

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT2615020

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
CANESTA, INC.	11/22/2010
RECEIVING PARTY DATA	
Name:	MICROSOFT CORPORATION
Street Address:	ONE MICROSOFT WAY
City:	REDMOND
State/Country:	WASHINGTON
Postal Code:	98052
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	13665471
CORRESPONDENCE DATA	
Fax Number:	(816)421-5547
Phone:	816-474-6550
Email:	tdunkin@shb.com
<i>Correspondence will be sent via US Mail when the email attempt is unsuccessful.</i>	
Correspondent Name:	JASON O. HOWARD, SHOOK, HARDY & BACON
Address Line 1:	2555 GRAND BLVD
Address Line 4:	KANSAS CITY, MISSOURI 64108
ATTORNEY DOCKET NUMBER:	332460.04/MFCP.175183
NAME OF SUBMITTER:	TAMMY DUNKIN
Signature:	/TAMMY DUNKIN/
Date:	11/14/2013
Total Attachments: 11	

502569178

PATENT
 REEL: 031602 FRAME: 0059

CH \$40.00 13665471

source=175183_Assignment#page1.tif
source=175183_Assignment#page2.tif
source=175183_Assignment#page3.tif
source=175183_Assignment#page4.tif
source=175183_Assignment#page5.tif
source=175183_Assignment#page6.tif
source=175183_Assignment#page7.tif
source=175183_Assignment#page8.tif
source=175183_Assignment#page9.tif
source=175183_Assignment#page10.tif
source=175183_Assignment#page11.tif

ASSIGNMENT OF PATENTS

This Assignment of Patents is made by Canesta, Inc., a California corporation having a business at 1156 Sonora Court, Sunnyvale, CA 94086 ("**Company**"), in favor of Microsoft Corporation, a Washington corporation having a place of business at One Microsoft Way, Redmond, WA 98052 ("**Buyer**"), in connection with the Asset Purchase Agreement (the "**Agreement**" dated as of October 28, 2010, by and between Company, Buyer and Aaron Benway as the Shareholder Representative (as defined in the Agreement). This Assignment of Patents is effective as of the Closing. All capitalized terms used but not otherwise defined herein shall have the meanings ascribed to them in the Agreement.

WHEREAS, Company is the owner of each of the inventions, patents and patent applications (collectively, "**Patents**") listed in **Annex A** attached hereto and incorporated herein by reference;

WHEREAS, Buyer desires to acquire the Company's entire right, title and interest in and to each of the Patents and related assets described below;

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, Company does hereby sell, transfer, convey, assign and deliver to Buyer, its successors, legal representatives and assigns, all of Company's right, title and interest in and to the Patents throughout the world, together with all future and previously filed patent applications that claim priority thereto and any patents that issue thereon and any and all continuations, divisions, continuations-in-part, reissuances, renewals, reexaminations, substitutes and extensions thereof; all inventions, discoveries and designs described in such Patents; all files, documentation, records, specifications, emails, letters, diagrams, spreadsheets, and the like relating to any of the foregoing; all rights to claim the priority date under the Patent Cooperation Treaty and/or other international arrangements of any earlier US or other applications; all rights to sue, to bring any cause of action, and to enforce, including all rights to recover damages, injunctive relief and other remedies for past, present and future infringements of any of the foregoing; all rights to collect royalties and other payments under or on account of the Patents; any and all other rights and interests arising out of, in connection with, or in relation to the inventions or Patents; the same to be held and enjoyed by Buyer and its successors and assigns entirely as if the same would have been held and enjoyed by Company had this sale and assignment not been made.

Company hereby authorizes the respective patent office or governmental agency in each jurisdiction to issue any and all patents, certificates of invention, utility models or other governmental grants that may be granted upon any of the foregoing in the name of Buyer, as the assignee to the entire interest therein.

This Assignment of Patents shall inure to the benefit of and be binding upon Buyer and Company and their respective successors and assigns.

[Remainder of page intentionally left blank.]

IN WITNESS WHEREOF, Company has caused its duly authorized representative to execute this Assignment of Patents as of this 22nd day of November, 2010.

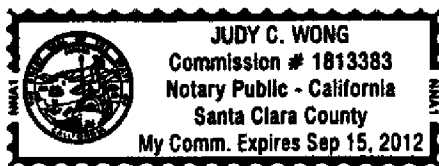
CANESTA, INC.

