PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5344392

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
INTELLECTUAL VENTURES ASSETS 127 LLC	12/27/2018
INTELLECTUAL VENTURES ASSETS 122 LLC	12/27/2018

RECEIVING PARTY DATA

Name:	ROVI CORPORATION
Street Address:	2160 GOLD STREET
City:	SAN JOSE
State/Country:	CALIFORNIA
Postal Code:	95002

PROPERTY NUMBERS Total: 31

Property Type	Number
Patent Number:	7739621
Patent Number:	7216299
Patent Number:	RE43933
Patent Number:	8122466
Patent Number:	8909729
Patent Number:	8046813
Patent Number:	9648364
Patent Number:	7711774
Patent Number:	7503059
Patent Number:	8504652
Patent Number:	8396931
Patent Number:	8838693
Patent Number:	8644316
Patent Number:	7069515
Patent Number:	8135263
Patent Number:	7110664
Patent Number:	8634705
Patent Number:	9502075
Patent Number:	7254640

PATENT REEL: 048143 FRAME: 0615

505297615

Property Type	Number
Patent Number:	7729381
Application Number:	15587827
Application Number:	60371273
Application Number:	11527279
Application Number:	11444172
Patent Number:	7478063
Patent Number:	8086750
Patent Number:	6313833
Application Number:	10801926
Application Number:	10464804
Application Number:	60390029
Application Number:	12252920

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: juanita.alvarez@hglaw.com
Correspondent Name: HALEY GUILIANO LLP
Address Line 1: 75 BROAD STREET

Address Line 2: SUITE 1000

Address Line 4: NEW YORK, NEW YORK 10004

ATTORNEY DOCKET NUMBER:	IBER: VENTURES TO ROVI CORP	
NAME OF SUBMITTER:	JUANITA ALVAREZ	
SIGNATURE:	/JUANITA ALVAREZ/	
DATE SIGNED:	01/25/2019	

Total Attachments: 16

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ASSIGNMENT OF PATENT RIGHTS

For good and valuable consideration, the receipt of which is hereby acknowledged, Intellectual Ventures Assets 127 LLC, a Delaware limited liability company, with an address at 251 Little Falls Drive, Wilmington, DE 19808 ("Assignor"), does hereby sell, assign, transfer, and convey unto Rovi Corporation, a Delaware corporation with an office at 2160 Gold Street, San Jose, CA 95002("Assignee"), subject to certain existing rights and encumbrances as described in the Patent Sale Agreement between Assignor and Assignee, dated on or around December 26, 2018, all of Assignor's right, title, and interest in and to the following (collectively, the "Assigned Patent Rights"):

(a) the patents and patent applications listed in the table below (the "Patents");

Patent/		<u>Issue Date/</u>	
Application Number	<u>Country</u>	Filing Date	Title of Patent and Inventors
7739621	US	2010-06-15	INTERFACE AND METHOD
			ADAPTED FOR
(09/945099)		(2001-08-31)	CAPTURING SUBJECTIVE
			PREFERENCES OF
			PROGRAM USERS
			Timothy Orr Knight
7216299	US	2007-05-08	INTERFACE AND
7210255		2007-03-00	PROGRAM USING VISUAL
(09/944624)		(2001-08-31)	DATA ARRANGEMENTS
(05/5 (102 1)		(2001 00 51)	FOR EXPRESSING USER
			PREFERENCES
			CONCERNING AN ACTION
			OR TRANSACTION
			Timothy O Knight
7478063	US	2009-01-13	STOCK TRADING
			APPLICATION PROGRAM
(09/945184)		(2001-08-31)	
			Timothy Orr Knight
	US		INTERFACE AND
			PROGRAM USING VISUAL
(12/252920)		(2008-10-16)	DATA ARRANGEMENTS
			FOR EXPRESSING USER
			PREFERENCES
			CONCERNING AN ACTION
			OR TRANSACTION
			Timothy Orr Knight
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<u>Patent/</u>		<u> Issue Date/</u>	
Application Number	Country	Filing Date	Title of Patent and Inventors
8086750	US	2011-12-27	METHOD AND SYSTEM
			FOR DELIVERING
(11/029212)		(2005-01-03)	CONTENT OVER A
			NETWORK
			Hans-Joerg Voegel

