

Title (en)  
METHOD AND DEVICE FOR THREE-DIMENSIONAL RECONSTRUCTION OF A FACE WITH TOOTHED PORTION FROM A SINGLE IMAGE

Title (de)  
VERFAHREN UND VORRICHTUNG ZUR DREIDIMENSIONALEN REKONSTRUKTION EINER SEITE MIT GEZAHNTEM TEIL AUS EINEM EINZELBILD

Title (fr)  
PROCÉDÉ ET DISPOSITIF DE RECONSTRUCTION TRIDIMENSIONNELLE D'UN VISAGE AVEC PARTIE DENTÉE À PARTIR D'UNE SEULE IMAGE

Publication  
**EP 4162448 A1 20230412 (FR)**

Application  
**EP 21730227 A 20210604**

Priority  
• FR 2005928 A 20200606  
• EP 2021065067 W 20210604

Abstract (en)  
[origin: WO2021245273A1] Disclosed is a 3D reconstruction method for obtaining, from a 2D colour image of a human face with a visible toothed portion (1), a single reconstructed 3D surface of the toothed portion and of the facial portion (4) without toothed portion. The method comprises segmenting the 2D image into a first part (22) corresponding to the toothed portion (1) and a second part corresponding to the facial portion (4) without said toothed portion, enhancing the first part of the 2D image in order to modify the photometric characteristics, and generating a 3D surface of the face reconstructed from the enhanced first part of the 2D image and from the second part of the 2D image. The obtained 3D surface of the face is suitable for simulating a dental treatment, by substituting on the area of the 3D surface corresponding to the toothed portion (1), another 3D surface corresponding to the toothed portion after the projected treatment.

IPC 8 full level  
**G06T 7/50** (2017.01)

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**G06T 5/20** (2013.01 - US); **G06T 5/40** (2013.01 - US); **G06T 7/11** (2016.12 - US); **G06T 7/30** (2016.12 - US); **G06T 7/50** (2016.12 - EP US); **G06T 7/70** (2016.12 - US); **G06T 17/00** (2013.01 - US); **G06T 19/20** (2013.01 - US); **G06T 2207/10024** (2013.01 - EP US); **G06T 2207/20021** (2013.01 - US); **G06T 2207/20084** (2013.01 - EP); **G06T 2207/20221** (2013.01 - US); **G06T 2207/20224** (2013.01 - US); **G06T 2207/30036** (2013.01 - EP US); **G06T 2207/30201** (2013.01 - US); **G06T 2207/30244** (2013.01 - US); **G06T 2210/41** (2013.01 - US); **G06T 2210/44** (2013.01 - US); **G06T 2219/2021** (2013.01 - US)

Citation (search report)  
See references of WO 2021245273A1

Designated contracting state (EPC)  
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**FR 3111066 A1 20211210**; EP 4162448 A1 20230412; US 2023222750 A1 20230713; WO 2021245273 A1 20211209

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