from said contact.
15. The mobile assembly of claim 14, wherein the second surface region is in a middle of the display surface.
16. The mobile assembly of claim 15 further comprising the display surface occupying ninety percent of a total panel surface area of the first case panel.
17. The mobile assembly of claim 8 further comprising the first face including:
the display screen;
a support structure having the first display screen mounted thereon; and
a component location in the support structure for mounting the electronic component.
18. The mobile assembly of claim 17, wherein the component location is an aperture in the support structure.
19. The mobile assembly of claim 17 further comprising the first face including a touch screen layer mounted on top of the display screen.
20. The mobile assembly of claim 1 further comprising a touch screen layer mounted on top of the display screen.
21. The mobile assembly of claims 19 or 20, wherein a portion of the touch screen layer is positioned over the physical cut out region.

22. The mobile assembly of claim 1 further comprising the instructions when executed by the computer processor to implement the one or more operations of the display module to:

receive the display data in a first display format;

access location data of the physical cut out region defining a cut out periphery of the physical cut out region;

use the location data to reformat the display data in to a second display format by repositioning a portion of the display data of the first display format determined as located within the cut out periphery to a position on the display surface located outside of the cut out periphery; and

provide the display instructions for the display data in the second display format to the display screen;

wherein the display data is restricted from being located in the physical cut out region by the display module.

23. The mobile assembly of claim 22, wherein the portion of the display data includes text data.

24. The mobile assembly of claim 1 further comprising the instructions when executed by the computer processor to implement the one or more operations of the display module to:

receive the display data in a first display format;

access location data of the physical cut out region defining a cut out periphery of the physical cut out region;

use the location data to reformat the display data in to a second display format by deleting a portion of the display data of the first display format determined as located within the cut out periphery; and

provide the display instructions for the display data in the second display format to the display screen.

25. The mobile assembly of claim 24, wherein the portion of the display data includes picture data.

26. The mobile assembly of claim 25 further comprising the instructions when executed by the computer processor to implement the one or more operations of the display module to:

use the location data to reformat the display data in to the second display format by repositioning the portion of the display data to a position on the display surface located inside of the cut out periphery; and

provide the display instructions for the display data in the second display format to the display screen;

wherein a shape of the cut out periphery is provided as part of a design element in the picture data.

27. The mobile assembly of claim 26, wherein the design element is a defined geometrical shape positioned within a plurality of displayed text.

28. The mobile assembly of claim 27, wherein the defined geometrical shape is a circle.

29. The mobile assembly of claim 26, wherein the design element is a defined geometrical shape positioned within a plurality of geometrical shapes comprising the picture data.

30. The mobile assembly of claim 26 further comprising the instructions when executed by the computer processor to implement the one or more operations of the display module to: match the shape of the cut out periphery to a shape of the portion of the display data.

31. The mobile assembly of claim 1, wherein the display screen is a bi-stable screen.

32. The mobile assembly of claim 1 further comprising the display screen as a first display screen and a second display screen positioned on the second face providing the mobile device as a multi-screened device.

33. A method for reformatting display data in a first format to display data in a second format, the method comprising instructions when executed by a computer processor to:

receive the display data in the first display format for displaying on a display surface;

access location data of a physical cut out region defining a cut out periphery of a physical cut out region in the display surface;

use the location data to reformat the display data in to the second display format by repositioning a portion of the display data of the first display format determined as located within the cut out periphery to a position on the display surface located outside of the cut out periphery; and

send display instructions for the display data in the second display format for display on the display surface of a display screen;

wherein the display data is restricted from being located in the physical cut out region by the display module.

34. A method for reformatting display data in a first format to display data in a second format, the method comprising instructions when executed by a computer processor to:

receive the display data in a first display format for displaying on a display surface;

access location data of a physical cut out region defining a cut out periphery of a physical cut out region in the display surface;

use the location data to reformat the display data in to the second display format by deleting a portion of the display data of the first display format determined as located within the cut out periphery; and

send the display instructions for the display data in the second display format for display on the display surface of a display screen.

35. The method of claim 34, wherein the portion of the display data includes picture data.

36. The method of claim 35 further comprising the instructions when executed by the computer processor to implement the one or more operations of the display module to:

use the location data to reformat the display data in to the second display format by repositioning the portion of the display data to a position on the display surface located inside of the cut out periphery; and

provide the display instructions for the display data in the second display format to the display screen;

wherein a shape of the cut out periphery is provided as part of a design element in the picture data.