- (b) any future reissues, reexaminations, extensions, continuations, continuations-inpart, continuing prosecution applications, divisionals, requests for continuing examinations, and registrations of any of the Patents;
- (c) rights to apply in any or all countries of the world for future patents, certificates of invention, utility models, industrial design protections, design patent protections, or other future governmental grants or issuances of any type related to the Patents, with full benefit of such priority as may now or hereafter be granted to it by law, treaty or other international convention;
- (d) causes of action and enforcement rights of any kind under, or on account of, any of the Patents and/or any of the items described in either of the foregoing categories (b) or (c), including, without limitation, all causes of action, enforcement rights and all other rights to seek and obtain any other remedies of any kind for past, current and future infringement;
- (e) all rights to recover and collect on all future settlement agreements, license payments, royalties, and other payments hereafter due or payable pursuant to agreements entered into following the date hereof under or on account of any of the Patents;
 - (f) the right to license and sublicense the Patents; and
- (g) all administrative rights with respect to enforcing, defending or maintaining the Patents, including, without limitation, all rights to initiate proceedings before government and administrative bodies with regard to the Patents and all rights to prosecute and defend the Patents.

Assignor hereby authorizes the respective patent office or governmental agency in each jurisdiction to record and register this Assignment of Patent Rights, and to issue any and all future patents, certificates of invention, utility models or other governmental grants or issuances that may be granted upon any of the Assigned Patent Rights in the name of Assignee, as the assignee to the entire interest therein. This Assignment of Patent Rights will inure for the benefit of any permitted successors or assigns of Assignee.

Assignor will, at the reasonable request of Assignee, at Assignee's cost, take all reasonable steps necessary and proper, to confirm the assignment to Assignee of the Assigned Patent Rights pursuant to this Assignment of Patent Rights, including without limitation, the execution, acknowledgment, and recordation of specific assignments, oaths, declarations, and other documents on a country-by-country basis, to assist Assignee in obtaining, recording and perfecting the Assigned Patent Rights.

Nothing in this Assignment of Patent Rights, express or implied, is intended to or shall be construed to modify, expand, supersede or limit in any way the terms, conditions or obligations of the Patent Sale Agreement. To the extent any provision of this Assignment of Patent Rights conflicts with or is inconsistent with the terms of the Patent Sale Agreement, the Patent Sale Agreement shall control and govern.

This Assignment of Patent Rights shall be governed by, and construed in accordance with, the laws of the United States in respect to patent issues, and in all other respects including as to validity (except for patent validity issues) interpretation and effect by the laws of the State of Delaware without giving effect to the conflict of laws rules thereof.

(Remainder of Page Intentionally Left Blank, Signature Page Follows)

IN WITNESS WHEREOF this Assignment of Patent Rights is executed on December 27, 2018, to be effective as of December 28, 2018.

ASSIGNOR:

Intellectual Ventures Assets/127 LLC

By: James A. Weisfield

Title: Authorized Person

ASSIGNMENT OF PATENT RIGHTS

For good and valuable consideration, the receipt of which is hereby acknowledged, Intellectual Ventures Assets 122 LLC, a Delaware limited liability company, with an address at 251 Little Falls Drive, Wilmington, DE 19808 ("Assignor"), does hereby sell, assign, transfer, and convey unto Rovi Corporation, a Delaware corporation with an office at 2160 Gold Street, San Jose, CA 95002("Assignee"), subject to certain existing rights and encumbrances as described in the Patent Sale Agreement between Assignor and Assignee, dated on or around December 26, 2018, all of Assignor's right, title, and interest in and to the following (collectively, the "Assigned Patent Rights"):

(a) the patents and patent applications listed in the table below (the "Patents");

