505950537 03/04/2020

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
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ALEXANDER SORKINE HORNUNG	02/17/2020
MANUEL WERLBERGER	02/19/2020
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JAN OBERLÄNDER	02/26/2020

RECEIVING PARTY DATA

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PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16773886

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ATTORNEY DOCKET NUMBER:	079894.6543	
NAME OF SUBMITTER:	SARAH JEROMIN	
SIGNATURE:	/Sarah Jeromin/	
DATE SIGNED: 03/04/2020		
	This document serves as an Oath/Declaration (37 CFR 1.63).	

PATENT REEL: 052017 FRAME: 0639

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Total Attachments: 3

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PATENT REEL: 052017 FRAME: 0640

COMBINED ASSIGNMENT AND DECLARATION (37 C.F.R. § 1.63)

For good and valuable consideration, the receipt of which is hereby acknowledged, the person(s) named below (referred to as "INVENTOR" whether singular or plural) has sold, assigned, and transferred and does hereby sell, assign, and transfer to **Facebook Technologies**, **LLC**, a Delaware corporation, having a place of business at 1601 Willow Road, Menlo Park, California 94025 ("ASSIGNEE"), for itself and its successors, transferees, and assignees, the following:

1. The entire worldwide right, title, and interest in and to all inventions and improvements ("SUBJECT MATTER") that are disclosed in the following provisional patent application filed under 35 U.S.C. § 111(b), non-provisional patent application filed under 35 U.S.C. § 111(a), international patent application filed according to the Patent Cooperation Treaty (PCT), or U.S. national-phase patent application filed under 35 U.S.C. § 371 ("APPLICATION"):

Application No. 16/773,886, entitled "Systems, Methods, and Media for Detecting Object-Free Space" filed on 27 January 2020.

2. The entire worldwide right, title, and interest in and to: (a) the APPLICATION; (b) all patent applications that claim priority to or from the APPLICATION; (c) all patent applications that the APPLICATION claims priority to or from; (d) all provisional, utility, divisional, continuation, substitute, renewal, reissue, and other patent applications related thereto which have been or may be filed in the United States or elsewhere in the world; (e) all patents (including reissues and re-examinations) which may be granted on the patent applications set forth in (a), (b), (c), or (d) above; and (f) all right of priority in the APPLICATION and in any underlying provisional or foreign patent application, together with all rights to recover damages for infringement of provisional rights.

INVENTOR agrees that ASSIGNEE may apply for and receive patents for SUBJECT MATTER in ASSIGNEE's own name.

INVENTOR agrees to do the following, when requested, and without further consideration, in order to carry out the intent of this Assignment: (1) execute all oaths, assignments, powers of attorney, applications, and other papers necessary or desirable to fully secure to ASSIGNEE the rights, titles and interests herein conveyed; (2) communicate to ASSIGNEE all known facts relating to the SUBJECT MATTER; and (3) generally do all lawful acts that ASSIGNEE shall consider desirable for securing, maintaining, and enforcing worldwide patent protection relating to the SUBJECT MATTER and for vesting in ASSIGNEE the rights, titles, and interests herein conveyed. INVENTOR further agrees to provide any successor, assign, or legal representative of ASSIGNEE with the benefits and assistance provided to ASSIGNEE hereunder.

INVENTOR represents that INVENTOR has the rights, titles, and interests to convey as set forth herein, and covenants with ASSIGNEE that the INVENTOR has not made and will not hereafter make any assignment, grant, mortgage, license, or other agreement affecting the rights, titles, and interests herein conveyed.

REEL: 052017 FRAME: 0641

Title: Systems, Methods, and Media for Detecting Object-Free Space

Date Filed: 27 January 2020 16/773,886 Application No.:

Attorney Docket No.: 079894.6543

INVENTOR grants the attorney of record the power to insert on this Assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

This Assignment may be executed in one or more counterparts, each of which shall be deemed an original and all of which may be taken together as one and the same Assignment.

DECLARATION (37 C.F.R. § 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. § 1.76)

By signing below, INVENTOR further attests to the following:

- The APPLICATION was made or authorized to be made by INVENTOR.
- INVENTOR believes that INVENTOR is the original inventor or an original joint inventor of a claimed invention in the APPLICATION.
- INVENTOR acknowledges the duty to disclose to the United States Patent and Trademark Office all information known to INVENTOR to be material to patentability as defined in 37 CFR § 1.56, which for a continuation-in-part includes information known to INVENTOR to be material to patentability as defined in 37 CFR § 1.56 that became available between the filing date of the prior patent application and the National or PCT filing date of the continuation-in-part application.

INVENTOR hereby acknowledges that any willful false statement made in this Declaration is punishable under 18 U.S.C. § 1001 by fine, imprisonment of not more than five years, or both.

Name and Signature	Date of Signature
Alexandru-Eugen Ichim	
Name and Signature	Date of Signature
Matthew James Alderman	Feb 19, 2020
Matthew James Alderman	
Name and Signature	Date of Signature
Alexander Sorkine-Hornung Alexander Sorkine-Hornung (Reb 17, 2020)	Feb 17, 2020
Alexander Sorkine Hornung	

PATENT 44486695.1 Page 2 of 3

Title: Systems, Methods, and Media for Detecting Object-Free Space

Date Filed: **27 January 2020** Application No.: **16/773,886**

Name and Signature

Manuel Werlberger

Manuel Werlberger

Name and Signature

Date of Signature

Date of Signature

Date of Signature

Peb 15, 2020

Feb 15, 2020

Name and Signature Date of Signature

Jan Oberländer
Jan Oberländer (Feb 26, 2020)

Jan Oberländer

Attorney Docket No.: 079894.6543 Page 3 of 3

RECORDED: 03/04/2020

PATENT ** 44486695.1 REEL: 052017 FRAME: 0643