

PATENT ASSIGNMENT COVER SHEET

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 Stylesheet Version v1.2

EPAS ID: PAT4452742

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	
CONVEYING PARTY DATA		
Name		Execution Date
LESTER F LUDWIG		06/08/2017
RECEIVING PARTY DATA		
Name:	NRI R&D PATENT LICENSING, LLC	
Street Address:	3224 W WOODLAWN AVENUE	
City:	SAN ANTONIO	
State/Country:	TEXAS	
Postal Code:	78228	
PROPERTY NUMBERS Total: 273		
Property Type	Number	
Patent Number:	6570078	
Patent Number:	6610917	
Patent Number:	6650476	
Patent Number:	6687418	
Patent Number:	6689947	
Patent Number:	6849795	
Patent Number:	6852919	
Patent Number:	6972905	
Patent Number:	7038123	
Patent Number:	7054504	
Patent Number:	7203377	
Patent Number:	7217878	
Patent Number:	7309828	
Patent Number:	7309829	
Patent Number:	7391570	
Patent Number:	7408108	
Patent Number:	7417185	
Patent Number:	7507902	
Patent Number:	7609447	
Patent Number:	7608776	

PATENT

Property Type	Number
Patent Number:	7627195
Patent Number:	7638704
Patent Number:	7652208
Patent Number:	7697777
Patent Number:	7732702
Patent Number:	7759571
Patent Number:	7767902
Patent Number:	7786370
Patent Number:	7039252
Patent Number:	RE42187
Patent Number:	7911698
Patent Number:	7960640
Patent Number:	8030565
Patent Number:	8030567
Patent Number:	8032258
Patent Number:	8030566
Patent Number:	8035024
Patent Number:	8094961
Patent Number:	8094969
Patent Number:	8125559
Patent Number:	8164832
Patent Number:	8170346
Patent Number:	8169414
Patent Number:	8247677
Patent Number:	8284290
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Patent Number:	8309833
Patent Number:	8309835
Patent Number:	8345014
Patent Number:	8396701
Patent Number:	8440902
Patent Number:	8442341
Patent Number:	8442342
Patent Number:	8477111
Patent Number:	8509542
Patent Number:	8519250
Patent Number:	8542209
Patent Number:	8542945

Property Type	Number
Patent Number:	8553329
Patent Number:	8560130
Patent Number:	8594848
Patent Number:	8604364
Patent Number:	8606414
Patent Number:	8620643
Patent Number:	8638312
Patent Number:	8639037
Patent Number:	8643622
Patent Number:	8660823
Patent Number:	8682937
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Patent Number:	8692100
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Patent Number:	8734732
Patent Number:	8734736
Patent Number:	8754842
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Patent Number:	8877143
Patent Number:	8885035
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Patent Number:	8894489
Patent Number:	8934731
Patent Number:	8935847
Patent Number:	9019237

Property Type	Number
Patent Number:	9031347
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Patent Number:	9160894
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Patent Number:	9304677
Patent Number:	9389713
Patent Number:	9423161
Patent Number:	9441308
Patent Number:	9442652
Patent Number:	9586202
Patent Number:	9594019
Patent Number:	9594239
Patent Number:	9605881
Patent Number:	9613617
Patent Number:	9626023
Patent Number:	9632344
Patent Number:	9636655
Patent Number:	9646133
Patent Number:	9646589
Patent Number:	9665554
Application Number:	13357595
Application Number:	13769183
Application Number:	13761142
Application Number:	13547024
Application Number:	13706214
Application Number:	12940042
Application Number:	15383953
Application Number:	14023292
Application Number:	14216420
Application Number:	15289815
Application Number:	13198691
Application Number:	12899551
Application Number:	13026248
Application Number:	13707518
Application Number:	13072588
Application Number:	13844621
Application Number:	14105108
Application Number:	14150010

Property Type	Number
Application Number:	13957370
Application Number:	15260840
Application Number:	15260801
Application Number:	15243542
Application Number:	15442614
Application Number:	15458771
Application Number:	15469429
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Application Number:	14292770
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Application Number:	60937022
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Application Number:	61089386
Application Number:	61097869
Application Number:	61118964

