PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT5607201

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
LENOVO (SINGAPORE) PTE. LTD.	07/01/2017

RECEIVING PARTY DATA

Name:	LENOVO PC INTERNATIONAL LIMITED
Street Address:	23/F, LINCOLN HOUSE, 979 KING'S ROAD
City:	QUARRY BAY
State/Country:	HONG KONG

PROPERTY NUMBERS Total: 51

Property Type	Number
Patent Number:	9634926
Patent Number:	9620848
Patent Number:	9690356
Patent Number:	9679596
Patent Number:	9671918
Patent Number:	9624937
Patent Number:	9628517
Patent Number:	9620122
Patent Number:	9641629
Patent Number:	9619282
Patent Number:	9652070
Patent Number:	9639152
Patent Number:	9653073
Patent Number:	9633252
Patent Number:	9618976
Patent Number:	9633083
Patent Number:	9634517
Patent Number:	9632747
Patent Number:	9654608
Patent Number:	9626354
Patent Number:	9691503

Property Type	Number
Patent Number:	9659003
Patent Number:	9632545
Patent Number:	9645954
Patent Number:	9613460
Patent Number:	9639767
Patent Number:	9678585
Patent Number:	9659480
Patent Number:	9621536
Patent Number:	9652465
Patent Number:	9672340
Patent Number:	9632532
Patent Number:	9628603
Patent Number:	9625958
Patent Number:	9652669
Patent Number:	9613022
Patent Number:	9615787
Patent Number:	9674428
Patent Number:	9672791
Patent Number:	9613263
Patent Number:	9628948
Patent Number:	9625952
Patent Number:	9668126
Patent Number:	D784318
Patent Number:	D784319
Patent Number:	D784320
Patent Number:	9690477
Patent Number:	9692876
Patent Number:	9681572
Patent Number:	9652395
Patent Number:	9625960

CORRESPONDENCE DATA

Fax Number:

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Address Line 4:	CHICAGO, ILLINOIS 60654
NAME OF SUBMITTER:	BECKY A. WILLIAMS
SIGNATURE:	/baw/
DATE SIGNED:	07/08/2019

Total Attachments: 9
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ASSIGNMENT OF PATENT RIGHTS

WHEREAS, Lenovo (Singapore) Pte Ltd. a limited liability company organized under the laws of the Republic of Singapore, with its principal place of business at 151 Lorong Chuan, #02-01 New Tech Park, Singapore, 55674 (ASSIGNOR) is the owner of certain rights, title and interest in and to the patents, patent applications and invention disclosures set forth in *Exhibit A* hereto;

WHEREAS, it is the intention of ASSIGNOR and Lenovo PC International Limited, a limited liability company organized under the laws of Hong Kong having its principal place of business at 23/F, Lincoln House, 979 King's Road, Quarry Bay, Hong Kong (hereinafter ASSIGNEE), that ASSIGNEE own all of ASSIGNOR'S right, title and interest in and to the patents, patent applications and invention disclosures; and

WHEREAS, ASSIGNOR and ASSIGNEE entered into an Intellectual Property Sale and Transfer Agreement effective April 1, 2013 and a Periodic Intellectual Property Sale and Transfer Agreement effective April 1, 2013 (collectively the "AGREEMENTS") in which ASSIGNOR assigned intellectual property rights to ASSIGNEE and agreed to periodically assign additional intellectual property rights to ASSIGNEE.