37. The method of claim 36, wherein the design element is a defined geometrical shape positioned within a plurality of displayed text.

38. The method of claim 37, wherein the defined geometrical shape is a circle, a square, a triangle.

39. The method of claim 36, wherein the design element is a defined geometrical shape positioned within a plurality of geometrical shapes comprising the picture data.

40. The method of claim 36 further comprising the instructions when executed by the computer processor to implement the one or more operations of the display module to: match the shape of the cut out periphery to a shape of the portion of the display data.

41. A mobile device case having:

a cover case having a first face and a second face opposite to the first face;

a display screen positioned on the first face, the display screen configured for receiving display instructions used to position display data on a display surface of the display screen;

an electronic component positioned on the first face within a peripheral boundary of the display surface; and

a physical cut out region in the display surface, the physical cut out region located on the first face about the electronic component.

42. The device case of claim 41, wherein the cover case has mounted computer components including one or more processors, the mounted computer components configure to couple electronically or communicatively with one or more computer components of a mobile device for attaching to the cover case.

43. The device case of claim 42, wherein the display screen is an EPD screen.

44. A mobile assembly having:

a case having a face;

a display screen positioned on the face, the display screen configured for receiving display instructions used to position display data on a display surface of the display screen;

a computer processor mounted in an interior of the case;

a memory mounted in the interior of the case for storing instructions for execution by the computer processor to implement one or more operations of a display module providing the display instructions;

an electronic component positioned on the face within a peripheral boundary of the display surface; and

a virtual cut out region in the display surface, the virtual cut out region for location on the face about a selected position within the peripheral boundary by a display module.

45. The mobile assembly of claim 1, wherein a portion of the peripheral edge of the cut out region overlaps with a portion of the peripheral boundary of the display surface.
46. The mobile assembly of claim 1, wherein the display surface fills the whole case.
47. The mobile assembly of claim 1 further comprising a second display screen coupled to the one or more computer processors.
48. The mobile assembly of claim 1, wherein the case has no visible buttons.
49. The mobile assembly of claim 1, wherein the mobile assembly is a mobile cover.
50. The mobile assembly of claim 1, wherein the mobile assembly is a mobile device.
51. The mobile assembly of claim 1, wherein the mobile assembly is a mobile cover coupled to a mobile device.
52. A method for reformatting display data in a first format to display data in a second format, the method comprising instructions when executed by a computer processor to:
- receive the display data in the first display format for displaying on a display surface;
 - select location data of a virtual cut out region defining a virtual cut out periphery of a virtual cut out region in the display surface;
 - use the location data to reformat the display data in to the second display format by repositioning a portion of the display data of the first display format determined as located within the virtual cut out periphery to a position on the display surface located outside of the virtual cut out periphery; and
 - send display instructions for the display data in the second display format for display on the display surface of a display screen;

wherein the display data is restricted from being located in the virtual cut out region by the display module.

53. A method for reformatting display data in a first format to display data in a second format, the method comprising instructions when executed by a computer processor to:

receive the display data in a first display format for displaying on a display surface;

select location data of a virtual cut out region defining a virtual cut out periphery of a virtual cut out region in the display surface;

use the location data to reformat the display data in to the second display format by deleting a portion of the display data of the first display format determined as located within the virtual cut out periphery; and

send the display instructions for the display data in the second display format for display on the display surface of a display screen.

Claims

1. A mobile assembly having:

- a case having a first face and a second face opposite to the first face;
- a display screen positioned on the first face, the display screen configured for receiving display instructions used to position display data on a display surface of the display screen;
- an electronic component positioned on the first face within a peripheral boundary of the display surface;
- a physical cut out region in the display surface, the physical cut out region located on the first face about the electronic component;
- a computer processor mounted in an interior of the case; and
- a memory mounted in the interior of the case for storing instructions for execution by the computer processor to implement one or more operations of a display module to:
 - receive the display data in a first display format;
 - access location data of the physical cut out region defining a cut out periphery of the physical cut out region;
 - use the location data to reformat the display data in to a second display format; and
 - provide the display instructions for the display data in the second display format to the display screen.

2. The mobile assembly of claim 1, wherein the physical cut out region is located on the first face around a connector socket as the electronic component, the connector socket for receiving a connector plug of a peripheral device of the mobile assembly.

