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(54) Title: SYSTEMS AND METHODS FOR FACE AUTHENTICATION OR RECOGNITION USING SPECTRALLY AND/OR TEMPORALLY FILTERED FLASH ILLUMINATION

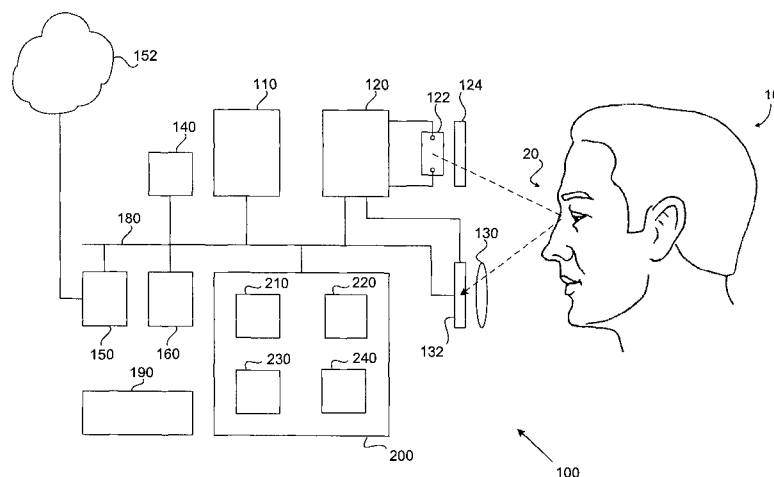


FIG. 1A

(S7) Abstract: A face authentication or recognition system embodiment includes a processing unit; a flash illumination drive circuit; a flash illumination unit having a flashlamp configured to generate a set of flash illumination pulses; a set of spectral filters configured to pass a set of spectrally filtered flash illumination pulses; a lens; an image sensor configured to receive a set of filtered flash illumination pulses reflected from a subject's face and generate a corresponding facial image dataset; and a memory or data storage device configured to store facial image datasets, enrolment datasets, and query datasets, and which includes a face authentication or recognition module. Spectrally filtered flash illumination pulses have an intensity at least approximately equal to the intensity of ambient sunlight, essentially regardless of an outdoor environment under consideration upon or proximate to the surface of the earth. Spectrally filtered flash illumination reflected from the subject's face can be readily distinguished from ambient light, regardless of the environment in which the subject's facial image was captured, providing surprisingly robust facial authentication and/or recognition performance essentially regardless of ambient lighting conditions.



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