THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A system comprising Simultaneous Split Point Focus (SSPF) and Low Latency Dynamic Distance Monitoring (LLDDM) for enabling self-determination of eyeglass prescription for a user via a mobile computing device, the device comprising:

volatile and non-volatile memory for storing data;

a processor configured for executing program instructions stored in the non-volatile memory;

a visual display screen adapted to receive image information from the processor to present instructions and images to a user; and

a camera configured to receive images of the user's pupils during a test situation;

wherein the system comprises application program instructions for directing the processor to undertake a method for determining an eyeglass prescription, the method comprising:

determining a distance from the display screen to the user's eye under test;

determining if an eye of the user is myopic, and if the user's eye is myopic;

determining Principal and Axis Meridians of a user's eyes while the user is observing the image information on the display screen;

enabling the system of LLDDM for real time determination of the refractive power errors in the Principal and Axis Meridians of a user's eyes in while the user is observing the SSPF image information on the display screen;

calculating Sphere, Cylinder and Axis prescriptions from the Principal and Axis Meridian values obtained via the LLDDM system; and

displaying the calculated prescription values to the user.

2. A system as claimed in Claim 1, wherein determining if an eye of the user is myopic comprises a method implemented by execution of program instructions in the processor, the method comprising:

displaying an image on the display screen comprising a first portion having a duochrome background;

providing instructions to the user; and

receiving input from the user with respect to a portion of the image which appears subjectively clearer to the user.

3. A system as claimed in either Claim 1 or Claim 2, wherein determining the Axis Meridian comprises a method implemented by execution of program instructions in the processor, the method comprising:

displaying a radially oriented image on the display screen;

providing instructions to the user; and

receiving input from the user with respect to a portion of the radially oriented image which appears subjectively clearer to the user.

4. A system as claimed in any one of the preceding claims, wherein determining the Principal Meridians comprises a method implemented by execution of program instructions in the processor, the method comprising:

displaying a hash line image on the display screen comprising a duochrome background and receiving input from the user with respect to a location spaced from the users eye under test where the lines appears subjectively equally clear to the user.

5. A system as claimed in Claim 4, wherein the line images displayed on the screen are configured to have a width between about 2 and 8 pixels.

6. A system as claimed in Claim 5, wherein the line images displayed on the screen are configured to have a width between about 4 and 8 pixels.

7. A system as claimed in either Claim 5 or Claim 6, wherein the length of the lines displayed on the screen are between about 40 and 60 mm long.

8. A system as claimed in any one of the preceding claims comprising a duochrome image comprising:

a duochrome background image with at least two portions separated by an interface; and

an image overlaid on the duochrome background across the interface between the duochrome background portions;

wherein each the image in each of the duochrome background portions is simultaneously imaged to an ocular foveal point of the user's eye under test.

9. A system as claimed in any one of the preceding claims, wherein the distance from the display screen to the user's eye under test is determined from a live video stream of the user's eyes during a test.

10. A method for self-determination of eyeglass prescription for a user via a mobile computing device, the method comprising:

providing a mobile computing device comprising:

a processor configured for executing program instructions stored in the non-volatile memory;

a visual display screen adapted to receive image information from the processor to present instructions and images to a user; and

a camera configured to receive images of the user's pupils during a test situation;

wherein the method comprises providing application program instructions for directing the processor to undertake a method for determining an eyeglass prescription, the program instructions comprising:

program code for determining a distance from the display screen to the user's eye under test;

program code for determining if an eye of the user is myopic, and if the user's eye is myopic;

program code for determining Principal and Axis Meridians of a user's eyes while the user is observing the image information on the display screen; and

program code for calculating Sphere, Cylinder and Axis prescriptions from the Principal and Axis Meridians;

wherein the method further comprises presentation of a duochrome image on the display screen, the duochrome image comprising:

a duochrome background with at least two portions separated by an interface and an image overlaid on the duochrome background across the interface between the duochrome background portions; and

wherein the image in each of the duochrome background portions is simultaneously imaged to an ocular foveal point of the user's eye under test.

11. A method as claimed in Claim 10, wherein determining if an eye of the user is myopic comprises program code for displaying an image on the display screen comprising:

a duochrome background;

program code for providing instructions to the user; and

program code for receiving input from the user with respect to a portion of the image which appears subjectively clearer to the user.

12. A method as claimed in either Claim 10 or Claim 11, wherein determining the Axis Meridian comprises:

program code for displaying a radially oriented image on the display screen;

program code for providing instructions to the user; and

program code for receiving input from the user with respect to a portion of the radially oriented image which appears subjectively clearer to the user.

13. A method as claimed in any one of Claims 10 to 12, wherein determining the Principal Meridians comprises:

program code for displaying a hash line image on the display screen comprising a duochrome background and receiving input from the user with respect to a location spaced from the users eye under test where the lines appears subjectively equally clear to the user.

14. A method as claimed in any one of Claims 10 to 13, wherein the distance from the display screen to the user's eye under test is determined from a live video stream of the user's eyes during a test.

15. A method as claimed in any one of Claims 10 to 14, wherein the duochrome background comprises a background image having a first portion and a second portion and an interface, wherein the first and second portions are adjacent each other.

16. A method as claimed in Claim 15, wherein the first portion comprises a red background portion and the second portion comprises a green or blue background.

17. A method as claimed in either Claim 15 or Claim 17, wherein the hash line image is overlaid over both the red and green background portions and is aligned between about 40 degrees to 90 degrees to the interface.

18. A method as claimed in Claim 17, wherein the hash line image is aligned approximately perpendicularly to the interface.