# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT3048447

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|---|---|
| **SUBMISSION TYPE:** | NEW ASSIGNMENT |
| **NATURE OF CONVEYANCE:** | PATENT SECURITY AGREEMENT |

**CONVEYING PARTY DATA**

| Name | Execution Date |
|---|---|
| TACTUAL LABS CO. | 10/01/2014 |

**RECEIVING PARTY DATA**

| | |
|---|---|
| **Name:** | ALAN BLUESTINE |
| **Street Address:** | 92 RANDOM FARMS DRIVE |
| **City:** | CHAPPAQUA |
| **State/Country:** | NEW YORK |
| **Postal Code:** | 10514 |

**PROPERTY NUMBERS Total: 31**

| Property Type | Number |
|---|---|
| **Application Number:** | 61710256 |
| **Application Number:** | 13841436 |
| **Application Number:** | 61798708 |
| **Application Number:** | 61798828 |
| **Application Number:** | 61798948 |
| **Application Number:** | 61799035 |
| **Application Number:** | 61845879 |
| **Application Number:** | 61845892 |
| **Application Number:** | 61879245 |
| **Application Number:** | 61880887 |
| **Application Number:** | 14046819 |
| **Application Number:** | 14046823 |
| **Application Number:** | 61887615 |
| **Application Number:** | 14069609 |
| **Application Number:** | 61928069 |
| **Application Number:** | 61930159 |
| **Application Number:** | 61932047 |
| **Application Number:** | 61935674 |
| **Application Number:** | 61935709 |
| **Application Number:** | 14216791 |
| **Application Number:** | 14216873 |

| Property Type | Number |
|---|---|
| **Application Number:** | 14216948 |
| **Application Number:** | 14217015 |
| **Application Number:** | 14316177 |
| **PCT Number:** | US1363569 |
| **PCT Number:** | US1430656 |
| **PCT Number:** | US1430690 |
| **PCT Number:** | US1430710 |
| **PCT Number:** | US1430777 |
| **PCT Number:** | US1430784 |
| **PCT Number:** | US1430793 |

**CORRESPONDENCE DATA**

**Fax Number:**

***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.***

**Email:** stivens.ovalle@kayescholer.com
**Correspondent Name:** STIVENS OVALLE C/O KAYE SCHOLER
**Address Line 1:** 425 PARK AVENUE
**Address Line 4:** NEW YORK, NEW YORK 10022

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|---|---|
| **ATTORNEY DOCKET NUMBER:** | 60631.0002-11124 |
| **NAME OF SUBMITTER:** | STIVENS OVALLE |
| **SIGNATURE:** | /s/ Stivens Ovalle |
| **DATE SIGNED:** | 10/01/2014 |

**Total Attachments: 7**
source=Tactual Labs - Patent Security Agreement (10-01-2014) (EXECUTED)#page1.tif
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**PATENT SECURITY AGREEMENT**

This **PATENT SECURITY AGREEMENT**, dated as of October 1, 2014 (as it may be amended, restated, supplemented or otherwise modified from time to time, this "Agreement"), is made by **TACTUAL LABS CO.**, a Delaware corporation (the "Grantor"), in favor of Alan Bluestine, as agent (in such capacity, together with his successors and permitted assigns, the "Agent") for the Purchasers.

**WHEREAS**, the Grantor is party to a Note Purchase Agreement, dated as of October 1, 2014 (the "NPA"), between the Grantor, the purchasers named therein and the Agent pursuant to which the Grantor granted a security interest to the Agent in the Patent Collateral (as defined below) and is required to execute and deliver this Agreement.

**NOW, THEREFORE,** in consideration of the foregoing and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Grantor hereby agrees with the Agent as follows:

## SECTION. 1. Defined Terms

Unless otherwise defined herein, terms defined in the NPA and used herein have the meaning given to them in the NPA.