By: [Signature]
Name: James Spare
Title: President and Chief Executive Officer

STATE OF CALIFORNIA)
) ss.
COUNTY OF SANTA CLARA)

On this 22nd day of November, 2010, before me, the undersigned, a Notary Public in and for the State of California, duly commissioned and sworn, personally appeared James Spare, to me known to be the person who signed as President and CEO of Canesta, Inc., the company that executed the within and foregoing instrument, and acknowledged said instrument to be the free and voluntary act and deed of said company for the uses and purposes therein mentioned, and on oath stated that he was duly elected, qualified and acting as said officer of the company, that he was authority to executed said instrument and that the seal affixed, if any, is the seal of said company.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.



[Signature]
Print Name: Judy C Wong
Notary Public in and for the State of California
Residing in San Jose
My Commission Expires: Sep 15, 2012

ALL-PURPOSE ACKNOWLEDGMENT NOTARY FOR CALIFORNIA

STATE OF CALIFORNIA)
COUNTY OF SANTA CLARA)

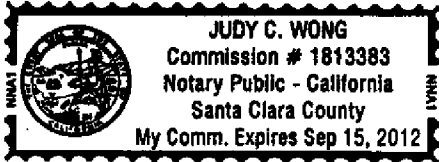
On November 22, 2010, before me, Judy C. Wong,
Date Name And Title Of Officer (e.g. "Jane Doe, Notary Public")

personally appeared James Spare,
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Place Notary Seal Above

Judy C. Wong
Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: Assignment of Patents

Document Date: November 22, 2010 Number of Pages: 11 Including this page

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer

Signer's Name: James Spare

- ☐ Individual
☒ Corporate Officer - Title(s): President and Chief Executive Officer
☐ Partner - ☐ Limited ☐ General
☐ Attorney-in-Fact
☐ Trustee
☐ Guardian or Conservator
☐ Other: _____

Signer is representing: Canesta, Inc.



26th KRD
IN WITNESS WHEREOF, Buyer has caused its duly authorized representative to execute this Assignment of Patents as of this 19th day of November, 2010.

MICROSOFT CORPORATION

By: 

Name: Keith R. Dolliver

Title: Assistant Secretary

Annex A

to

Assignment of Patents

Country	Patent No.	Issued	Subject	Assigned	Actions
©US	7,791,715	9/7/10	Method and system for lossless dealiasing in time-of-flight (TOF) systems	Canesta	
US	7,741,961	6/22/10	Enhanced obstacle detection and tracking for three-dimensional imaging systems used in motor vehicles	Canesta	
US	7,719,662	5/18/10	Method and system for fast calibration of three-dimensional (3D) sensors	Canesta ('376) ¹	
US	7,636,150	12/22/09	Method and system to enhance timing accuracy for time-of-flight systems	Canesta	
US	7,526,120	4/28/09	System and method for providing intelligent airbag deployment	Canesta	
US	7,511,801	3/31/09	Method and system for automatic gain control of sensors in time-of-flight systems	Canesta ('163)	
US	7,507,947	3/24/09	Method and system to differentially enhance sensor dynamic range using enhanced common mode reset	Canesta ('438)	
US	7,471,376	12/30/08	Method and system for fast calibration of three-dimensional (3D) sensors	Canesta	
US	7,464,351	12/9/08	Method enabling a standard CMOS fab to produce an IC to sense three-dimensional information using augmented rules creating mask patterns not otherwise expressible with existing fab rules	Canesta ('793)	
US	7,450,220	11/11/08	Method and system to correct motion blur and reduce signal transients in time-of-flight sensor systems	Canesta ('213)	
US	7,433,029	10/7/08	Method and system to calibrate a	Canesta	

¹ Nomenclature means assignment was recorded with USPTO for parent patent, here for USP 7,176,438.