Property Type	Number
Application Number:	61123217
Application Number:	61128968
Application Number:	61199896
Application Number:	61210250
Application Number:	61210809
Application Number:	61214643
Application Number:	61217535
Application Number:	61221830
Application Number:	61228950
Application Number:	61239349
Application Number:	61239426
Application Number:	61239428
Application Number:	61243528
Application Number:	61249047
Application Number:	61249251
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Application Number:	61273182
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Application Number:	61303898
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Application Number:	61365785
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Application Number:	61435395

Property Type	Number
Application Number:	61435401
Application Number:	61443701
Application Number:	61449923
Application Number:	61482248
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Application Number:	61506096
Application Number:	61506634
Application Number:	61517454
Application Number:	61522239
Application Number:	61567623
Application Number:	61567626
Application Number:	61569522
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Application Number:	61614229
Application Number:	61642435
Application Number:	61642438
Application Number:	61642440
Application Number:	61642443
Application Number:	61652842
Application Number:	61678598
Application Number:	61802127
Application Number:	62027197
Application Number:	62050734
PCT Number:	US0009938324

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	127470.0002
NAME OF SUBMITTER:	LESTER F. LUDWIG
SIGNATURE:	/Lester F. Ludwig/

DATE SIGNED:	06/09/2017
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Total Attachments: 11

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ASSIGNMENT OF PATENTS

THIS AGREEMENT is entered into this 8th day June, 2017, by and between Lester F. Ludwig, hereinafter referred to as "ASSIGNOR," and NRI R&D Patent Licensing, LLC, a Texas limited liability company, hereinafter referred to as "ASSIGNEE."

RECITALS

WHEREAS, ASSIGNOR is the sole and exclusive owner of the U.S. Letters Patents identified more fully in the attached Schedule A (collectively, the "Patents");

WHEREAS, ASSIGNEE desires to acquire all rights, title and interest in and to the Patents;

NOW, THEREFORE, for Ten Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR has agreed to sell and has sold, assigned, transferred and set over, and by these presents does sell, assign, transfer and set over unto ASSIGNEE and its successors and assigns, ASSIGNOR's entire right, title and interest in and to the Patents and all inventions claimed therein, all corresponding domestic and foreign patents and applications, all Letters Patent and similar legal protection issuing thereon, and all rights and benefits under any applicable treaty or convention, as well as any continuations, continuations-in-part and reissues of any of the foregoing Patents, all causes of action arising therefrom including the right to enforce the Patents and sue for past, present and future infringements, and to collect all proceeds thereof (including, but not limited to, all license royalties). ASSIGNOR authorizes the United States Patent and Trademark Office or foreign equivalent thereof to issue the Letters Patent or similar legal protection to ASSIGNEE.

ASSIGNOR warrants and represents that he has a full and unencumbered title to the inventions and Patents hereby assigned, and further covenants and agrees that he has the right to grant such rights to said inventions and Patents and that he will, at any time upon request without cost or further compensation, execute and deliver any and all papers or instruments that, in the opinion of the ASSIGNEE, may be necessary or desirable to secure to ASSIGNEE the full enjoyment of the rights and properties herein conveyed or intended to be conveyed by this agreement.

IN WITNESS WHEREOF, ASSIGNOR has executed this Agreement.

By: 

Lester F. Ludwig

State of _____

City/County of _____

Sworn and subscribed to before me, a Notary Public on this _____ day of _____, 2015.

Notary Public (SEAL)

My commission expires: _____

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of San Mateo

Subscribed and sworn to (or affirmed) before me on this 8
day of JUNE, 2017, by LESTER FRANK
LUDWIG

proved to me on the basis of satisfactory evidence to be the
person(s) who appeared before me.



(Seal)

Signature

A handwritten signature in cursive script, appearing to read "Jessica Wozniak", written over a horizontal line.