3. The mobile assembly of claim 2, wherein the connector socket is a headphone jack.

4. The mobile assembly of claim 1, wherein the physical cut out region is located on the first face around an imager lens as the electronic component, the imager lens operatively coupled to an imager device mounted in the interior of the case.

5. The mobile assembly of claim 1, wherein the physical cut out region is located on the first face around a light source as the electronic component, the light source powered via a power source mounted in the interior of the case.

6. The mobile assembly of claim 5, wherein the light source is a flash device operatively coupled to an imager device mounted in the interior of the case.
7. The mobile assembly of claim 1, wherein the physical cut out region is located on the first face around a hardware button as the electronic component, the hardware button operatively coupled to the computer processor mounted in the interior of the case.
8. The mobile assembly of claim 1, further comprising the first face being a curved surface such that the display surface follows a curvature of the curved surface of the first face.
9. The mobile assembly of claim 8, further comprising the case configured such that the first face is positioned opposite to the second face and the case has one or more third faces positioned between the first face and the second face.
10. The mobile assembly of claim 8 further comprising the case configured such that the first face is positioned opposite to the second face and the first and second faces are in contact with one another along at least one side of the case.
11. The mobile assembly of claim 10, wherein a degree of curvature of the curved surface is greater in a first surface region adjacent to said contact as compared to the degree of curvature of a second surface region spaced apart from said contact.
12. The mobile assembly of claim 11, wherein the second surface region is in a middle of the display surface.
13. The mobile assembly of claim 10, wherein the case comprises the first face as a first case panel and the second face as a second case panel, such that the first case panel and the second case panel connect with one another to form the interior and the display screen is the first case panel.
14. The mobile assembly of claim 13, wherein a degree of curvature of the curved surface is greater in a first surface region adjacent to said contact as compared to the degree of curvature of a second surface region spaced apart from said contact.

15. The mobile assembly of claim 14, wherein the second surface region is in a middle of the display surface.
16. The mobile assembly of claim 15, further comprising the display surface occupying ninety percent of a total panel surface area of the first case panel.
17. The mobile assembly of claim 8 further comprising the first face including:
the display screen; a support structure having the first display screen mounted thereon; and
a component location in the support structure for mounting the electronic component.
18. The mobile assembly of claim 17, wherein the component location is an aperture in the support structure.
19. The mobile assembly of claim 17, further comprising the first face including a touch screen layer mounted on top of the display screen.
20. The mobile assembly of claim 1, further comprising a touch screen layer mounted on top of the display screen.
21. The mobile assembly of claims 19 or 20, wherein a portion of the touch screen layer is positioned over the physical cut out region.
22. The mobile assembly of claim 1,
wherein using the location data to reformat the display data in to the second display format comprises repositioning a portion of the display data of the first display format determined as located within the cut out periphery to a position on the display surface located outside of the cut out periphery.
23. The mobile assembly of claim 22, wherein the portion of the display data includes text data.
24. The mobile assembly of claim 1,
wherein using the location data to reformat the display data in to the second display format comprises deleting a portion of the display data of the first display format determined as

located within the cut out periphery.

25. The mobile assembly of claim 24, wherein the portion of the display data includes picture data.

26. The mobile assembly of claim 25, further comprising the instructions when executed by the computer processor to implement the one or more operations of the display module to:

use the location data to reformat the display data in to the second display format by repositioning the portion of the display data to a position on the display surface located inside of the cut out periphery; and

provide the display instructions for the display data in the second display format to the display screen;

wherein a shape of the cut out periphery is provided as part of a design element in the picture data.

27. The mobile assembly of claim 26, wherein the design element is a defined geometrical shape positioned within a plurality of displayed text.

28. The mobile assembly of claim 27, wherein the defined geometrical shape is a circle.

29. The mobile assembly of claim 26, wherein the design element is a defined geometrical shape positioned within a plurality of geometrical shapes comprising the picture data.

30. The mobile assembly of claim 26, further comprising the instructions when executed by the computer processor to implement the one or more operations of the display module to: match the shape of the cut out periphery to a shape of the portion of the display data.

31. The mobile assembly of claim 1, wherein the display screen is a bi-stable screen.

32. The mobile assembly of claim 1, further comprising the display screen as a first display screen and a second display screen positioned on the second face providing the mobile device as a multi-screened device.

