CLAIMS

1. A system for conducting a vision assessment test of an eye of a patient comprising:

   a display screen for displaying at least one moving target test profile to the patient;

   an eye tracker controlled for automatically detecting a gaze direction data of the eye of the patient when tracking the test profile(s);

   and a processor for processing the detected gaze direction data and identifying a correlation between the gaze direction data and the test profile(s) to thereby obtain a vision assessment of the patient's eye;

   wherein the system comprises a user interface for enabling an operator of the system to author the test profile(s) for the patient by controlling one or more parameters of the test profile(s) prior to the vision assessment test being conducted, and wherein said test profile comprises a plurality of target images being separately displayed on the display screen in a pseudo-random pattern during the vision assessment test.

2. A system according to claim 1, wherein the test profile comprises a test profile path and a pursuit target travelling along the test profile path, the vision assessment test requiring the patient's eye to following the pursuit target, and wherein the test profile path is determined by the operator of the system.

3. A system according to claim 2, wherein the test profile path is determined by controlling the parameters comprising one or more of the following: waveform shape, waveform period, waveform frequency waveform amplitude, a-periodic or periodic waveform.

4. A system according to claim 3, wherein the waveform shapes is selectable from sinusoid, square, rectangular, triangular, saw-toothed and 2nd order waveform shapes.

5. A system according to any one of claims 2 to 4, wherein the test profile path comprises pulses and/or spikes displayed at a predetermined frequency or wavelength on the waveform.

6. A system according to claim 2, wherein the test profile path comprises a geometric shape.

7. A system according to claim 6, wherein the test profile path is selectable from an oval or rectilinear shape.

8. A system according to claim 2, wherein the test profile path is an irregular curve in shape.

9. A system according to any one of claims 2 to 7, wherein the authored test profile path is a wide pursuit path that extends across the entire threshold of the screen or field-of-vision of the patient.

10. A system according to claim 1, wherein the user interface enables the operator of the system to author the test profile by controlling parameters comprising one or more of the following: number of the test targets to be displayed, size of the test target, colour of the test target, colour of the background for the test.

11. A system according to claim 10, wherein the user interface further enables a sensitivity of the eye gaze detection being used for the test, the sensitivity being indicated on the user interface by a boundary ring encircling each of the target images.

12. A system according to any one of the preceding claims, wherein the user interface is displayed on the display screen.

13. A method for conducting a vision assessment test of an eye of a patient comprising:

conducting a preliminary vision assessment of the patient;

authoring at least one moving target test profile by controlling one or more

parameters of the test profile on a user interface taking into account the preliminary vision assessment;

using said test profile having a plurality of target images separately displayed on a display screen in a pseudo-random pattern during the vision assessment;

displaying the one or more test profiles on the display screen to the patient;

automatically collecting data on the patient's gaze direction in response to the eye of the patient tracking the one or more test profiles displayed to the patient; and

conducting a vision assessment of the patient based on identifying a correlation between the gaze direction data and the one or more test profiles.

14. A method according to claim 13, wherein the test profile comprises a test profile path and a pursuit target travelling along the test profile path, the vision assessment test requiring the patient's eye to following the pursuit target, and wherein the test profile path is determined by the operator of the system.

15. A method according to claim 14, wherein the test profile path is determined by controlling the parameters comprising one or more of the following: waveform shape, waveform period, waveform frequency waveform amplitude, a-periodic or periodic waveform.

16. A method according to claim 15, wherein the waveform shapes is selectable from sinusoid, square, rectangular, triangular, saw-toothed, and 2nd order waveform shapes.

17. A method according to any one of claims 14 to 16, wherein the test profile path comprises pulses and/or spikes displayed at a predetermined frequency or wavelength of the waveform.

18. A method according to claim 14, wherein the test profile path comprises a

geometric shape.

19. A method according to claim 18, wherein the test profile path is selectable from an oval or rectilinear shape.

20. A method according to claim 15, wherein the test profile path is an irregular curve in shape.

21. A method according to any one of claims 14 to 20, wherein the authored test profile path is a wide pursuit path that extends across the entire threshold of the screen or field-of-vision of the patient.

22. A method according to claim 14, wherein the user interface enables the operator of the system to author the test profile by controlling parameters comprising one or more of the following: number of the test targets to be displayed, size of the test target, colour of the test target, colour of the background for the test..

23. A method according to claim 22, wherein the user interface further enables a sensitivity of the eye gaze detection being used for the test, the sensitivity being indicated on the user interface by a boundary ring encircling each of the target images.

24. A method according to claim 23, wherein the user interface further enables a sensitivity of the eye gaze detection being used for the test, the sensitivity being shown on the user interface by a boundary region encircling each of the target images.

25. A method according to any one of claims 14 to 24, wherein the user interface is displayed on the display screen.