Schedule A
Patent and Application Nos. Assignment Listing

Patent No.	Title
6570078	Tactile, Visual, and Array Controllers for Real-Time Control of Music Signal Processing, Mixing, Video, and Lighting
6610917	Activity Indication, External Source, and Processing Loop Provisions for Driven Vibrating-Element Environments
6650476	Image Processing Utilizing Non-positive-definite Transfer Functions via Fractional Fourier Transform
6687418	Correction Of Misfocus Effects Via Fractional Fourier Transform
6689947	Real Time Floor Controller for Control Of Music, Signal Processing, Mixing, Video, Lighting, and Other Systems
6849795	Controllable Frequency-Reducing Cross-Product Chain
6852919	Extensions and Generalizations of the Pedal Steel Guitar
6972905	Non-Positive-Definite Optical Filtering From Positive-Definite Transfer Functions
7038123	Strumpad and String Array Processing for Musical Instruments
7054504	Relative Optical Path Phase Reconstruction In The Correction Of Misfocused Images Using Fractional Powers Of The Fourier Transform
7203377	Computing arbitrary fractional powers of a transform operator from selected precomputed fractional powers of the operator
7217878	Performance Environments Supporting Interactions Among Performers and Self-Organizing Processes
7309828	Hysteresis Waveshaping
7309829	Layered Signal Processing For Individual and Group Output of Multi-Channel Electronic Musical Instruments
7391570	Programmable optical processing device employing multiple controllable light modulator elements in fractional fourier transform planes
7408108	Multiple-paramenter instrument keyboard combining key-surface touch and key-displacement sensor arrays
7417185	Modular Structures For Interchangeable Musical Instrument Neck Arrangements
7507902	Transcending extensions of traditional East Asian musical instruments
7609447	Programmable optical processing device employing stacked light modulator elements in fractional Fourier planes
7608776	Modular structures facilitating field-customized floor controllers
7627195	Focus Correction Using Fractional Fourier Transform Operator Approximations
7638704	Low Frequency Oscillator Providing Phase-Staggered MIDI-Output Control-Signals
7652208	Signal Processing for Cross-Flanged Spatialized Distortion
7697777	Focus Correction in Electron Microscope and Particle Beam Imaging Systems
7732702	Modular structures facilitating aggregated and field-customized musical instruments
7759571	Transcending Extensions of Classical South Asian Musical Instruments
7767902	String Array Signal Processing for Electronic Musical Instruments
7786370	Processing and generation of control signals for real-time control of music signal processing, mixing, video, and lighting
7039252	Iterative approximation environments for modeling the evolution of an image propagating through a physical medium in restoration and other applications

Schedule A
Patent and Application Nos. Assignment Listing

Patent No.	Title
RE42187	Iterative approximation environments for modeling the evolution of an image propagating through a physical medium in restoration and other applications
7911698	Programmable optical processing device employing stacked controllable phase shifting elements in fractional Fourier planes
7960640	Derivation of control signals from real-time overtone measurements
8030565	Signal Processing for Twang and Resonance
8030567	Generalized Electronic Music Interface
8032258	Multi-Channel Chemical Transport Bus for Microfluidic and Other Applications
8030566	Envelope-Controlled Time and Pitch Modification
8035024	Phase-Staggered Multi-Channel Signal Panning
8094961	Generation of Image Data with Correction For Optical Misfocus Utilizing Fractional Powers of the Fourier Transform Operator
8094969	Discrete Fractional Fourier Numerical Environments for Computer Modeling of Image Propagation Through a Physical Medium in Restoration and other Applications
8125559	Image Formation for Large Photosensor Array Surfaces
8164832	Programmable Optical Computing Device Employing LED Array Transducers And Stacked Light Modulator Elements in Fractional Fourier Planes
8170346	High-Performance Closed-Form Single-Scan Calculation of Oblong-Shape Rotation Angles from Binary Images of Arbitrary Size Using Running Sums
8169414	Control of Electronic Games via Finger Angle Using a High Dimensional Touchpad (HDTP) Touch User Interface
8247677	Multichannel Data Sonification System with Partitioned Timbre Spaces and Modulation Techniques
8284290	Synthetic Image Formation Signal Processing Hardware for Vignetted Optoelectronic Arrays, Lensless Cameras, and Integrated Camera-Displays
8305480	Synthetic Image Formation via Signal Processing for Vignetted Optoelectronic Arrays, Lensless Cameras, and Integrated Camera-Displays
8309833	Multi-Channel Data Sonification in Spatial Sound Fields with Partitioned Timbre Spaces Using Modulation of Timbre and Rendered Spatial Location as Sonification Information carriers
8309835	Signal Distribution within Modular Structures Facilitating Aggregated and Field-Customized Musical Instruments
8345014	Control of the Operating System on a Computing Device Via Finger Angle Using a High Dimensional Touchpad (HDTP) Touch User Interface
8396701	Software Systems for Development, Control, Programming, Simulation, and Emulation of Fixed and Reconfigurable Lab-on-a-Chip Devices
8440902	Interactive Multi-Channel Data Sonification to Accompany Data Visualization with Partitioned Timbre Spaces Using Modulation of Timbre as Sonification Information Carriers
8442341	Correction of Unfocus and Misfocus via Origin-Centered Discrete Fractional Fourier Transform
8442342	Generation of Image Data with Correction For Optical Misfocus Utilizing Fractional Powers of the Fourier Transform Operator

