

ABSTRACT

A method for personalised detection of visual field defects and evaluating their progression in users through gamification of the testing processes. This is personalised for each user based on their demographic background (age-standardised norms) and baseline visual performance through automated tailoring of the difficulty of perimetry testing based on the user's prior performance in perimetry visual fields testing. Social remote eye screening and monitoring gamification is implemented through integration of modular assessments of visual function into the objectives of interactive games to encourage compliance to testing instructions to facilitate improved fidelity, remote frequent reassessment/ trending, and/or automated interpretation. These are developed on any platform, including virtual and/or 3-dimensional gaming platforms which include immersive and deep-dive gaming technology platforms such as virtual reality, augmented reality or mixed reality. This novel process will also be deployed on any future platforms that involve headsets or image projections that physically surround users with virtual stimuli. This is materially distinguished from prior approaches that provide visual field defect assessment with adaptation of the speed of testing based on the users' performance on prior runs of the test. However, this adaptation of speed evaluates reaction time, which is an ancillary component of the perimetry test, which is instead intended to evaluate visual performance (ability of the patient to see different locations of their visual field). Our approach is materially different with the adaptation of our test being in the granularity of perimetry testing targeted to delineate regions with pre-existing high suspicion for visual field defects with greater granularity, and having that tailored to the individual patients' prior vision performance assessment. This provides a more targeted assessment of their vision function (and not their reaction time).

FIG. 1