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KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG,
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PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC,
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(54) Title: METHOD AND SYSTEM FOR GENERATING A SYNTHETIC DATABASE OF POSTURES AND GESTURES

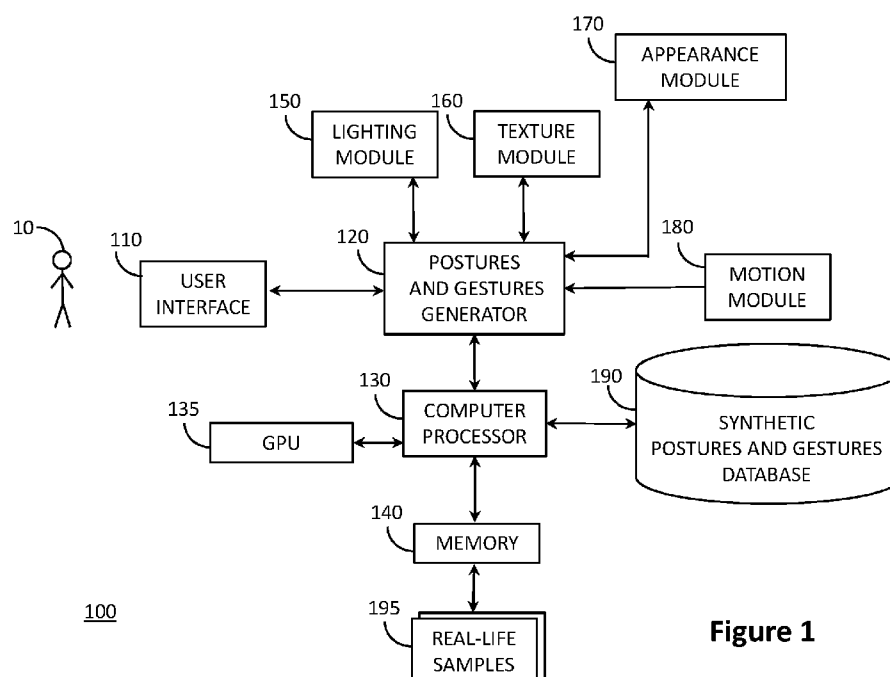


Figure 1

(57) Abstract: Methods and systems for generating synthetic samples of postures and gestures are provided. In one embodiment, the system may include: a database configured to store at least one sample of a posture or a gesture; a sensing device; and a computer processor configured to: derive values of parameters relating to a specific user and/or environment and generate datasets of gesture and posture samples based on the derived values. In another embodiment, a computer memory may be configured to: obtain at least one gesture or posture of at least one body part; and obtain data sets affecting the appearance of said postures and gestures; and a computer processor configured to generate sets of synthetic samples of said postures and gestures, based on the obtained data sets, wherein the synthetic samples embody virtual variations caused by at least one of the obtained data sets.



GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ,
UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ,
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL17/50096

A. CLASSIFICATION OF SUBJECT MATTER

IPC - G06F17/30, G06F3/048 (2017.01)

CPC - G06F3/011, G06F3/014, G06F3/017

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

See Search History document

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

See Search History document

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

See Search History document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2,419,433 A (GLASGOW SCHOOL OF ART) 26 April 2006; abstract; page 4, lines 2-4; page 6, line 33 to page 7, line 2	1-7
A	WO 2015/192117 A1 (MAGIC LEAP, INC.) 17 December 2015; entire document	1-7
A	US 2010/0281440 A1 (UNDERKOFFLER, J et al.) 04 November 2010; entire document	1-7

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL17/50096

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

-Continued in extra sheet-

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-7

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL17/50096

-Continued from Box No. III - Observations where unity of invention is lacking-

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fee must be paid.

Group I: Claims 1-7 are directed towards deriving values of parameters relating to a specific user and/or environment.

Group II: Claims 8-12 are directed towards obtaining samples relating to appearance of postures or gestures, via a sensing device.

Group III: Claims 13-27 are directed towards obtaining at least one gesture or posture of at least one body part being real life captured and/or artificially generated.

The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The special technical features of Group I include at least rendering tailored data sets; and deriving values of parameters relating to a specific user and/or environment, which are not present in Groups II-III.

The special technical features of Group II include at least accessing a database comprising a plurality of posture and gesture samples indexed; obtaining samples relating to appearance of postures or gestures, via a sensing device; and deriving values of the parameters relating to the appearance of postures or gestures, based on the samples, which are not present in Groups I and III.

The special technical features of Group III include at least obtaining at least one gesture or posture of at least one body part being real life captured and/or artificially generated; obtaining data sets affecting the appearance of said postures and gestures, wherein the synthetic samples embody virtual variations caused by at least one of the obtained data sets, which are not present in Groups I-II.

The common technical features shared by Groups I-III are a system comprising: a database, a sensing device, and a memory configured to; a method; and a non-transitory computer readable medium for generating a database of synthetic samples of postures and gestures, the non-transitory computer readable medium comprising a set of instructions that when executed cause at least one processor to, respectively, derive values of parameters predefined upon generating said database; and generating data sets of synthetic samples of said postures and gestures.

However, these common features are previously disclosed by US 2010/0281440 A1 to UNDERKOFFLER et al. (hereinafter "Underkoffler"). Underkoffler discloses a system comprising: a database (processing system comprising a database; paragraph [0560]), a sensing device (hands are tracked by sensors; paragraph [0141]), and a memory configured to; a method; and a non-transitory computer readable medium (memory (computer readable medium) is used to implement the method; paragraph [0560]) for generating a database of synthetic samples of postures and gestures (gesture engine of the processing system comprising the database renders singular postural configurations (samples) at a location expressed using local geometry; paragraphs [0041], [0061], [0560]), the non-transitory computer readable medium comprising a set of instructions that when executed cause at least one processor (memory device (computer readable medium) is used for implementing software (instructions) executed by a central processing unit/CPU; paragraph [0560]) to, respectively, derive values of parameters predefined upon generating said database (metainformation tagging is derived (values of parameters) using a list of original events (predefined) by the processing system comprising the database; paragraphs [0074], [0560]); and generating data sets of synthetic samples of said postures and gestures (a distributor transmits gestural events re-interpreted in geometric and semantic form (synthetic samples); paragraph [0084]).

Since the common technical features are previously disclosed by the Underkoffler reference, these common features are not special and so Groups I-III lack unity.