

Title (en)  
CALIBRATION METHOD OF A SYSTEM COMPRISING AN EYE TRACKING DEVICE AND A COMPUTING DEVICE COMPRISING ONE OR MULTIPLE SCREENS

Title (de)  
KALIBRIERUNGSVERFAHREN EINES SYSTEMS MIT EINER AUGENVERFOLGUNGSVORRICHTUNG UND EINER COMPUTERVORRICHTUNG MIT EINEM ODER MEHREREN BILDSCHIRMEN

Title (fr)  
PROCÉDÉ D'ÉTALONNAGE D'UN SYSTÈME COMPRENANT UN DISPOSITIF DE SUIVI OCULAIRE ET UN DISPOSITIF INFORMATIQUE COMPRENANT UN OU PLUSIEURS ÉCRANS

Publication  
**EP 4374241 A1 20240529 (EN)**

Application  
**EP 22734686 A 20220621**

Priority  
• EP 21182902 A 20210630  
• IB 2022055739 W 20220621

Abstract (en)  
[origin: EP4113251A1] The present invention relates to a calibration method for a system (10) comprising an eye-tracking device (16) and a computing device (12) for capturing the gaze of a user (P) on at least one screen (13a; 13b) of the computing device. The calibration method comprises: a. displaying on one screen (13a; 13b) of the computing device (12) one or more specific patterns (20a; 20b; 20c; 20d) or arbitrary content; b. capturing with a camera (18) of the eye-tracking device (16) at least one image of said one or more specific patterns (20a; 20b; 20c; 20d) or said arbitrary content when said eye-tracking device is in an initial 3D pose (ECS<sub>0</sub>); c. computing a 3D pose (SCS<sub>0</sub>) of said one screen (13a; 13b) with respect to the eye-tracking device (16) at said initial 3D pose (ECS<sub>0</sub>) as a function of said one or more specific patterns (20a; 20b; 20c; 20d) or said arbitrary content firstly defined in terms of pixel coordinates in the screen's display coordinate system (DCS), and secondly detected in the image coordinate system (ICS) of the camera (18) of the eye-tracking device (16); d. moving and placing the eye-tracking device (16) to a resting position convenient for a user (P) corresponding to a final 3D pose (ECS) of the eye-tracking device (16); and e. computing the final 3D pose (SCS) of said at least one screen (13a; 13b) with respect to the eye-tracking device coordinate system (ECS) when the eye-tracking device (16) is in said final 3D pose as a function of the 3D pose (SCS<sub>0</sub>) of said at least one screen (13a, 13b) with respect to the eye-tracking device (16) at said initial 3D pose (ECS<sub>0</sub>) and the final 3D pose (ECS) of the eye-tracking device (16).

IPC 8 full level  
**G06F 3/01** (2006.01)

CPC (source: EP)  
**G06F 3/013** (2013.01)

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

Designated validation state (EPC)  
KH MA MD TN

DOCDB simple family (publication)  
**EP 4113251 A1 20230104**; EP 4374241 A1 20240529; WO 2023275669 A1 20230105

DOCDB simple family (application)  
**EP 21182902 A 20210630**; EP 22734686 A 20220621; IB 2022055739 W 20220621