## SECTION 2. Grant of Security Interest

The Grantor hereby grants to the Agent, for the benefit of the Purchasers, a security interest in all of the Company's right, title and interest in and to all of the following property now owned or at any time hereafter acquired by the Company or in which the Company now has or at any time in the future may acquire any right, title or interest (collectively, the "Patent Collateral"):

> (i) all United States and foreign patents and applications for letters patent throughout the world, including, without limitation, any of the foregoing referred to on Schedule I hereto, and all rights corresponding thereto throughout the world, (ii) all reissues, divisions, continuations, continuations-in-part, extensions, renewals, and reexaminations of any of the foregoing; (iii) the right to sue for past, present and future infringements of any of the foregoing; and (iv) all proceeds of the foregoing, including, without limitation, licenses, royalties, income, payments, claims, damages, and proceeds of suit.

## SECTION 3. Security Agreement

The security interest granted pursuant to this Agreement is granted in conjunction with the security interest granted to the Agent for the Purchasers pursuant to the NPA, and the Grantor hereby acknowledges and affirms that the rights and remedies of the Agent with respect to the security interest in the Patent Collateral made and granted hereby are more fully set forth in the NPA, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. In the event that any provision of this Agreement is deemed to conflict with the NPA, the provisions of the NPA shall control.

## SECTION 4. Governing Law

THIS AGREEMENT AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER AND ALL CLAIMS AND CONTROVERSIES ARISING OUT OF THE SUBJECT MATTER HEREOF WHETHER SOUNDING IN CONTRACT LAW, TORT LAW OR OTHERWISE SHALL BE GOVERNED BY, AND SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE

WITH, THE LAWS OF THE STATE OF NEW YORK, WITHOUT REGARD TO CONFLICTS OF LAW PROVISIONS THAT WOULD RESULT IN THE APPLICATION OF ANY OTHER LAW (OTHER THAN ANY MANDATORY PROVISIONS OF LAW RELATING TO THE LAW GOVERNING PERFECTION AND THE EFFECT OF PERFECTION OF THE SECURITY INTEREST GRANTED HEREBY).

## SECTION 5. Counterparts

This Agreement may be executed in one or more counterparts and by different parties hereto in separate counterparts, each of which when so executed and delivered shall be deemed an original, but all such counterparts together shall constitute but one and the same instrument.

[Remainder of page intentionally left blank]

**IN WITNESS WHEREOF,** the Grantor has caused this Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

**TACTUAL LABS CO.**

By: _____
Name: Steven Sanders
Title: President

STATE OF _____)
) ss.
COUNTY OF _____)

On this ____ day of _____, ____ before me personally appeared _____, proved to me on the basis of satisfactory evidence to be the person who executed the foregoing instrument on behalf of Tactual Labs Co., who being by me duly sworn did depose and say that he/she is an authorized officer of said corporation, that the said instrument was signed on behalf of said corporation as authorized by its Board of Directors and that he/she acknowledged said instrument to be the free act and deed of said corporation.

_____

Notary Public

Schedule I

See Attached.