NOW, THEREFORE, in consideration of the mutual promises contained in the AGREEMENTS and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, pursuant to this Assignment of Patent Rights, and subject to the AGREEMENTS, ASSIGNOR hereby sells, assigns, transfers, and conveys to ASSIGNEE, its permitted successors and assigns, all of ASSIGNOR'S right, title, and interest in and to the patents, patent applications, and invention disclosures being made for Letters Patent set forth on *Exhibit A*, and (a) all foreign and U.S. counterpart patents and patent applications claiming priority from the patents and the applications Letters Patents listed in *Exhibit A*, and (b) all continuations, continuations-in-part, divisionals, reissues, renewals, reexaminations, substitutions, and extensions thereof (including equivalents to any of the foregoing in non-U.S. jurisdictions) that may be granted or issue from and claim priority to the foregoing (hereinafter collectively referred to as the "Sold Patents"), and including the right to own and prosecute in ASSIGNEE's own name any reexaminations, reissues, interferences, and all claims and causes of action now in existence or arising in the future resulting from past, present, and future infringement of any of the Sold Patents, including, without limitation, the right to sue and recover for past, present, and future infringement of any of the Sold Patents. ASSIGNOR authorizes and requests the Director of Patents and Trademarks of the United States of America and the empowered officials of all other governments to issue or transfer all said Letters Patents to ASSIGNEE, as ASSIGNEE of the entire right, title, and interest therein or otherwise as ASSIGNEE may direct.

IN TESTIMONY WHEREOF, ASSIGNOR and ASSIGNEE have hereunto executed this Assignment effective July 1, 2017, by their duly authorized representatives.

Lenovo (Singapore) Pte Ltd.

By: _____

Name: Damian Glendinning

Title: Director

Place: Singapore

Lenovo PC International Ltd.

By: _____

Name: Wong Wai Ming

Title: Director

Place: Beijing

EXHIBIT A

Case Reference	Country	Grant	Grant Number	Internal Title
JP920030184-US-DIV	UNITED STATES	25 Apr 2017	9634926	AUTONOMIC NETWORK CONNECTION METHOD OF DETECTING DEVICE INFORMATION FROM NETWORK SWITCHES AND ROUTERS == Connecting an Information processor to multiple networks
JP920110001-US-NP	UNITED STATES	11 Apr 2017	9620848	Dual type internal antenna including UHF band for Laptop application with impedance matching element of trapezoidal shape == Dual Band Antenna.
JP920120004-US-NP	UNITED STATES	27 Jun 2017	9690356	Performance improvement by CC feedback with battery temperature compensation during DC-mode == Method and Apparatus for Reducing Power Consumption of a Processor.
JP920130038-US-NP	UNITED STATES	13 Jun 2017	9679596	APS Temporary Disable Feature == Protection of a Magnetic Disk Unit on a portable Computing Device.
JP920130046-US-NP	UNITED STATES	06 Jun 2017	9671918	Digitizer sensor coil design for screen edge accracy == Electronic Induction Type Sensor Panel and Method for Reducing Indication Error.
RPS920090004-US-NP	UNITED STATES	18 Apr 2017	9624937	[PtMng] Seville WS Feature #11 - Safety features for moving components of electronic devices
RPS920100015-US-NP	UNITED STATES	18 Apr 2017	9628517	[PtMng] Diamond-3/Ruby-3 - Randomized Unmuting of Muted Keyboard Noise During VoIP Sessions
RPS920110047-US-NP	UNITED STATES	11 Apr 2017	9620122	Method for fast hybrid speech recognition
RPS920110052-US-NP	UNITED STATES	02 May 2017	9641629	Method to limit discovery of services or devices based on distance == Distance