Patent/		Issue Date/	
Application Number	Country	Filing Date	Title of Patent and Inventors
RE43933	US	2013-01-15	System for providing fault
			tolerant data warehousing
(12/537963)		(2009-08-07)	environment by temporary
			transmitting data to alternate
			data warehouse during an
			interval of primary data
			warehouse failure
			Bruce Alexander
8122466	US	2012-02-21	System and method for
			updating digital media content
(11/652436)		(2007-01-11)	
			Leigh M. Rothschild
8909729	US	2014-12-09	System and method for sharing
			digital media content
(11/716763)		(2007-03-12)	
			Leigh M. Rothschild
8046813	US	2011-10-25	Method of enhancing media
(4.7.19.0.70.4)		(2000 00 00)	content and a media
(12/380701)		(2009-03-03)	enhancement system
			Leigh M. Rothschild
9648364	US	2017-05-09	A MULTI-USER MEDIA
30.000.		201, 00 05	DELIVERY SYSTEM FOR
(14/460524)		(2014-08-15)	SYNCHRONIZING
((,	CONTENT ON MULTIPLE
			MEDIA PLAYERS
			Leigh M. Rothschild
7711774	US	2010-05-04	Interactive, multi-user media
			delivery system
(09/997477)		(2001-11-20)	
			Leigh M. Rothschild

Patent/		<u>Issue Date/</u>	
Application Number	Country	Filing Date	Title of Patent and Inventors
7503059	US	2009-03-10	Method of enhancing media
			content and a media
(10/034832)		(2001-12-28)	enhancement system
			Leigh M. Rothschild
8504652	US	2013-08-06	Method and system for
			selectively supplying media
(11/400889)		(2006-04-10)	content to a user and media
			storage device for use therein
			Leigh M. Rothschild
8396931	US	2013-03-12	INTERACTIVE, MULTI-
			USER MEDIA DELIVERY
(12/771004)		(2010-04-30)	SYSTEM
			Leigh Michell Rothschild
8838693	US	2014-09-16	MULTI-USER MEDIA
			DELIVERY SYSTEM FOR
(12/780236)		(2010-05-14)	SYNCHRONIZING
		(CONTENT ON MULTIPLE
			MEDIA PLAYERS
			Leigh Mitchell Rothschild
	US		MULTI-USER MEDIA
			DELIVERY SYSTEM FOR
(15/587827)		(2017-05-05)	SYNCHRONIZING
			CONTENT ON MULTIPLE
			MEDIA PLAYERS
			Laigh M. Dathachild
8644316	US	2014-02-04	Leigh M. Rothschild In-band media performance
007.010		201.02.01	monitoring
(12/760759)		(2010-04-15)	momtoring.
((2000)	Raghvendra G. Savoor
7069515	US	2006-06-27	Method and apparatus for
			displaying messages in
(10/152204)		(2002-05-21)	computer systems
			Scott G. Eagle
8135263	US	2012-03-13	Methods and apparatus for
			indexing and archiving
(11/517825)		(2006-09-08)	encoded audio/video data
			Jay Yogeshwar
<u> </u>			1-27 1-20-22111-22

<u>Patent/</u>		<u> Issue Date/</u>	
Application Number	Country	Filing Date	Title of Patent and Inventors
7110664	US	2006-09-19	Methods and apparatus for indexing and archiving
(09/839355)		(2001-04-20)	encoded audio-video data
			Jay Yogeshwar
8634705	US	2014-01-21	Methods and apparatus for
(11/927389)		(2007-10-29)	indexing and archiving encoded audio/video data
			Jay Yogeshwar
9502075	US	2016-11-22	Methods and apparatus for
			indexing and archiving
(14/157150)		(2014-01-16)	encoded audio/video data
			Jay Yogeshwar

- (b) any future reissues, reexaminations, extensions, continuations, continuations-inpart, continuing prosecution applications, divisionals, requests for continuing examinations, and registrations of any of the Patents;
- (c) rights to apply in any or all countries of the world for future patents, certificates of invention, utility models, industrial design protections, design patent protections, or other future governmental grants or issuances of any type related to the Patents, with full benefit of such priority as may now or hereafter be granted to it by law, treaty or other international convention;
- (d) causes of action and enforcement rights of any kind under, or on account of, any of the Patents and/or any of the items described in either of the foregoing categories (b) or (c), including, without limitation, all causes of action, enforcement rights and all other rights to seek and obtain any other remedies of any kind for past, current and future infringement;
- (e) all rights to recover and collect on all future settlement agreements, license payments, royalties, and other payments hereafter due or payable pursuant to agreements entered into following the date hereof under or on account of any of the Patents;
 - (f) the right to license and sublicense the Patents; and
- (g) all administrative rights with respect to enforcing, defending or maintaining the Patents, including, without limitation, all rights to initiate proceedings before government and administrative bodies with regard to the Patents and all rights to prosecute and defend the Patents.

