

Claims:

1. An apparatus for generating a prediction, at a time prior to a laser iris color-change procedure, of what a patient's iris color will be after the procedure is performed and its effects are realized, characterized in that said apparatus comprises :
 - a measurement device configured to measure anatomical features of the patient's eye relevant to the prediction;
 - a database comprising measurements of the anatomical features of a population of eyes and the iris colors associated with the anatomical features of the population of eyes;
 - a data-processing device, configured to:
 - query the database, using as search criteria the measurements of the anatomical features of the patient's eyes, and
 - generate the prediction; and
 - a display device configured to display at least one of a description or image of the prediction.
2. The apparatus according to claim 1, wherein the anatomical features of the patient's eye relevant to the prediction comprise at least one of: thickness of iris stroma; location, density, color, or thickness of at least one of melanocytes or lipofuscin; thickness, density, axial periodicity, depth, or arrangement of iris stroma fibers; thickness, density, axial periodicity, depth, or arrangement of iris vasculature; anterior chamber depth; corneal curvature or clarity; or iris curvature.
3. The apparatus according to claim 1 or 2, wherein the measurement device configured to measure the anatomical features of the patient's eye implements at least one of: optical coherence

tomography, anterior segment optical coherence tomography, spectral domain optical coherence tomography, or ultrasound biomicroscopy.

4. The apparatus according to any one of the previous claims, wherein the database comprises at least one of: a relational database; an operational database; a database warehouse; a distributed database; or an end-user database.
5. The apparatus according to any one of the previous claims, wherein the data-processing device is configured to carry out at least one of: data format conversion; data verification; data validation; data sorting; data summarization; data aggregation; data analysis; or data reporting.
6. The apparatus according to any one of the previous claims, wherein the display device comprises at least one of: photographs; a digital file; a digital image print-out; a cathode ray tube display; a light-emitting diode display; an electroluminescent display; electronic paper; a plasma display panel; a liquid crystal display; a high-performance addressing display; a thin-film transistor display; an organic light-emitting diode display; a surface-conduction electron-emitter display; a field emission display; a laser TV; a carbon nanotube; a quantum dot display; an interferometric modulator display; a digital microshutter display; a swept-volume display; a varifocal mirror display; an emissive volume display; a laser display; a holographic display; or a light field display.
7. A method for generating a prediction, at a time prior to a laser iris color-change procedure, of what a patient's iris color will be after the procedure is performed and its effects are realized, characterized in that the method comprises:

measurement of anatomical features of the patient's eye relevant to the prediction;

querying a database comprising measurements of the anatomical features of a population of eyes and the iris colors associated with the anatomical features of the population of eyes, using search criteria comprising the measurements of the anatomical features of the patient's eyes;

generating the prediction; and

displaying at least one of a description or image of the prediction.

8. The method according to claim 7, wherein the anatomical features of the patient's eye relevant to the prediction comprise at least one of: thickness of iris stroma; location, density, color, or thickness of at least one of melanocytes or lipofuscin; thickness, density, axial periodicity, depth, or arrangement of iris stroma fibers; thickness, density, axial periodicity, depth, or arrangement of iris vasculature; anterior chamber depth; corneal curvature or clarity; or iris curvature.
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9. The method according to claim 7 or 8, wherein the measurement device configured to measure the anatomical features of the patient's eye is carried out using at least one of: optical coherence tomography, anterior segment optical coherence tomography, spectral domain optical coherence
10 tomography, or ultrasound biomicroscopy.
10. The method according to any one of claims 7, 8 or 9, wherein the database comprises at least one of: a relational database; an operational database; a database warehouse; a distributed database; or an end-user database.

11. The method according to any one of claims 7 to 10, wherein the data-processing device comprises at least one of: data format conversion; data verification; data validation; data sorting; data summarization; data aggregation; data analysis; or data reporting.
12. The method according to any one of claims 7 to 11, wherein the display device comprises at least one of: photographs; a digital file; a digital image print-out; a cathode ray tube display; a light-emitting diode display; an electroluminescent display; electronic paper; a plasma display panel; a liquid crystal display; a high-performance addressing display; a thin-film transistor display; an organic light-emitting diode display; a surface-conduction electron-emitter display; a field emission display; a laser TV; a carbon nanotube; a quantum dot display; an interferometric modulator display; a digital microshutter display; a swept-volume display; a varifocal mirror display; an emissive volume display; a laser display; a holographic display; or a light field display.