				based network resource discovery
RPS920120013-US-NP	UNITED STATES	11 Apr 2017	9619282	Predictive task scheduling between big and small cores == Task Scheduling in big and little Cores.
RPS920130032-US-NP	UNITED STATES	16 May 2017	9652070	A method for simultaneous capacitive touch and pen digitizer input == Integrating Multiple Different Touch Based Inputs.
RPS920130097-US-NP	UNITED STATES	02 May 2017	9639152	Align wearable and/or surface display output depending on eye tracking == Display Alignment based on eye tracking.
RPS920130120-US-NP	UNITED STATES	16 May 2017	9653073	Method to correct voice input == Voice Input Correction.
RPS920130137-US-NP	UNITED STATES	25 Apr 2017	9633252	Real-time Detection of User Intention based on Kinematics Analysis of Movement-oriented Biometric Data == Real-time detection of user Intention based on Kinematics analysis of movement-oriented biometric data.
RPS920130146-US-NP	UNITED STATES	11 Apr 2017	9618976	[PtMng] ID Consumer and Mobile AIO #5 - Integrated folding tilt stand for portable display (orig. submitted by TRUONG, Cuong (00523866)) == Hinged Computer Stand that Slides up and Down on a video display.
RPS920130149-US-NP	UNITED STATES	25 Apr 2017	9633083	[PtMng] ThinkBig #2 - Method to infer if user is precise in their request (orig. sub. by VANBLON, RUSSELL SPEIGHT (00506239)) == Organizing Search Results Using Smart Tag Inferences.
RPS920130172-US-NP	UNITED STATES	25 Apr 2017	9634517	Physical Interfaces to Switch Notebook Charging Modes == Battery Charging Mode Selection.
RPS920130178-US-NP	UNITED STATES	25 Apr 2017	9632747	Method to aid reading aloud text from smart device == Tracking Recitation of

				Text.
RPS920130192-US-NP	UNITED STATES	16 May 2017	9654608	Tablet/display with built-in stand === Information Handling Device with built-in Stand.
RPS920130214-US-NP	UNITED STATES	18 Apr 2017	9626354	Using Tone Indicator in Handwriting === Systems and Methods for Using tone Indicator in text Recognition.
RPS920130219-US-NP	UNITED STATES	27 Jun 2017	9691503	[PtMng] Lenovo Solution Center #3 - Allocation Technique for Memory Diagnostics on Operating Systems [orig. drafted by Weksler, Arnie (00506491)] === Allocation Technique for Memory Diagnostics.
RPS920130231-US-NP	UNITED STATES	23 May 2017	9659003	A Hybrid Architecture for Personalized Natural Language Understanding
RPS920130235-US-NP	UNITED STATES	25 Apr 2017	9632545	[PtMng] Next Gen 40 series WS #12 (w/#10 merged) - Hybrid E/OR HDD Tray (originally submitted by Tim Farrow) === Drive Tray.
RPS920130243-US-NP	UNITED STATES	09 May 2017	9645954	[PtMng] Next Gen 40 series WS DiagSoftwareEE #16 - Method of utilizing additional communication paths on a Super I/O for collection and display of diagnostic information (orig. submitted by PAMLEY, MARC R. (00505886)) === Embedded Microcontroller and buses.
RPS920130263-US-NP	UNITED STATES	04 Apr 2017	9613460	Real-time overlaying building information in camera-view === Augmenting a Digital Image.
RPS920130276-US-NP	UNITED STATES	02 May 2017	9639767	Handwriting recognition accuracy improvement using application context === Context-Aware Hadwriting Recognition for Application Input Fields.
RPS920140003-US-NP	UNITED STATES	13 Jun 2017	9678585	Switch pen between active and passive capacitive operation === Pen Switching

				between active and passive status.
RPS920140018-US-NP	UNITED STATES	23 May 2017	9659480	Method for supporting online contextual reminders == Reminders based on Virtual Locations.
RPS920140026-US-NP	UNITED STATES	11 Apr 2017	9621536	Anticipatory SSO for Proxied Web Applications == Anticipatory Single Sign-On (SSO) for Proxied Web Applications.
RPS920140034-US-NP	UNITED STATES	16 May 2017	9652465	[PtMng] Reach #3 - Aggregation of multiple instances of same cloud storage provider [orig. submitted by CHILDS, PHILIP Lee (00505839)] == Aggregate Service with Enhanced Cloud Device Management.
RPS920140041-US-NP	UNITED STATES	06 Jun 2017	9672340	Handwriting input method for password fields == Secure Handwriting Input for Password Fields.
RPS920140046-US-NP	UNITED STATES	25 Apr 2017	9632532	Method for determining if a wearable electronic device is being worn or not == Configuring Wearable Devices.
RPS920140048-US-NP	UNITED STATES	18 Apr 2017	9628603	Method to improve voice transcription == Voice Mail Transcription.
RPS920140049-US-NP	UNITED STATES	18 Apr 2017	9625958	Hot-Swap PCIe Expandable Insulated Dividers for improved ergonomics == Deflectable Dividers Separating Peripheral Components.
RPS920140056-US-NP	UNITED STATES	16 May 2017	9652669	Handwriting attributes reflection in typographic characters == Reflecting handwriting Attributes in Typographic Characters.
RPS920140069-US-NP	UNITED STATES	04 Apr 2017	9613022	Customization of word assistance functions based on user information & context == Context Based Customization of Word Assistance Functions