Country	Patent No.	Issued	Subject	Assigned	Actions
			camera system using phase demodulation sensing		
US	7,408,627	8/5/08	Methods and system to quantify depth data accuracy in three-dimensional sensors using single frame capture	Canesta	
US	7,405,812	7/29/08	Method and system to avoid inter-system interference for phase-based time-of-flight systems	Canesta	
US	7,379,163	5/27/08	Method and system for automatic gain control of sensors in time-of-flight systems	Canesta	
US	7,379,100	5/27/08	Method and system to increase dynamic range of time-of-flight (TOF) and/or imaging sensors	Canesta	
US	7,375,803	5/20/08	RGBZ (red, green, blue, z-depth) filter system usable with sensor systems, including sensor systems with synthetic mirror enhanced three-dimensional imaging	Canesta	
US	7,352,454	4/1/08	Methods and devices for improved charge management for three-dimensional and color sensing	Canesta	
US	7,340,077	3/4/08	Gesture recognition system using depth perceptive sensors	Canesta	
US	7,321,111	1/22/08	Method and system to enhance differential dynamic range and signal/noise in CMOS range finding systems using differential sensors	Canesta ('685)	
US	7,310,431	12/18/07	Optical methods for remotely measuring objects	Canesta	
US	7,283,213	10/16/07	Method and system to correct motion blur and reduce signal transients in time-of-flight sensor systems:	Canesta	
US	7,212,663	5/1/07	Coded-Array technique for obtaining depth and other position information of an observed object	Canesta	Maintenance fee due November 1, 2010
US	7,203,356	4/10/07	Subject segmentation and tracking using 3D sensing technology for video compression in multimedia applications	Canesta	
US	7,176,438	2/13/07	Method and system to differentially enhance sensor dynamic range using enhanced	Canesta	

Country	Patent No.	Issued	Subject	Assigned	Actions
			common mode reset		
US	7,173,230	2/6/07	Electromagnetic wave detection arrangement with capacitive feedback	Canesta	
US	7,157,685	1/2/07	Method and system to enhance differential dynamic range and signal/noise in CMOS range finding systems using differential sensors	Canesta	
US	6,919,549	7/19/05	Method and system to differentially enhance sensor dynamic range	Canesta	
US	6,906,793	6/14/05	Methods and Devices for Charge Management for Three-Dimensional Sensing	Canesta	
US	6,876,775	4/5/05	Technique for removing Blurring from a Captured Image	Canesta	
US	6,690,354	2/10/04	Method for enhancing performance in a system utilizing an array of sensors that sense at least two-dimensions	Canesta	
US	6,678,039	1/13/04	Method and system to enhance dynamic range conversion useable with CMOS three-dimensional imaging	Canesta	
US	6,674,895	1/6/04	Methods for enhancing performance and data acquired from three dimensional image systems	Canesta ('838)	
US	6,614,422	9/2/03	Method and apparatus for entering data using a virtual input device	Canesta	Maintenance fee due March 2, 2011
US	6,587,186	7/1/03	CMOS-compatible three-dimensional image sensing using reduced peak energy:	Canesta	Maintenance fee due January 3, 2011
US	6,580,496	6/17/03	Systems for CMOS-compatible three-dimensional image sensing using quantum efficiency modulation	Canesta	Maintenance fee due December 17, 2010
US	6,522,395	2/18/03	Noise reduction techniques suitable for three-dimensional information acquirable with CMOS-compatible image sensor ICs	Canesta	
US	6,515,740	2/4/03	Methods for CMOS-compatible three-dimensional image sensing using quantum efficiency modulation	Canesta	

Country	Patent No.	Issued	Subject	Assigned	Actions
US	6,512,838	1/28/03	Methods for enhancing performance and data acquired from three-dimensional image systems	Canesta	
US	6,323,942	11/27/01	CMOS-compatible Three-dimensional Image Sensor IC	Canesta	
EUROPE	EP 1332488	9/15/10	Method and apparatus for entering data using a virtual input device	Canesta	Renewal fee due February 28, 2011
CHINA	01807299.2		Method and apparatus for entering data using a virtual input device	Canesta	11th annuity due February 12, 2011
KOREA	10-811015		Method and apparatus for entering data using a virtual input device	Canesta	4th annuity is due February 28, 2011
JAPAN	4533582	6/18/10	CMOS-compatible sensing using quantum efficiency modulation	Canesta ("740)	

