Form PTO-1595 (Rev. 03-11) OMB No. 0851-0027 (sxp. 03/31/2016)	U.S. DEPARTMENT OF C United States Patent and Trade	OMMERC
RECORDATION FOR		
PATENTS	SUNLY	
To the Director of the U.S. Patent and Trademark Office: Please	record the attached documents or the new address(es) below.
Name of conveying party(les):	2. Name and address of receiving party(ies)	
Yuki Shinohara (06/26/2012), Miyako Terasawa (06/28/2012), Toshiya Hasegawa (07/26/2012), Yomei Otani (07/31/2012), Additional name(s) of conveying party(les) attached?	Name: Sony Corporation Internal Address: Street Address:	
3. Nature of conveyance/Execution Date(s):		
Execution Date(s): In parentheses after inventor name X Assignment Merger Change of Name Security Agreement Joint Research Agreement	1-7-1 Konan, Minato-ku Tokyo 108-0075 JAPAN City:	
Government Interest Assignment		
	State:	
Executive Order 9424, Confirmatory License Other	Country: Zip: Additional name(s) & address(es) Yes x attached?	No
13/565,961 Additional numbers attached?	Yes X No	
5. Name and address to whom correspondence concerning document should be mailed:	6. Total number of applications and patants involved:	
Name: Dennis M. Smid, Esq. LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK, LLP	7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.0	00
Inlemal Address: Atty. Dkt.: SONYJP 3.0-2857 Street Address: 600 South Avenue West	X Authorized to be charged to deposit account Enclosed None required (government interest not affect	
City: Westfield	8. Payment Information	
State: NJ Zip: 07090		
Phone Number: 908-654-5000		
Fax Number: 908-654-7866	Deposit Account Number 12-1095	
Email Address: ataylor@ldlkm.com	Authorized User Name Dennis M. Smid, E	sq.
9. Signature: Signature	August 3, 2012	
Dennis M. Smid, Esq 34,930	Total number of pages including cover	
Name of Person Signing	sheet, attachments, and documents:	8

PATENT REEL: 028726 FRAME: 0522

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	RECORDATIO	N FORM COVER SHEET (PTO-159: (supplemental sheet)	5)
Additional Conve	ying Party(ies)/Exe	ecution Date(s) (1. Continued):	
Naoki Fukino (07/07/	/2012), Toshinari Naka	amura (07/01/2012), and Rajkumar W	/aghmare (07/30/2012)
Additional Assign	ees (2. Continued):	
Assignee Name:			
Internal Address:			
Street Address:			
City:	State:	Country:	Zip:
Assignee Name:			
Internal Address:	¥ 3000 E		
Street Address:			
City:	State:	Country:	Zip:
Assignee Name:			
Internal Address:	V 1		
Street Address:			
City:	State:	Country:	Zip:
Additional Applica	ations and/or Pater	nts (4. Continued);	
Additional Patent Applicati 4A. Continued:	ion Numbers	Additional Patent Numbers 4B. Continued:	
	Additional numbe	ers attached? Yes No	

2

Dockel No.: SONYJP 3.0-2857

REEL: 028726 FRAME: 0523

LDLKM

Attorney Docket No. SONYJP 3.0-2857 SONY Ref. No.: SP323920US00

ASSIGNMENT

WHEREAS, I, as below named inventors, residing at the addresses stated next to our names, am a sole inventor (if only one name is listed below) or a joint inventor (if plural names are listed below) of certain new and useful improvements in

INFORMATION PROCESSING APPARATUS, INFORMATION PROCESSING METHOD, PROGRAM, AND INFORMATION PROCESSING SYSTEM

for which application for Letters Patent of the United States of America was executed by me on the date indicated next to my name and address;

AND WHEREAS, SONY CORPORATION, a Japanese corporation, with offices at 1-7-1 Konan, Minato-ku, Tokyo, Japan (hereinafter referred to as ASSIGNEE) is desirous of acquiring all interest in, to and under said invention, said application disclosing the invention and in, to and under any Letters Patent or similar legal protection which may be granted therefor in the United States and in any and all foreign countries;