Schedule A
Patent and Application Nos. Assignment Listing

Patent No.	Title
8477111	Advanced Touch Control of Interactive Immersive Imaging Applications via Finger Angle Using a High Dimensional Touchpad (HDTP) Touch User Interface
8509542	High-Performance Closed-Form Single-Scan Calculation of Oblong-Shape Rotation Angles from Binary Images of Arbitrary Size Using Running Sums
8519250	Controlling and Enhancing Electronic Musical Instruments with Video
8542209	Advanced Touch Control of Interactive Map Viewing via Finger Angle Using a High Dimensional Touchpad (HDTP) Touch User Interface
8542945	Correction of Mis-focus in Recorded Images Using Centered Discrete Fractional Fourier Transformations with High-Accuracy Orthonormal Eigenvectors
8553329	Monolithic or Hybrid Integrated Optical Information Processor Employing a Plurality of Controllable Optical Transfer Functions at Fractional Fourier Planes
8560130	Software-Controlled Lab-on-a-Chip Emulation
8594848	Reconfigurable Chemical Process Systems
8604364	Sensors, Algorithms and Applications for a High Dimensional Touchpad
8606414	Multi-Channel Chemical Transport Bus Providing Short-Duration Burst Transport for Microfluidic and Other Applications
8620643	Auditory Eigenfunctions Systems and Methods
8638312	Advanced Touch Control of a File Browser Via Finger Angle Using a High Dimensional Touchpad (HDTP) Touch User Interface
8639037	High-Performance Closed-Form Single-Scan Calculation of Oblong-Shape Rotation Angles from Binary Images of Arbitrary Size Using Running Sums
8643622	Advanced Touch Control of Graphics Design Application Via Finger Angle Using A High Dimensional Touchpad (HDTP) Touch User Interface
8660823	Nonlinear and Lie Algebra Structural Analysis System for Enzyme Cascades, Metabolic Signal Transduction, Signaling Pathways, Catalytic Chemical Reaction Networks, and Immunology
8682937	Energy Management Information System for Complex Buildings and Campuses
8686960	Piecewise-Linear and Piecewise-Affine Transformations For High Dimensional Touchpad (HDTP) Output Decoupling and Corrections
8692100	User Interface Metaphor Methods for Multi-Channel Data Sonification
8706449	Advanced Synthesized Hysteresis for Signal Processing, Controllers, Music, and Computer Simulations in Physics, Engineering, and Economics
8702513	Control of the Operating System On A Computing Device Via Finger Angle Using A High Dimensional Touchpad (HDTP) Touch User Interface
8712185	High-Accuracy Centered Fractional Fourier Transform Matrix for Optical Imaging and Other Applications
8716585	Customizable Electronic Musical Instrument and User Interface
8734732	Chemical synthesis and analysis via integrated or sequential photochemical and electrochemical processes for use in microfluidic, lab-on-a-chip, and green-chemistry applications
8734736	Valve-Manifold Laboratory Glassware for Chemical Laboratory Automation and Other Application
8754842	Combined display and image capture without simple or compound lenses for video conferencing eye-contact and other applications