RPS920140082-US-NP	UNITED STATES	11 Apr 2017	9615787	Method to detect quality of sleep and notification === Determining whether to change a time at which an alarm is to occur based at least in part of sleep data.
RPS920140094-US-NP	UNITED STATES	06 Jun 2017	9674428	Obtaining best camera field of view through computer vision technology === Determination of at least one Parameter for Producing Images for Use by an Application.
RPS920140095-US-NP	UNITED STATES	06 Jun 2017	9672791	Privacy filtering mechanism for 3D content === Actuation of device for Viewing of first Content frames presented on a Display between Second Content Frames.
RPS920140119-US-NP	UNITED STATES	04 Apr 2017	9613263	Improve handwriting recognition accuracy by choosing proper strokes to recognize === Ink Stroke Grouping Based on Stroke Attributes.
RPS920140129-US-NP	UNITED STATES	18 Apr 2017	9628948	[PtMng] Broaden Think Big ¿ Method for Detecting that a Laptop is Mobile, Originally submitted by Timothy Kingsbury === Determining the necessity of device tracking.
RPS920140177-US-NP	UNITED STATES	18 Apr 2017	9625952	Improved Yoga Hinge === Hinge Assemblies
RPS920140181-US-NP	UNITED STATES	30 May 2017	9668126	Method for preventing location tracking via smartphone MAC address === Preventing Location Tracking Via Smartphone MAC Address.
RPS920140228-US-DP	UNITED STATES	18 Apr 2017	D784318	[Design][No IRB] Thinkserver Sep 2014 - Computer Tower [orig. submitted by MUENKEL, Gerard Francis (601664)]
RPS920140229-US-DP	UNITED STATES	18 Apr 2017	D784319	[Design][No IRB] Thinkserver Sep 2014 - Rack Mounted Computer ("U1") [orig. submitted by MUENKEL, Gerard Francis (601664)]

RPS920140230-US-DP	UNITED STATES	18 Apr 2017	D784320	[Design][No IRB] Thinkserver Sep 2014 - Rack Mounted Computer ("U2") [orig. submitted by MUENKEL, Gerard Francis (601664)]
RPS920140231-US-NP	UNITED STATES	27 Jun 2017	9690477	Method to interpret natural user symbols and create a future task == Method and Device to Associate User Symbols with Previously Non-Associated Operations.
RPS920140232-US-NP	UNITED STATES	27 Jun 2017	9692876	Resumption and suppression of notifications based on motion motion in conjunction with time == Suppress & Resume Notifications based on Motion.
RPS920140234-US-NP	UNITED STATES	13 Jun 2017	9681572	IO Module with stepped profile to maximize area for mechanical and thermal solution == System with Stepped Three Dimensional Profile and Venting.
RPS920150003-US-NP	UNITED STATES	16 May 2017	9652395	Method to optimize in-use and standby memory == Configuration of Standby Portion of Memory based on Context.
RPS920150067-US-NP	UNITED STATES	18 Apr 2017	9625960	[PtMng] Thinkstation 520 #4 - Convertible hard drive tray [orig. submitted by Ent, Ali Kathryn (604859)]
YOR920040115-DE-NP	Germany	01 Jun 2017	1120050 02614.0	A COMPUTER AND METHOD FOR ON-DEMAND NETWORK ACCESS CONTROL
JP920140025-JP-NP	Japan	02 Jun 2017	6152241	A method to utilize battery full capacity for PC+
JP920140047-JP-NP	Japan	14 Apr 2017	6124852	Battery placement associated charge control method
JP920140065-JP-NP	Japan	14 Apr 2017	6124862	Projecter Screen Pointing by Human Finger with Multiple Cameras
JP920140066-JP-NP	Japan	14 Apr 2017	6124863	An information processing system leveraging wide-FOV camera and