NOW THEREFORE, in consideration of the sum of One Dollar (\$1.00), and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I, as a sole or joint inventor as indicated below, by these presents do hereby assign, sell and transfer unto the said ASSIGNEE, its successors, assigns, and legal representatives, the entire right, title and interest in the said invention, said application, including any divisions and continuations thereof, and in and to any and all Letters Patent of the United States, and countries foreign thereto, which may be granted for said invention, and in and to any and all priority rights and/or convention rights under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States of America adheres, and to any other benefits accruing or to accrue to me with respect to the filling of applications for patents or securing of patents in the United States and countries foreign thereto, and I hereby authorize and request the Commissioner of Patents to issue the said United States Letters Patent to said ASSIGNEE, as the assignee of the whole right, title and interest thereto;

And I further agree to execute all necessary or desirable and lawful future documents, including assignments in favor of ASSIGNEE or its designee, as ASSIGNEE or its successors, assigns and legal representatives may from time-to-time present to me and without further remuneration, in order to perfect title in said invention, modifications, and improvements in said invention, applications and Letters Patent of the United States and countries foreign thereto;

And I further agree to properly execute and deliver and without further remuneration, such necessary or desirable and lawful papers for application for foreign patents, for filing subdivisions of said application for patent, and or, for obtaining any reissue or reissues of any Letters patent which may be granted for my aforesaid invention, as the ASSIGNEE thereof shall hereafter require and prepare at its own expense;

And I further agree that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said application, said invention and said Letters Patent and legal equivalents in foreign countries as may be known and accessible to me and will testify as to the same in any interference or litigation related thereto;

And I hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment and sale.

This assignment executed on the dates indicated below.	d in this application to insert the serial number and filing date of this application in $\frac{1}{1}$, Filing Date: August 3, 2012.
YUKI SHINOHARA	
Name of first or sole inventor TOKYO, JAPAN	Execution date of U.S. Patent Application
Residence of First or sole inventor	June 26 2012
Signature of first or sole inventor	Date of this assignment
MIYAKO TERASAWA	
Name of second inventor TOKYO, JAPAN	Execution date of U.S. Patent Application
Residence of second inventor Prison Jerusana	June 28, 20/2
Signature of second inventor	Date of this assignment
TOSHIYA HASEGAW A	
Name of third-invented TOKYO, JAPAN	Execution date of U.S. Patent Application
Residence of third inventor	1. 4 2/20/2
Signature of third inventor	Date of this assignment

1

PATENT

REEL: 028726 FRAME: 0524

Attorney Docket No. SONYJP 3.0-2857 SONY Ref. No.:SP323920US00

ADDITIONAL INVENTOR(S)

YOMEI OTANI	
Name of fourth inventor	Execution date of U.S. Patent Application
TOKYO, JAPAN	
Residence of fourth inventor	TI 21 1316
Tomor Olem)	My >1, 2+1
Signature of fourth inventor	Date of this assignment
NAOKI FUKINO	
Name of fifth inventor	Execution date of U.S. Patent Application
TOKYO, JAPAN	
Residence of fifth inventor	
Signature of fifth inventor	Date of this assignment
TOSHINARI NAKAMURA	
Name of sixth inventor	Execution date of U.S. Patent Application
TOKYO, JAPAN	
Residence of sixth inventor	
Signature of sixth inventor	Date of this assignment
RAJKUMAR WAGHMARE	
Name of seventh inventor	Execution date of U.S. Patent Application
KANAGAWA, JAPAN	
Residence of seventh inventor	# 1. # A = - A A
Barran.	July 30, 202
Signature of seventh inventor	Date of this assignment
Name of eighth inventor	Execution date of U.S. Patent Application
Residence of eighth inventor	
Signature of eighth inventor	Date of this assignment
Name of ninth inventor	Execution date of U.S. Patent Application
Residence of ninth inventor	-
Signature of ninth inventor	Date of this assignment

Attorney Docket No. SONYJP 3.0-2857 SONY Ref. No.: SP323920US00

ASSIGNMENT

WHEREAS, I, as below named inventors, residing at the addresses stated next to our names, am a sole inventor (if only one name is listed below) or a joint inventor (if plural names are listed below) of certain new and useful improvements in

INFORMATION PROCESSING APPARATUS, INFORMATION PROCESSING METHOD, PROGRAM, AND INFORMATION PROCESSING SYSTEM

LDLKM

for which application for Letters Patent of the United States of America was executed by me on the date indicated next to my name and address;