Schedule A
Patent and Application Nos. Assignment Listing

Patent No.	Title
8754862	Sequential classification recognition of gesture primitives and window-based parameter smoothing for high dimensional touchpad (HDTP) user interfaces
8792167	Programmable Optical Computing Device Employing LED Array Transducers, Non-Quadratic Phase Optical Elements, and Stacked Light Modulator Elements
8797288	Human User Interfaces Utilizing Interruption of the Execution of a First Recognized Gesture with the Execution of a Recognized Second Gesture
8812163	Multi-channel chemical transport bus with bus-associated sensors for microfluidic and other applications
8816263	Vignetted planar spatial light-field sensor and spatial sampling designs for far-field lensless synthetic imaging via signal processing image formation
8826113	Surface-surface graphical intersection tools and primitives for data visualization, tabular data, and advanced spreadsheets
8826114	Surface-curve graphical intersection tools and primitives for data visualization, tabular data, and advanced spreadsheets
8830375	Vignetted optoelectronic array for use in synthetic image formation via signal processing, lensless cameras, and integrated camera-displays
8859876	Multi-channel signal processing for multi-channel musical instruments
8878807	Gesture-based user interface employing video camera
8879844	High-performance closed-form single-scan calculation of oblong-shape rotation angles from optical image data of arbitrary size and location for user interface applications
8877143	Chemical synthesis and analysis via integrated, sequential and series-parallel photochemical and other chemical processes for microfluidic, lab-on-a-chip, and green-chemistry applications
8885035	Electronic Imaging Flow-Microscope for Environmental Remote Sensing, Bioreactor Process Monitoring, and Optical Microscopic Tomography
8897590	Variable Focusing of Electron Microscopy Image Data Utilizing Origin-Centered Discrete Fractional Fourier Transform
8894489	Touch User Interface Supporting Global and Context-Specific Touch Gestures that are Responsive to At Least One Finger Angle
8934731	Variable Focusing of Electron Microscopy Image Data Utilizing Fractional Powers of the Fourier Transform Operator
8935847	Modular Reactive Distillation Emulation Elements Integrated with Instrumentation, Control, and Simulation Algorithms
9019237	Multitouch parameter and gesture user interface employing an LED-array tactile sensor that can also operate as a display
9031347	Correction of Over-Focus in Digital Images Using Centered Discrete Imaginary-Power Fractional Fourier Transformations with High-Accuracy Orthonormal Eigenvectors
9052772	Heuristics for 3D and 6D Touch Gesture Recognition and Touch Parameter Measurements for High-Dimensional Touch Parameter (HDTP) User Interfaces
9160894	Lensless Imaging Camera Performing Image Formation in Software and Employing Micro-Optic Elements That Impose Light Diffractions

Schedule A
Patent and Application Nos. Assignment Listing

Patent No.	Title
9172850	Lensless Imaging Camera Performing Image Formation in Software Employing Micro-Optic Elements Creating Overlap of Light From Distant Sources Over Multiple Photosensor Elements
9304677	Touch Screen Apparatus for Recognizing a Touch Gesture
9389713	Piecewise-Linear and Piecewise-Affine Subspace Transformations For High Dimensional Touchpad (HDTP) Output Decoupling And Corrections
9423161	Use of Energy Harvested by Adaptive Cooling and Energy Harvesting Arrangements for Information Technology
9441308	Three-Dimensional Microfluidic Micro-Droplet Arrays for Electronic Integrated Circuit and Component Cooling, Energy-Harvesting, Chemical and Biochemical Microreactors, Miniature Bioreactors, and Other Applications
9442652	General User Interface Gesture Lexicon and Grammar Frameworks for Multi-Touch High Dimensional Touch Pad (HDTP), Free-Space Camera, and Other User Interfaces
9586202	Valve-Manifold Laboratory Glassware for Chemical Laboratory Automation and Other Applications
9594019	Optical Tomography for Microscopy, Cell Cytometry, Microplate Array Instrumentation, Crystallography, and Other Applications
9594239	Optical Tomography for Microscopy, Cell Cytometry, Microplate Array Instrumentation, Crystallography, and Other Applications
9605881	Hierarchical Multiple-Level Control of Adaptive Cooling and Energy Harvesting Arrangements for Information Technology
9613617	Auditory Eigenfunction Systems and Methods
9626023	LED/OLED Array Approach to Integrated Display, Lensless-Camera, and Touch-Screen User Interface Devices and Associated Processors
9632344	Use of LED or OLED Array to Implement Integrated Combinations of Touch Screen Tactile, Touch Gesture Sensor, Color Image Display, Hand-Image Gesture Sensor, Document Scanner, Secure Optical Data Exchange, and Fingerprint Processing Capabilities
9636655	Software-Reconfigurable Conduit and Reaction Chamber Microfluidic Arrangements for Lab-On-A-Chip and Miniature Chemical Processing Technologies
9646133	Computer System and Microfluidic Instrumentation for Next-Generation Biological Signaling Network Research and Applications
9646589	Joint and Coordinated Visual-Sonic Metaphors for Interactive Multi-Channel Data Sonification to Accompany Data Visualization
9665554	Value-Driven Visualization Primitives for Tabular Data of Spreadsheets

