

Title (en)

DETERMINING TOOTH COLOR SHADE BASED ON IMAGE OBTAINED WITH A MOBILE DEVICE

Title (de)

BESTIMMUNG DES ZAHNFARBTONS AUF BASIS EINES MIT EINER MOBILEN VORRICHTUNG ERHALTENEN BILDES

Title (fr)

DÉTERMINATION DE TEINTE DE DENT EN FONCTION D'UNE IMAGE OBTENUE À L'AIDE D'UN DISPOSITIF MOBILE

Publication

**EP 3948786 A1 20220209 (EN)**

Application

**EP 20717242 A 20200327**

Priority

- IN 201921012676 A 20190329
- FI 2020050203 W 20200327

Abstract (en)

[origin: WO2020201623A1] The present invention relates to a computer-implemented method, a data-processing system and data-processing apparatuses as well as computer program products for defining color shade of a tooth using a camera of a mobile communication device. On basis of a received image 5 of a tooth of a subject that comprises a part of an image acquired with a plain camera of the mobile communication device, lighting conditions are obtained, and applicable training images are selected from a training database. Training images comprise images of a model tooth with known colors. K-means clustering is applied to the received image to obtain color 10 code embeddings of the received image and the color code embeddings of the received image are adjusted based on the indication of lighting conditions. Obtained color code embeddings are obtained to all color code embeddings of the selected training images to find the training image with color code embeddings having lowest distance to received image's color 15 code embeddings, and the color shade of the tooth in the received image is determined to be equal to the color shade of a model tooth shown in the training image having the lowest distance of color code embeddings to those of the received image. Tooth color information indicative of the defined tooth color shade is communicated back to the mobile 20 communication device from which the image was received.

IPC 8 full level

**G06T 7/90** (2017.01); **G01J 3/50** (2006.01)

CPC (source: EP FI)

**A61C 13/082** (2013.01 - FI); **A61C 19/04** (2013.01 - FI); **G01J 3/463** (2013.01 - EP); **G01J 3/508** (2013.01 - EP FI); **G06T 7/90** (2016.12 - EP FI); **A61C 13/082** (2013.01 - EP); **G06T 2207/10024** (2013.01 - EP); **G06T 2207/20081** (2013.01 - EP); **G06T 2207/30036** (2013.01 - EP)

Citation (search report)

See references of WO 2020201623A1

Designated contracting state (EPC)

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Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**WO 2020201623 A1 20201008**; EP 3948786 A1 20220209; FI 130746 B1 20240226; FI 20195916 A1 20200930

DOCDB simple family (application)

**FI 2020050203 W 20200327**; EP 20717242 A 20200327; FI 20195916 A 20191024