TACTUAL LABS CO.
PATENT PORTFOLIO

| Theme | Nickname | Application No. | Filing Date | Priority Date | Title | Status | Inventors |
|---|---|---|---|---|---|---|---|
| Touch Processing | Touch Stack/TPU | 61/710,256 | 5-Oct-2012 | | Hybrid Systems and Methods for Low-Latency User Input Processing and Feedback | Filed | Wigdor, Daniel<br>Sanders, Steven<br>Costa, Ricardo Jorge Jota<br>Forlines, Clifton |
| FMT Sensor | Capacitive & Optical Touch Sensors | 13/841,436 | 15-Mar-2013 | 15-Mar-2013 | Low-Latency Touch Sensitive Device | Filed | Leigh, Darren<br>Wigdor, Daniel |
| FMT Stylus & Touch Disambiguation | Optical Stylus | 61/798,708 | 15-Mar-2013 | | Active Optical Stylus | Filed | Leigh, Darren |
| FMT Noise Mitigation | Phantom Touches | 61/798,828 | 15-Mar-2013 | | Fast Multi-Touch Noise Reduction | Filed | Forlines, Clifton |
| FMT Stylus & Touch Disambiguation | FDMA Stylus | 61/798,948 | 15-Mar-2013 | | Fast Multi-Touch Stylus | Filed | Leigh, Darren |
| FMT Stylus & Touch Disambiguation | Touch Identification | 61/799,035 | 15-Mar-2013 | | Fast Multi-Touch Sensor with User-Identification Techniques | Filed | Wigdor, Daniel |
| Touch Processing & Feedback Architecture | Linked Controls / TPU Design Patterns | 61/845,879 | 12-Jul-2013 | | Reducing Control Response Latency with Defined Cross-Control Behavior | Filed | Wigdor, Daniel<br>McCanny, Benjamin |
| FMT Sensor | FMT Post Processing | 61/845,892 | 12-Jul-2013 | | Fast Multi-Touch Post Processing | Filed | Leigh, Darren |
| FMT Decimation & Prediction | Hover & Touch Prediction | 61/879,245 | 18-Sep-2013 | | Systems and Methods for Providing Response to User Input Using Information About State Changes and Predicting Future User Input | Filed | Forlines, Clifton<br>Costa, Ricardo Jorge Jota<br>Wigdor, Daniel |
| FMT Decimation & Prediction | Hover & Touch Prediction | 61/880,887 | 21-Sep-2013 | | Systems and Methods for Providing Response to User Input Using Information About State Changes and Predicting Future User Input (Follow-On) | Filed | Forlines, Clifton<br>Costa, Ricardo Jorge Jota<br>Wigdor, Daniel |
| Touch Processing & Feedback Architecture | Touch Stack/TPU | 14/046,819 | 4-Oct-2013 | 5-Oct-2012 | Hybrid Systems and Methods for Low-Latency User Input Processing and Feedback | Filed | Wigdor, Daniel<br>Sanders, Steven<br>Costa, Ricardo Jorge Jota<br>Forlines, Clifton |
| Touch Processing & Feedback Architecture | Touch Stack/TPU | 14/046,823 | 4-Oct-2013 | 5-Oct-2012 | Hybrid Systems and Methods for Low-Latency User Input Processing and Feedback | Filed | Wigdor, Daniel<br>Sanders, Steven<br>Costa, Ricardo Jorge Jota<br>Forlines, Clifton |

TACTUAL LABS CO.
PATENT PORTFOLIO

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|---|---|---|---|---|---|---|---|
| Touch Processing & Feedback Architecture | Touch Stack/TPU | PCT/US13/63569 | 4-Oct-2013 | 5-Oct-2012 | Hybrid Systems and Methods for Low-Latency User Input Processing and Feedback | Filed | Wigdor, Daniel<br>Sanders, Steven<br>Costa, Ricardo Jorge Jota<br>Forlines, Clifton |
| Diagnostics | Testing Device | 61/887,615 | 7-Oct-2013 | | Touch and Stylus Latency Testing Apparatus | Filed | Leigh, Darren<br>Sanders, Steven<br>Wigdor, Daniel<br>Costa, Ricardo Jorge Jota<br>Forlines, Clifton |
| FMT Sensor | FMT Post Processing | 14/069,609 | 1-Nov-2013 | 12-Jul-2013 | Fast Multi-Touch Post Processing | Filed | Leigh, Darren |
| FMT Lower Power & Cost | Lower Power | 61/928,069 | 16-Jan-2014 | | Fast Multi-Touch Update Rate Throttling | Filed | Leigh, Darren<br>Sanders, Steven<br>Forlines, Clifton<br>Wigdor, Daniel |
| FMT Noise Mitigation | Noise Identification & Modulation | 61/930,159 | 22-Jan-2014 | | Dynamic Assignment of Possible Channels in a Touch Sensor | Filed | Leigh, Darren<br>Forlines, Clifton<br>Wigdor, Daniel<br>Sanders, Steven |
| FMT Decimation & Prediction | Decimation | 61/932,047 | 27-Jan-2014 | | Decimation Strategies for Input Event Processing | Filed | Costa, Ricardo Jorge Jota<br>Forlines, Clifton<br>Wigdor, Daniel<br>Sanders, Steven |
| Touch Processing & Feedback Architecture | Touch Stack | 61/935,674 | 4-Feb-2014 | | Low-Latency Visual Response to Input Via Pre-Generation of Alternative Graphical Representations of Application Elements and Input Handling on a Graphical Processing Unit | Filed | Costa, Ricardo Jorge Jota<br>Forlines, Clifton<br>Wigdor, Daniel<br>Sanders, Steven |
| FMT Lower Power & Cost | Lower Power & Cost | 61/935,709 | 4-Feb-2014 | | Frequency Conversion in a Touch Sensor | Filed | Leigh, Darren<br>Forlines, Clifton<br>Sanders, Steven |
| FMT Noise Mitigat | Noise Identification & Modul | 14/216,791 | 17-Mar-2014 | 15-Mar-2013 | Fast Multi-Touch Noise Reduction | Filed | Forlines, Clifton |
| FMT Noise Mitigat | Noise Identification & Modul | PCT/US14/30656 | 17-Mar-2014 | 15-Mar-2013 | Fast Multi-Touch Noise Reduction | Filed | Forlines, Clifton<br>Leigh, Darren<br>Wigdor, Daniel<br>Sanders, Steven |
| FMT Stylus & Tou | Optical Stylus | 14/216,873 | 17-Mar-2014 | 15-Mar-2013 | Active Optical Stylus and Sensor | Filed | Leigh, Darren |
| FMT Stylus & Tou | Optical Stylus | PCT/US14/30690 | 17-Mar-2014 | 15-Mar-2013 | Active Optical Stylus and Sensor | Filed | Leigh, Darren |
| FMT Stylus & Touch Disambiguation | FDMA Stylus | 14/216,948 | 17-Mar-2014 | 15-Mar-2013 | Fast Multi-Touch Stylus and Sensor | Filed | Leigh, Darren |