33. A method for reformatting display data in a first format to display data in a second format, the method comprising instructions when executed by a computer processor to:

- receive the display data in the first display format for displaying on a display surface;
- access location data of a physical cut out region defining a cut out periphery of a physical cut out region in the display surface; use the location data to reformat the display data in to the second display format by repositioning a portion of the display data of the first display format determined as located within the cut out periphery to a position on the display surface located outside of the cut out periphery; and
- send display instructions for the display data in the second display format for display on the display surface of a display screen; wherein the display data is restricted from being located in the physical cut out region by the display module.

34. A method for reformatting display data in a first format to display data in a second format, the method comprising instructions when executed by a computer processor to:

- receive the display data in a first display format for displaying on a display surface;
- access location data of a physical cut out region defining a cut out periphery of a physical cut out region in the display surface;
- use the location data to reformat the display data in to the second display format by deleting a portion of the display data of the first display format determined as located within the cut out periphery; and
- send the display instructions for the display data in the second display format for display on the display surface of a display screen.

35. The method of claim 34, wherein the portion of the display data includes picture data.

36. The method of claim 35, further comprising the instructions when executed by the computer processor to implement the one or more operations of the display module to:

- use the location data to reformat the display data in to the second display format by repositioning the portion of the display data to a position on the display surface located inside of the cut out periphery; and
- provide the display instructions for the display data in the second display format to the display screen;
- wherein a shape of the cut out periphery is provided as part of a design element in the

picture data.

37. The method of claim 36, wherein the design element is a defined geometrical shape positioned within a plurality of displayed text.

38. The method of claim 37, wherein the defined geometrical shape is a circle, a square, a triangle.

39. The method of claim 36, wherein the design element is a defined geometrical shape positioned within a plurality of geometrical shapes comprising the picture data.

40. The method of claim 36 further comprising the instructions when executed by the computer processor to implement the one or more operations of the display module to: match the shape of the cut out periphery to a shape of the portion of the display data.

41. A mobile assembly having:

- a case having a face;

- a display screen positioned on the face, the display screen configured for receiving display instructions used to position display data on a display surface of the display screen;

- an electronic component positioned on the face within a peripheral boundary of the display surface; and

- a virtual cut out region in the display surface, the virtual cut out region located on the face about a selected position within the peripheral boundary by a display module

- a computer processor mounted in an interior of the case;

- a memory mounted in the interior of the case for storing instructions for execution by the computer processor to implement one or more operations of a display module to:

 - receive the display data in the first display format;

 - select location data of the virtual cut out region defining a virtual cut out periphery of the virtual cut out region;

 - use the location data to reformat the display data in to a second display format; and

 - provide the display instructions for the display data in the second display format to the display screen.

42. The mobile assembly of claim 1, wherein a portion of the peripheral edge of the cut out

region overlaps with a portion of the peripheral boundary of the display surface.

43. The mobile assembly of claim 1, wherein the display surface fills the whole case.

44. The mobile assembly of claim 1, further comprising a second display screen coupled to the one or more computer processors.

45. The mobile assembly of claim 1, wherein the case has no visible buttons.

46. The mobile assembly of claim 1, wherein the mobile assembly is a mobile cover.

47. The mobile assembly of claim 1, wherein the mobile assembly is a mobile device.

48. The mobile assembly of claim 1, wherein the mobile assembly is a mobile cover coupled to a mobile device.

49. A method for reformatting display data in a first format to display data in a second format, the method comprising:

- instructions when executed by a computer processor to: receive the display data in the first display format for displaying on a display surface;

- select location data of a virtual cut out region defining a virtual cut out periphery of a virtual cut out region in the display surface; use the location data to reformat the display data into the second display format by repositioning a portion of the display data of the first display format determined as located within the virtual cut out periphery to a position on the display surface located outside of the virtual cut out periphery; and

- send display instructions for the display data in the second display format for display on the display surface of a display screen;

- wherein the display data is restricted from being located in the virtual cut out region by the display module.

50. A method for reformatting display data in a first format to display data in a second format, the method comprising:

- instructions when executed by a computer processor to: receive the display data in a first display format for displaying on a display surface;

select location data of a virtual cut out region defining a virtual cut out periphery of a virtual cut out region in the display surface; use the location data to reformat the display data into the second display format by deleting a portion of the display data of the first display format determined as located within the virtual cut out periphery; and

send the display instructions for the display data in the second display format for display on the display surface of a display screen.