Assignor hereby authorizes the respective patent office or governmental agency in each jurisdiction to record and register this Assignment of Patent Rights, and to issue any and all future patents, certificates of invention, utility models or other governmental grants or issuances that may be granted upon any of the Assigned Patent Rights in the name of Assignee, as the assignee to the entire interest therein. This Assignment of Patent Rights will inure for the benefit of any permitted successors or assigns of Assignee.

Assignor will, at the reasonable request of Assignee, at Assignee's cost, take all reasonable steps necessary and proper, to confirm the assignment to Assignee of the Assigned Patent Rights pursuant to this Assignment of Patent Rights, including without limitation, the execution, acknowledgment, and recordation of specific assignments, oaths, declarations, and other documents on a country-by-country basis, to assist Assignee in obtaining, recording and perfecting the Assigned Patent Rights.

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1

IN WITNESS WHEREOF this Assignment of Patent Rights is executed on December 27, 2018, to be effective as of December 28, 2018.

ASSIGNOR:

Intellectual Ventures Assets 122 LLC

By: James A. Weisfield

Title: Authorized Person

ASSIGNMENT OF RIGHTS IN CERTAIN ASSETS

For good and valuable consideration, the receipt of which is hereby acknowledged, Intellectual Ventures Assets 127 LLC, a Delaware limited liability company with an address at 251 Little Falls Drive, Wilmington, DE 19808 ("Assignor"), does hereby sell, assign, transfer, and convey unto Rovi Corporation, a Delaware corporation with an office at 2160 Gold Street, San Jose, CA 95002("Assignee"), all of its right, title, and interest in and to any and all of the following provisional patent applications, patent applications, patents, and other governmental grants or issuances of any kind (the "Certain Assets"):

Patent/		<u> Issue Date/</u>	
Application Number	<u>Country</u>	Filing Date	Title of Patent and Inventors
6313833	US	2001-11-06	GRAPHICAL DATA
			COLLECTION INTERFACE
(09/173853)		(1998-10-16)	AND RETRIEVAL
			INTERFACE
			Timothy Orr Knight
	US		METHOD AND SYSTEM
			FOR DELIVERING
(10/801926)		(2004-03-15)	CONTENT OVER A
			NETWORK
			Hans-Joerg Voegel
	US		METHOD AND SYSTEM
		, i	FOR DELIVERING
(10/464804)		(2003-06-17)	CONTENT OVER A
			NETWORK
			,
			Hans-Joerg Voegel
	US		METHOD AND SYSTEM
		(FOR DELIVERING
(60/390029)		(2002-06-17)	CONTENT OF LEARNING
			LESSONS OVER THE
			INTERNET
			Hans-Joerg Voegel

Assignor assigns to Assignee, subject to certain existing rights and encumbrances as described in the Patent Sale Agreement between Assignor and Assignee, dated on or around the date hereof, all of its rights to the inventions, invention disclosures, and discoveries in the assets listed above, together, with all of its rights, if any, to revive prosecution of claims under such assets and to sue or otherwise enforce any claims under such assets for past, present or future infringement. Assignor further assigns to Assignee, subject to certain existing rights and encumbrances as described in the Patent Sale Agreement between Assignor and Assignee, dated on or around the date hereof, all of its rights to recover and collect on all future settlement agreements, license payments, royalties, and other payments hereafter due or payable pursuant to

agreements entered into following the date hereof under or on account of any of the Certain Assets; the right to license and sublicense the Certain Assets and all administrative rights with respect to enforcing, defending or maintaining the Certain Assets, including, without limitation, all rights to initiate proceedings before government and administrative bodies with regard to the Certain Assets and all rights to prosecute and defend the Certain Assets.