AND WHEREAS, SONY CORPORATION, a Japanese corporation, with offices at 1-7-1 Konan, Minato-ku, Tokyo, Japan (hereinafter referred to as ASSIGNEE) is desirous of acquiring all interest in, to and under said invention, said application disclosing the Invention and in, to and under any Letters Patent or similar legal protection which may be granted therefor in the United States and in any and all foreign countries;

NOW THEREPORE, in consideration of the sum of One Dollar (\$1.00), and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I, as a sole or joint inventor as indicated below, by these presents do hereby assign, sell and transfer unto the sald ASSIGNEE, its successors, assigns, and legal representatives, the entire right, title and interest in the said invention, said application, including any divisions and continuations thereof, and in and to any and all Letters Patent of the United States, and countries foreign thereto, which may be granted for said invention, and in and to any and all priority rights under convention rights under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States of America adheres, and to any other benefits accruing or to accrue to me with respect to the filling of applications for patents or securing of patents in the United States and countries foreign thereto, and I hereby authorize and request the Commissioner of Patents to issue the said United States Letters Patent to said ASSIGNEE, as the assignee of the whole right, title and interest thereto:

And I further agree to execute all necessary or desirable and lawful future documents, including assignments in favor of ASSIGNEE or its designee, as ASSIGNEE or its successors, assigns and legal representatives may from time-to-time present to me and without further remuneration, in order to perfect title in said invention, modifications, and improvements in said invention, applications and Letters Patent of the United States and countries foreign thereto;

And I further agree to properly execute and deliver and without further remuneration, such necessary or desirable and lawful papers for application for foreign patents, for filing subdivisions of said application for patent, and or, for obtaining any reissue or reissues of any Letters patent which may be granted for my aforesaid invention, as the ASSIGNEE thereof shall hereafter require and prepare at its own expense;

And I further agree that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said application, said invention and said Letters Patent and legal equivalents in foreign countries as may be known and accessible to me and will testify as to the same in any interference or litigation related thereto;

And I hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment and sale,

	I in this application to insert the serial number and filing date of this application in Filing Date:August. 3. 2012
This assignment executed on the dates indicated below.	
YUKI SHINOHARA	
Name of first or sole inventor TOKYO, JAPAN	Execution date of U.S. Patent Application
Residence of First or sole inventor	
Signature of first or sole inventor	Date of this assignment
MIYAKO TERASAWA	
Name of second inventor TOKYO, JAPAN	Execution date of U.S. Patent Application
Residence of second inventor	
Signature of second inventor	Date of this assignment
TOSHIYA HASEGAWA	
Name of third inventor TOKYO, JAPAN	Execution date of U.S. Patent Application
Residence of third inventor	
Signature of third inventor	Date of this assignment

1

PATENT REEL: 028726 FRAME: 0526

Attorney Docket No. SONYJP 3.0-2857

SONY Ref. No.: SP323920US00

ADDITIONAL INVENTOR(S)

LDLKM

YOMEI OTANI	
Name of fourth inventor	Execution date of U.S. Patent Application
TOKYO, JAPAN	
Residence of fourth inventor	
Signature of fourth inventor	Date of this assignment
NAOKI FUKINO	
Name of fifth inventor TOKYO, JAPAN	Execution date of U.S. Patent Application
Residence of fifth inventor	
	07/07/2012
Maolai Julian Signature of fifth inventor	Date of this assignment
TOSHINARI NAKAMURA	
Name of sixth inventor	Execution date of U.S. Patent Application
TOKYO, JAPAN	
Residence of sixth inventor	
Signature of sixth inventor	Date of this assignment
RAJKUMAR WAGHMARE	
Name of seventh inventor	Execution date of U.S. Patent Application
KANAGAWA, JAPAN	
Residence of seventh inventor	
Signature of seventh inventor	Date of this assignment
Name of eighth inventor	Execution date of U.S. Patent Application
Residence of eighth inventor	
Signature of eighth inventor	Date of this assignment
Name of ninth inventor	Execution date of U.S. Patent Application
Residence of ninth inventor	
Signature of ninth inventor	Date of this assignment