Schedule A
Patent and Application Nos. Assignment Listing

Application No.	Title
13357595	Interactive WYSIWYG Control of Mathematical and Statistical Plots and Representational Graphics for Analysis and Data Visualization
13769183	Adaptive Multi-Level Control For Variable-Hierarchy-Structure Hierarchical Systems
13761142	Microprocessor-Controlled Microfluidic Platform for Pathogen, Toxin, Biomarker, and Chemical Detection with Removable Updatable Sensor Array for Food and Water Safety, Medical, and Laboratory Applications
13547024	Use of OLED Displays as a High-Resolution Optical Tactile Sensor For High Dimensional Touchpad (HDTP) User Interfaces
13706214	Heterogeneous Tactile Sensing via Multiple Sensor Types
12940042	Towards the Very Smallest Electronic Circuits and Systems: Transduction, Signal Processing, and Digital Logic in Molecular Fused-Rings via Mesh Ring-Currents
15383953	Laboratory Stopcock Valve Manifold With Arbitrary Mapping of Flow to Rotation Angle and Provisions for Motorized Planetary Gear Control
14023292	Modular Computer-Controlled Multistep Chemical Processing System for Use in Laboratory Automation or Chemical Production
14216420	Modular Biochemical Signaling Laboratory Breadboard for Disease Research. Drug Discovery, Cell Biology, and Other Applications
15289815	Electronic Imaging Flow-Microscope for Environmental Remote Sensing, Bioreactor Process Monitoring, and Optical Microscopic Tomography
13198691	High-Dimensional Touchpad Game Controller with Multiple Usage and Networking Modalities
12899551	Plug, Ball, and Laboratory Stopcock Valves with Arbitrary Mapping of Flow to Rotation Angle and Provisions for Servo Control
13026248	Enhanced Roll-Over, Button, Menu, Slider, and Hyperlink Environments for High Dimensional Touchpad (HTPD), other Advanced Touch User Interfaces, and Advanced Mice
13707518	Gesteme (Gesture Primitive) Recognition for Advanced Touch User Interfaces: Signal Space Architectures for Generalized Gesture Capture
13072588	Color Imaging Using Color LED Array as Light-Field Image Sensor
13844621	Cell Incubator and Cellular Culture Laboratory Test bed
14105108	Small-Profile Lensless Optical Microscopy Imaging and Tomography Instruments and Elements For Low Cost And Integrated Microscopy (was TRACK-ONE)
14150010	Split, Break, Substitute, and Fragment-Splice Operations for Computer Models of Enzyme Cascades, Metabolic Signal Transduction, Signaling Pathways, Catalytic Chemical Reaction Networks, and Immunology
13957370	Rate-Constant Invariance Simplifications for Analysis Systems of Biochemical Signaling Networks, Metabolic Networks, Catalytic Chemical Reaction Networks, and Immunology
15260840	General Spatial-Gesture Grammar User Interface For Touchscreens, High Dimensional Touch Pad (HDTP), Free-Space Camera, And Other User Interfaces
15260801	Three-Dimensional Multiple-Layer Microfluidic Micro-Droplet Arrays For Chemical And Biochemical Microreactors, Miniature Bioreactors, Heat Transfer, And Other Applications
15243542	Incremental Deployment of Stand-Alone and Hierarchical Adaptive Cooling and Energy Harvesting Arrangements for Information Technology
15442614	Valve-Manifold Laboratory Glassware with Motorized Longitudinally-Movable Gate Rotating Plug Valves for Chemical Laboratory Automation and Other Applications