Assignor hereby authorizes the respective patent office or governmental agency in each jurisdiction to make available to Assignee all records regarding the Certain Assets and to issue any and all future patents, certificates of invention, utility models or other governmental grants or issuances that may be granted upon any of the Certain Assets in the name of Assignee, as the assignee to the entire interest therein.

The terms and conditions of this Assignment of Rights in Certain Assets will inure to the benefit of Assignee, its successors, assigns, and other legal representatives and will be binding upon Assignor, its successors, assigns, and other legal representatives.

Assignor will, at the reasonable request of Assignee, at Assignee's cost, take all reasonable steps necessary and proper, to confirm the assignment to Assignee of the Certain Assets pursuant to this Assignment of Rights in Certain Assets, including without limitation, the execution, acknowledgment, and recordation of specific assignments, oaths, declarations, and other documents on a country-by-country basis, to assist Assignee in obtaining, recording and perfecting the Certain Assets.

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PATENT

Executed on this 27th day of December, 2018, to be effective as of December 28, 2018.

ASSIGNOR:

Intellectual Ventures Assets 127 LLC

By: Name: James X. Weisfield

Title: Authorized Person

ASSIGNMENT OF RIGHTS IN CERTAIN ASSETS

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Patent/		Issue Date/	
Application Number	Country	Filing Date	Title of Patent and Inventors
į	US		System and method for
			providing a fault-tolerant data
(60/371273)		(2002-04-09)	warehouse environment
			Bruce Alexander
7254640	US	2007-08-07	System for providing fault
			tolerant data warehousing
(10/411504)		(2003-04-09)	environment by temporary
			transmitting data to alternate
			data warehouse during an
			interval of primary data
			warehouse failure
			Bruce Alexander
	US		System and method for
(44/72-2-0)		(2006.00.26)	marking digital media content
(11/527279)		(2006-09-26)	
	7770		Leigh M. Rothschild
	WO		In-band media performance
(DCT/LICONOZ/079501)		(2007.00.14)	monitoring
(PCT/US2007/078501)		(2007-09-14)	Dealesses des C. Conses
7720201	TIC	2010.06.01	Raghvendra G. Savoor
7729381	US	2010-06-01	In-band media performance
(11/522275)		(2006 00 15)	monitoring
(11/522275)		(2006-09-15)	Paghyandra G. Sayaar
	EP		Raghvendra G. Savoor
	Er		Method and Apparatus for Displaying Messages in
(EP03755344.3)		(2003-05-05)	Computer Systems
(EI 03/33344.3)		(2003-03-03)	Computer Systems
			Scott G. Eagle
	US		Method and apparatus for
			displaying messages in
(11/444172)		(2006-05-30)	computer systems
(///-/-/-/-/-/-/-/-/-/-/-/-/-/-/-		(2000 00 00)	Joinparer Systems
			Scott G. Eagle
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Patent/		<u> Issue Date/</u>	
Application Number	Country	Filing Date	Title of Patent and Inventors
(JP2004-508329)	JP		Method and Apparatus for
			Displaying Messages in
		(2003-05-05)	Computer Systems
			Scott G. Eagle
(KR10-2004-7018751)	KR		Method and Apparatus for
			Displaying Messages in
		(2003-05-05)	Computer Systems
			Scott G. Eagle
(PCT/US2003/013985)	WO		Method and Apparatus for
			Displaying Messages in
		(2003-05-05)	Computer Systems
			Scott G. Eagle
(PCT/US2002/012427)	WO		Methods and apparatus for
			indexing and archiving
		(2002-04-19)	encoded audio/video data
			Jay Yogeshwar

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(Remainder of Page Intentionally Left Blank, Signature Page Follows)

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Executed on this 27th day of December, 2018, to be effective as of December 28, 2018.

ASSIGNOR:

Intellectual Ventures Assets 122 LLC

By: Name: James A. Weisfield

Title: Authorized Person

PATENT REEL: 048143 FRAME: 0633

RECORDED: 01/25/2019