Attorney Docket No. SONYJP 3.0-2857 SONY Ref. No.1 SP323920US00

ASSIGNMENT

WHEREAS, I, as below named inventors, residing at the addresses stated next to our names, am a sole inventor (if only one name is listed below) or a joint inventor (if plural names are listed below) of certain new and useful improvements in

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LDLKM

for which application for Letters Patent of the United States of America was executed by me on the date Indicated next to my name and address;

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NOW THEREFORE, in consideration of the sum of One Dollar (\$1.00), and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I, as a sole or Joint inventor as indicated below, by these presents do hereby assign, sell and transfer unto the said ASSIGNEE, its successors, assigns, and legal representatives, the entire right, title and interest in the said invention, said application, including any divisions and continuations thereof, and in and to any and all Letters Patent of the United States, and countries foreign thereto, which may be granted for said invention, and in and to any and all priority rights and/or convention rights under the International Convention for Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States of America adheres, and to any other benefits accruing or to accrue to me with respect to the filling of applications for patents or securing of patents in the United States and countries foreign thereto, and I hereby authorize and request the Commissioner of Patents to issue the said United States Letters Patent to said ASSIGNEE, as the assignee of the whole right, title and interest thereto;

And I further agree to execute all necessary or desirable and lawful future documents, including assignments in favor of ASSIGNEE or its designee, as ASSIGNEE or its successors, essigns and legal representatives may from time-to-time present to me and without further remuneration, in order to perfect title in said invention, modifications, and improvements in said invention, applications and Letters Patent of the United States and countries foreign thereto;

And I further agree to properly execute and deliver and without further remuneration, such necessary or desirable and lawful papers for application for foreign patents, for filling subdivisions of said application for patent, and or, for obtaining any reissue or reissues of any Letters patent which may be granted for my aforesaid invention, as the ASSIGNEE thereof shall hereafter require and prepare at its own expense;

And I further agree that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said application, said invention and said Letters Patent and legal equivalents in foreign countries as may be known and accessible to me and will testify as to the same in any interference or litigation related thereto;

And I hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment and sale.

And I hereby authorize and request my attorney(s) of record in this application to insert the serial number and filing date of this application in

he spaces that follow: Serial Number:13/565,	961 Filing Date: August 3, 2012
This assignment executed on the dates indicated below.	
YUKI SHINOHARA	
Name of first or sole inventor TOKYO, JAPAN	Execution date of U.S. Patent Application
Residence of First or sole inventor	
Signature of first or sole inventor	Date of this assignment
MIYAKO TERASAWA	
Name of second inventor TOKYO, JAPAN	Execution date of U.S. Patent Application
Residence of second inventor	
Signature of second inventor	Date of this assignment
TOSHIYA HASEGAWA	
Name of third inventor TOKYO, JAPAN	Execution date of U.S. Patent Application
Residence of third inventor	
Signature of third inventor	Date of this assignment

1

PATENT REEL: 028726 FRAME: 0528

Attorney Docket No. SONYJP 3.0-2857 SONY Ref. No.:SP323920US00

ADDITIONAL INVENTOR(S)

YOMEI OTANI	
Name of fourth inventor TOKYO, JAPAN	Execution date of U.S. Patent Application
Residence of fourth inventor	
Signature of fourth inventor	Date of this assignment
NAOKI FUKINO	
Name of fifth inventor	Execution date of U.S. Patent Application
TOKYO, JAPAN Residence of fifth inventor	
Signature of fifth inventor	Date of this assignment
TOSHINARI NAKAMURA	
Name of sixth inventor TOKYO, JAPAN	Execution date of U.S. Patent Application
Residence of sixth inventor Joffinari Naframura	1-17/2012
Signature of sixth inventor	Date of this assignment Jaly 1,2012 T.M
RAJKUMAR WAGHMARE	
Name of seventh inventor KANAGAWA, JAPAN	Execution date of U.S. Patent Application
Residence of seventh inventor	
Signature of seventh inventor	Date of this assignment
Name of eighth inventor	Execution date of U.S. Patent Application
Residence of eighth inventor	
Signature of eighth inventor	Date of this assignment
Name of ninth inventor	Execution date of U.S. Patent Application
Residence of ninth inventor	
Signature of ninth inventor	Date of this assignment