				gesture
JP920150015-JP-NP	Japan	02 Jun 2017	6152242	Intelligent controlling method for Multi-gigabit wireless docking
JP920150016-JP-NP	Japan	14 Apr 2017	6124941	Dual Kickstand Tablet
JP920150050-JP-NP	Japan	16 Jun 2017	6159380	Optical Projecter imlemetation in tablet
JP920150061-JP-NP	Japan	16 Jun 2017	6159783	air recycling in water cooling docking station
JP920150068-JP-NP	Japan	12 May 2017	6140385	A method to instantly remote control device by audible command through wearable device
JP920150069-JP-NP	Japan	14 Apr 2017	6125065	Kensington Strap Adaptor for Tablet device
JP920150085-JP-NP	Japan	12 May 2017	6139647	Typing Identification Method For Flat Keyboard and OSK
JP920150087-JP-NP	Japan	09 Jun 2017	6153588	A method to adjust layout automatically to fit user¿s typing style
JP920150090-JP-NP	Japan	16 Jun 2017	6159434	low profile connection method for industry standard card edge type subcard
JP920150091-JP-NP	Japan	28 Apr 2017	6134827	Positioning mechanism of Side docking connector
JP920150092-JP-NP	Japan	28 Apr 2017	6134828	Auto lock DOCKING STATION system
JP920150100-JP-NP	Japan	28 Apr 2017	6134829	Pressure resident mechanism
JP920150105-JP-NP	Japan	28 Apr 2017	6134822	Carbon reinforced casings with hole shape and heat processing method
JP920150110-JP-NP	Japan	12 May 2017	6138224	USB Type-C Security Management
JP920150117-JP-NP	Japan	12 May 2017	6138303	Fixing method for Double injection rubber foot
JP920150130-JP-NP	Japan	14 Apr 2017	6125605	Airtight engagement for functional cartridges

JP920150132-JP-NP	Japan	16 Jun 2017	6159384	KickStand pop-up mechanism
JP920150133-JP-NP	Japan	02 Jun 2017	6152410	KBD tilt function
JP920150134-JP-NP	Japan	02 Jun 2017	6152409	Soft rubber peel off method
JP920150135-JP-NP	Japan	14 Apr 2017	6125057	A Device Having Transmitter and Receiver for Wireless Charge
JP920150136-JP-NP	Japan	12 May 2017	6138297	A method to vary the iris pattern for various authentication and protect it from being captured unexpectedly
JP920150139-JP-NP	Japan	12 May 2017	6139719	A Method of Multi Factors Authentication using Unconscious user¿s action
JP920160012-JP-NP	Japan	14 Apr 2017	6125073	CFRP over lap strengthening method
JP920160013-JP-NP	Japan	14 Apr 2017	6125703	Pen Storage Structure with Magnet Lock
JP920160041-JP-NP	Japan	02 Jun 2017	6152243	Adaptive Frequency and Drive Strength Control for Impact Actuator
JP920160054-JP-NP	Japan	02 Jun 2017	6152459	Pen & pen storage design
JP920160061-JP-NP	Japan	23 Jun 2017	6162299	Seamless Mode Switching Method for Flat Keyboard and OSK
RPS920130130-GB-NP	United Kingdom	10 May 2017	2522517	Disable combined sensor modes n mode when it is harmful to the PC
RPS920130222-GB-NP	United Kingdom	24 May 2017	2523891	Confidence level of gesture recognition