Schedule A
Patent and Application Nos. Assignment Listing

Application No.	Title
15458771	Flexible Modular Hierarchical Adaptively Controlled Electronic-System Cooling and Energy Harvesting For IC Chip Packaging, Printed Circuit Boards, Subsystems, Cages, Racks, It Rooms, and Data Centers Using Quantum and Classical Thermoelectric Materials
15469429	Audio Signal Encoding and Decoding Based on Human Auditory-Perception Eigenfunction Model in Hilbert Space
15488295	LED/OLED Array Approach to Integrated Display, Focusing Lensless- Light-Field Camera, and Touch-Screen User Interface Devices and Associated Processors
15489616	Advanced Touch Control of a Media Player Application Via Yaw Finger Angle Using a High Dimensional Touchpad (HDTP) Touch User Interface
15492681	Use of LED or OLED Transparent Photosensor Array to Implement Integrated Combinations of Touch Screen Tactile, Touch Gesture Sensor, Color Image Display, Hand-Image Gesture Sensor, Document Scanner, Secure Optical Data Exchange, and Fingerprint Processing Capabilities
15207346	Piecewise-Linear And Piecewise-Affine Subspace Transformations For High Dimensional Touchpad (HDTP) Output Decoupling And Corrections
15499767	General-Purpose Software-Reconfigurable Conduit and Reaction Chamber Microfluidic Arrangements for Lab-On-A-Chip and Miniature Chemical Processing
15585702	Multi-Channel Data Sonification Employing Data-Modulated Sound Timbre Classes
15586166	Computer System and Microfluidic Instrumentation for Next-Generation Biological Signaling Network Research and Drug Discovery
13674944	Room Electrical Usage Measurement Arrangements for Energy Management Systems and Building Environment Information Systems
14144000	MODULAR APPROACH TO LARGE STRING ARRAY ELECTRONIC MUSICAL INSTRUMENTS SUCH AS SPECIALIZED HARPS, ZITHERS, SYMPATHETIC STRING ARRAYS, PARTCH KITHARA AND HARMONIC CANNON
62360472	Rigid and Flexible Lensless Imaging Arrangements for Seeing-Housings, Seeing-Garments, Seeing-Skin, and Other Applications
13544960	3D Finger Posture Detection and Gesture Recognition on Touch Surfaces
12817704	Advanced Geographic Information System (GIS)
13757662	SOFTWARE SYSTEMS FOR DEVELOPMENT, CONTROL, PROGRAMMING, SIMULATION, AND EMULATION OF FIXED AND RECONFIGURABLE LAB-ON-A-CHIP DEVICES
13464946	SIMPLE TOUCH INTERFACE AND HDTP GRAMMARS FOR RAPID OPERATION OF PHYSICAL COMPUTER AIDED DESIGN (CAD) SYSTEMS
13674943	ENERGY AND INTERNAL ENVIRONMENT MANAGEMENT INFORMATION SYSTEMS AND METHODS FOR BUILDINGS AND CAMPUSES
13026097	INPUT FOCUS CONTROL FOR HIGH DIMENSIONAL TOUCHPAD HDTP, ADVANCED MICE, AND OTHER MULTIDIMENSIONAL USER INTERFACES
13038372	CURVE-FITTING APPROACH TO HDTP PARAMETER EXTRACTION
11040163	Envelope-controlled dynamic layering of audio signal processing and synthesis for music applications
11004746	Controlled light sculptures for visual effects in music performance applications
11004449	WEARABLE USER INTERFACE DEVIE (<i>sic</i>)
14306175	Sequential Classification Recognition of Gesture Primitives and Window-Based Parameter Smoothing For High Dimensional Touchpad (HDTP) User Interfaces
14333177	Far-Field Lensless Imaging

