504078657 11/02/2016

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:NEW ASSIGNMENTNATURE OF CONVEYANCE:ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
KRASIMIR D. KOLAROV	09/06/2016
BJORN S. HORI	09/06/2016
RAHUL GOPALAN	09/06/2016
STEVEN E. SAUNDERS	09/06/2016

RECEIVING PARTY DATA

Name:	APPLE INC.
Street Address:	1 INFINITE LOOP
City:	CUPERTINO
State/Country:	CALIFORNIA
Postal Code:	95014-2084

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15258501

CORRESPONDENCE DATA

Fax Number: (202)861-1783

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 202-861-1500

Email: patents@bakerlaw.com

Correspondent Name: BAKER & HOSTETLER LLP

Address Line 1: WASHINGTON SQUARE, SUITE 1100
Address Line 2: 1050 CONNECTICUT AVENUE, N.W.
Address Line 4: WASHINGTON, D.C. 20036-5304

ATTORNEY DOCKET NUMBER: 082438.309640

NAME OF SUBMITTER: JOSHUA W. BRANSON

SIGNATURE: /Joshua W. Branson/

DATE SIGNED: 11/02/2016

Total Attachments: 4

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PATENT 504078657 REEL: 040199 FRAME: 0642

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> PATENT REEL: 040199 FRAME: 0643

ASSIGNMENT

In consideration of good and valuable consideration, the receipt of which is hereby acknowledged, the undersigned hereby sell, assign, and transfer to **Apple Inc.**, a corporation of the state of California, having a principal place of business at 1 Infinite Loop, Cupertino, California, 95014-2084 ("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions and discoveries that are disclosed in the United States Patent Application entitled:

MULTI-DIMENSIONAL OBJECTIVE METRIC CONCENTERING

the specification of which is attached hereto unless the following is entered:

	Filed on	as United States Application Number or PCT International Application Number	and was amended on (if applicable)
-			

and in and to said United States Patent Application and all provisional, divisional, continuing, substitute, renewal, reissue, and other patent applications that have been or shall be filed in the United States or any foreign country on any of said inventions and discoveries; and in and to all original and reissued patents that have been or shall be issued in the United States or any foreign country on said inventions and discoveries; and in and to all rights of priority resulting from the filing of said United States Patent Application;

agree that said Assignee may apply for and receive a patent or patents for said inventions and discoveries in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all provisional, divisional, continuing, substitute, renewal, reissue, and other patent applications on any and all said inventions and discoveries; execute all rightful paths, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and representatives all facts known to the undersigned relating to said inventions and discoveries and the history thereof; and generally assist said Assignee, its successors, assigns, or representatives in securing and maintaining proper patent protection for said inventions and discoveries and for vesting title to said inventions and discoveries, and all applications for patents and all patents on said inventions and discoveries, in said Assignee, its successors, assigns, and legal representatives; and

covenant with said Assignee, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

Inventor: Krasimir D. Kolarov 🔑 🕠	
Inventor Signature	Date 9/6/16
Inventor: Bjorn S. Hori	
Inventor Signature	Date
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PATENT REEL: 040199 FRAME: 0644

ASSIGNMENT

In consideration of good and valuable consideration, the receipt of which is hereby acknowledged, the undersigned hereby sell, assign, and transfer to **Apple Inc.**, a corporation of the state of California, having a principal place of business at 1 Infinite Loop, Cupertino, California, 95014-2084 ("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions and discoveries that are disclosed in the United States Patent Application entitled:

MULTI-DIMENSIONAL OBJECTIVE METRIC CONCENTERING

the specification of which is attached hereto unless the following is entered:

Filed on	as United States Application Number or PCT International Application Number	and was amended on (if applicable)

and in and to said United States Patent Application and all provisional, divisional, continuing, substitute, renewal, reissue, and other patent applications that have been or shall be filed in the United States or any foreign country on any of said inventions and discoveries; and in and to all original and reissued patents that have been or shall be issued in the United States or any foreign country on said inventions and discoveries; and in and to all rights of priority resulting from the filing of said United States Patent Application;

agree that said Assignee may apply for and receive a patent or patents for said inventions and discoveries in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all provisional, divisional, continuing, substitute, renewal, reissue, and other patent applications on any and all said inventions and discoveries; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and representatives all facts known to the undersigned relating to said inventions and discoveries and the history thereof; and generally assist said Assignee, its successors, assigns, or representatives in securing and maintaining proper patent protection for said inventions and discoveries and for vesting title to said inventions and discoveries, and all applications for patents and all patents on said inventions and discoveries, in said Assignee, its successors, assigns, and legal representatives; and

covenant with said Assignee, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

Inventor: Krasimir D. Kolarov	
Inventor Signature	Date
Inventor: Bjorn S. Hari	
The state of the s	Date 7016

PATENT REEL: 040199 FRAME: 0645

Inventor: Rahül Gopalan	
Inventor Signature A	Date 09/06/2016
Inventor: Steven E. Saunders	
Inventor Signature	Datë
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<u>Assignment Document Return Address</u>: Robert L. Hails

Robert L. Hails
Baker & Hostetler LLP
Washington Square, Suite 1100
1050 Connecticut Avenue, N.W.
Washington, D.C. 20036
202.861.1754 (direct)
202.861.1783 (fax)

Inventor: Rahul Gopalan	
Inventor Signature	Date
Inventor: Steven E. Saunders	
Inventor Signature	Date 6 Sept. 2016

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<u>Assignment Document Return Address</u>: Robert L, Hails

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Baker & Hostetler LLP
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1050 Connecticut Avenue, N.W.
Washington, D.C. 20036
202.861.1754 (direct)
202.861.1783 (fax)

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