Country	Application No.	Filed	Subject	Assigned*	Actions
US	12/074,443	3/4/08	Gesture recognition system using depth perceptive sensors	Canesta	
US	11/044,996	1/26/05	Single chip red, green, blue distance (RGB-Z) sensor	Canesta	Response to final rejection due November 4, 2010 and case must be refiled or appealed if not allowed by February 4, 2011
US	11/349,311	2/6/06	Method and system to segment depth images and to detect shapes in three-dimensionally acquired data	Canesta	Response to final rejection due January 14, 2011 and case must be refiled or appealed if not allowed by April 14, 2011
US	12/079,686	3/28/08	Method and devices for improved charge management for three-dimensional and color sensing	Canesta ('454)	
US	11/444,947	6/1/06	Method and system to increase X-Y resolution in a depth (Z) camera using red, blue, green (RGB) sensing	Canesta	
US	12/800,634	5/18/10	Method and system for fast calibration of three-dimensional (3D) sensors	Canest ('376)	
US	12/004,305	12/20/07	Video manipulation of red, green, blue , distance (RGB-Z) data including segmentation, up-sampling, and background substitution techniques	Canesta	
US	12/008,430	1/11/08	Contactless obstacle detection for power doors and the like	Canesta	
US	12/387,438	4/30/09	Method and system for intelligently mining data during communication streams to present context-sensitive advertisements using background substitution	Canesta	
US	12/386,457	4/16/09	Methods and systems using three-dimensional sensing for user interaction with applications	Canesta	
US	12/802,117	5/29/10	Method and system to maximize space-time resolution in a time-of-flight system	Canesta	

Country	Application No.	Filed	Subject	Assigned*	Actions
US	12/459,160	6/26/09	System architecture design for time-of-flight system having reduced differential pixel size, and time-of-flight	Canesta	
US	12/384,949	4/10/09	Method and system to reduce stray light reflection error in time-of-flight sensor arrays	Canesta	
US	12/658,806	2/16/10	CMOS three-dimensional image sensor detectors having reduced inter-gate capacitance, and enhanced modulation contrast	Canesta	
US	12/658,833	2/16/10	CMOS three-dimensional image sensor detectors with assured non collection of late arriving charge, more rapid collection of other charge, and with improved modulation contrast	Canesta	
US	12/586,432	9/22/09	Method and system for recognition of passive user gesture interaction with large screen video	Canesta	
US	12/802,052	5/28/10	Method and system implementing user-centric gesture control	Canesta	
US	12/804,863	7/30/10	Method and system for noise simulation analysis useable with TOF depth systems	Canesta	
US	61/336,311	1/19/10	Low power consumption clock circuitry, semiconductor backside mirror, and high power frequency laser unit, and advanced filtering concepts, useful for diverse applications including time-of-flight depth sensing	Canesta	Utility application must be filed by January 19, 2011
US	61/337,315	2/1/10	Multiple synchronized optical sources for TOF range finding systems	Canesta	Utility application must be filed by February 1, 2011
US	61/365,284	7/16/10	Method and system for multi-phase dynamic calibration of three-dimensional (3D) sensors in a time-of-flight system	Canesta	
US	61/400,061	7/21/10	Methods and systems for hierarchical dealiasing time-of-flight (TOF) systems	Canesta	
US	12/459,033	6/26/09	Methods and systems for hierarchical dealiasing time-of-flight (TOF) systems	Canesta ('715)	Response to office action due November 4, 2010

Country	Application No.	Filed	Subject	Assigned*	Actions
JAPAN	2001-525159	2001	CMOS-compatible 3-D image sensor IC	Canesta ('942)	
EUROPE	1987386.8	2001	CMOS-Compatible three-dimensional sensing using quantum efficiency modulation	Canesta ('496)	Maintenance fee due December 31, 2010
JAPAN	2006-517441	2004	Methods and devices for charge management for three-dimensional and color sensing	Canesta ('454)	
EUROPE	04759475.9	2004	Method and system to differentially enhance sensor dynamic range	Canesta ('549)	Maintenance fee due April 30, 2011
JAPAN	2006-551432	2005	Single chip red, green, blue distance (RGB-Z) sensor	Canesta	
EUROPE	06720322.4	2006	Method and devices for improved charge management for three-dimensional and color sensing	Canesta ('454)	Maintenance fee due February 28, 2011
EUROPE	04755660.0	2004	Methods and devices for charge management for three-dimensional and color sensing	Canesta ('793)	Maintenance fee due December 31, 2010
EUROPE	EP 07810233.2		Method and system for fast calibration of three-dimensional (3d) sensors		