Schedule A
Patent and Application Nos. Assignment Listing

Application No.	Title
14335763	Multi-Channel Chemical Transport Bus with Bus-Associated Sensors for Microfluidic and Other Applications
14450242	Human User Interfaces Recognizing Interruption of the Execution of a First Gesture with the Execution of a Second Gesture Utilizing Pause or Lift-Off
14478920	<i>Vignetted Optoelectronic Array for Use in Synthetic Image Formation via Signal Processing, Lensless Cameras, and Integrated Camera-Displays</i>
14530778	Free-Space Hand-Gesture User Interface Employing Video Camera
14530779	Chemical Synthesis and Analysis Via Integrated, Sequential and Series-Parallel Photochemical and Electrochemical Processes for Microfluidic, Lab-On-A-Chip, and Green-Chemistry Applications
14530775	High-Performance Closed-Form Single-Scan Calculation of Oblong-Shape Rotation Angles from Optical Image Data of Arbitrary Size and Location For User Interface Applications
14537443	Lensless Microscope and Optical Microscopic Tomography System with Reflective Light Sensing and Ultraviolet Fluorescent Stimulus Capabilities
14551082	Variable Focusing of Numerical Image Data from Lens-Based Imaging Utilizing Origin-Centered Discrete Fractional Fourier Transform
14596193	Electrically-Controllable Distillation Column Tray Elements for Tray Reconfigurability, Tray-Modulation, and Tray-Based Control
14544497	Variable Localized Refocusing of Electron or Coherent-Light Microscopy Image Data Utilizing Fractional Powers of the Fourier Transform Operator and Phase Restoration
14485791	Stepwise and Blockwise Biochemical Network Laboratory Breadboard Systems and Techniques for Signaling, Disease Research, Drug Discovery, Cell Biology, and Other Applications
14458814	Use of Fingerprint Scanning Sensor Data to Detect Finger Roll and Pitch Angles
12875115	Value-Driven Visualization Primitives for Spreadsheets, Tabular Data, and Advanced Spreadsheet Visualization
12828280	Display-Pixel and Photosensor-Element Device and Method Therefor
13670411	Graphical Surface Rendering Data Visualization Tools and Primitives for Tabular Data and Spreadsheets
14141257	Sensor Array Touchscreen Recognizing Touch Gestures (<i>general touch gest seq-of-variations</i>)
14141328	High Parameter-Count Touchpad Controller
13707501	Energy and Internal Environment Management Control Systems and Methods for Buildings and Campuses
13674948	Communications Among Subsystems in Adaptive Cooling and Energy Harvesting Arrangements for Information Technology
13674946	Incremental Deployment of Stand-Alone and Hierarchical Adaptive Cooling and Energy Harvesting Arrangements for Information Technology
13678519	Heat Transfer Subsystem Interconnection Arrangements for Information Technology
13712749	Spherical Touch Sensors and Signal/Power Architectures For Trackballs, Globes, Displays, and Other Applications
14229681	Sensor Array Touchscreen Recognizing Fingerlick Gesture from Spatial Distribution Profiles
13385411	Flexible Modular Hierarchical Adaptively Controlled Electronic-System Cooling & Energy Harvesting for IC Chip Packaging, PCBs, Subsystems, Cages, Racks, IT Rooms, & Data Centers Using Quantum & Classical Thermoelectric Materials
14292770	Wearable Gesture Based Control Device
14697583	Context-Oriented and Context-Free Interpretation of User Interface Touch Gesture Sequences
13009845	USE OF FINGERPRINT SCANNING SENSOR DATA TO DETECT FINGER ROLL AND PITCH ANGLES
13470725	HIGH PARAMETER-COUNT TOUCH-PAD CONTROLLER
13786326	Advanced Touch Control of a Media Player Application Via Finger Angle Using A High Dimensional Touchpad (HOTP) Touch User Interface

Schedule A
Patent and Application Nos. Assignment Listing

Application No.	Application No.	Application No.
60964468	61249047	61506096
61599403	61249251	61506634
60072762	61258191	61517454
60085713	61261358	61522239
60121680	61268856	61567623
60121958	61268873	61567626
60707287	61268900	61569522
60861660	61273182	61595651
60899667	61297631	61599643
60901878	61303577	61614229
60937022	61303898	61642435
61005369	61309421	61642438
61005429	61309424	61642440
61005460	61327443	61642443
61080232	61327458	61652842
61089386	61332758	61678598
61097869	61341011	61802127
61118964	61348366	62027197
61123217	61352816	62050734
61128968	61353194	PCT 9938324
61199896	61363181	
61210250	61363272	
61210809	61365785	
61214643	61371153	
61217535	61435395	
61221830	61435401	
61228950	61443701	
61239349	61449923	
61239426	61482248	
61239428	61482606	
61243528		