**TACTUAL LABS CO.**
**PATENT PORTFOLIO**

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|---|---|---|---|---|---|---|---|
| FMT Stylus & Touch Disambiguation | FDMA Stylus | PCT/US14/30710 | 17-Mar-2014 | 15-Mar-2013 | Fast Multi-Touch Stylus and Sensor | Filed | Leigh, Darren |
| FMT Stylus & Touch Disambiguation | Touch Identification / User ID | 14/217,015 | 17-Mar-2014 | 15-Mar-2013 | Fast Multi-Touch Sensor with User-Identification Techniques | Filed | Wigdor, Daniel |
| FMT Stylus & Touch Disambiguation | Touch Identification / User ID | PCT/US14/30777 | 17-Mar-2014 | 15-Mar-2013 | Fast Multi-Touch Sensor with User-Identification Techniques | Filed | Wigdor, Daniel |
| FMT Sensor | FMT Post Processing | PCT/US14/30784 | 17-Mar-2014 | 12-Jul-2013 | Fast Multi-Touch Post Processing | Filed | Leigh, Darren |
| FMT Sensor | Capacitive & Optical Touch Sensors | PCT/US14/30793 | 17-Mar-2014 | 15-Mar-2013 | Low-Latency Touch Sensitive Device | Filed | Leigh, Darren<br>Wigdor, Daniel |
| Latency Testing | Latency Hammer | 14/316,177 | 26-Jun-2014 | 26-Jun-2014 | Latency Measuring and Testing System and Method | Filed | Leigh, Darren<br>Forlines, Clifton<br>Wigdor, Daniel<br>Sanders, Steven |
| FMT Stylus & Touch Disambiguation | Touch Identification 2 / User ID 2 | | | | Orthogonal Signaling Touch User, Hand and Object Discrimination Systems and Methods | Not Yet Filed | Leigh, Darren<br>Forlines, Clifton<br>Costa, Ricardo Jorge Jota<br>Wigdor, Daniel<br>Sanders, Steven |
| Touch Processing & Feedback Architecture | Linked Controls / TPU Design Patterns | | | | Reducing Control Response Latency with Defined Cross-Control Behavior | Not Yet Filed | Wigdor, Daniel<br>McCanny, Benjamin |
| Touch Processing & Feedback Architecture | Linked Controls / TPU Design Patterns | | | | Reducing Control Response Latency with Defined Cross-Control Behavior | Not Yet Filed | Wigdor, Daniel<br>McCanny, Benjamin |