505752357 10/31/2019

PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT5799170

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	

CONVEYING PARTY DATA

Name	Execution Date
THALVEG DATA FLOW LLC	10/31/2019

RECEIVING PARTY DATA

Name:	ame: INTELLECTUAL VENTURES ASSETS 147 LLC	
Street Address:	251 LITTLE FALLS DRIVE	
City:	WILMINGTON	
State/Country: DELAWARE		
Postal Code:	19808	

PROPERTY NUMBERS Total: 2

Property Type	Number
Patent Number:	8548987
Patent Number:	7461058

CORRESPONDENCE DATA

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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.

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INTELLECTUAL VENTURES MANAGEMENT- IP LEGAL Correspondent Name:

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NAME OF SUBMITTER:	JANICE L. GOEBEL		
SIGNATURE:	/Janice L. Goebel/		
DATE SIGNED:	10/31/2019		

Total Attachments: 4

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PATENT REEL: 050885 FRAME: 0182 505752357

ASSIGNMENT OF PATENT RIGHTS

For good and valuable consideration, the receipt of which is hereby acknowledged, Thalveg Data Flow LLC, a Delaware limited liability company having an address at 251 Little Falls Drive, Wilmington, DE 19808 ("Assignor"), does hereby sell, assign, transfer, and convey unto Intellectual Ventures Assets 147 LLC a Delaware limited liability company, having an address at 251 Little Falls Drive, Wilmington, DE 19808 ("Assignee"), or its designees, all of its right, title, and interest that exist today and may exist in the future in and to any and all of the following (collectively, the "Patent Rights"):

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

Active Patent(s) – (Filed; Granted)

		<u>Issue Date/</u>	Title of Patent
Patent/Application Number	Country	Filing Date	and First Named Inventor
8548987	US	10/1/2013	System and Method for Efficiently Providing a
(12/263048)		(10/31/2008)	Recommendation Rauser, John

- (b) all patents and patent applications (i) to which any of the Patents directly or indirectly claims priority, and/or (ii) for which any of the Patents directly or indirectly forms a basis for priority;
- (c) all reissues, reexaminations, extensions, continuations, continuations in part, continuing prosecution applications, requests for continuing examinations, divisions, registrations of any item in any of the foregoing categories (a) and (b);
- (d) all foreign patents, patent applications, and counterparts relating to any item in any of the foregoing categories (a) through (c), including, without limitation, certificates of invention, utility models, industrial design protection, design patent protection, and other governmental grants or issuances;
- (e) all items in any of the foregoing in categories (b) through (d), whether or not expressly listed as Patents above and whether or not claims in any of the foregoing have been rejected, withdrawn, cancelled, or the like;
- (f) inventions, invention disclosures, and discoveries described in any of the Patents and/or any item in the foregoing categories (b) through (e) that (i) are included in any claim in the Patents and/or any item in the foregoing categories (b) through (e), (ii) are subject matter capable of being reduced to a patent claim in a reissue or reexamination proceeding brought on any of the Patents and/or any item in the foregoing categories (b) through (e), and/or (iii) could have been included as a claim in any of the Patents and/or any item in the foregoing categories (b) through (e);

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- (g) all rights to apply in any or all countries of the world for patents, certificates of invention, utility models, industrial design protections, design patent protections, or other governmental grants or issuances of any type related to any item in any of the foregoing categories (a) through (f), including, without limitation, under the Paris Convention for the Protection of Industrial Property, the International Patent Cooperation Treaty, or any other convention, treaty, agreement, or understanding;
- (h) all causes of action (whether known or unknown or whether currently pending, filed, or otherwise) and other enforcement rights under, or on account of, any of the Patents and/or any item in any of the foregoing categories (b) through (g), including, without limitation, all causes of action and other enforcement rights for
 - (1) damages,
 - (2) injunctive relief, and
 - (3) any other remedies of any kind

for past, current, and future infringement;

- (i) all rights to collect royalties and other payments under or on account of any of the Patents and/or any item in any of the foregoing categories (b) through (h); and
- (j) all rights to the assets listed in the table below, as well as all rights to the inventions, invention disclosures, and discoveries in the assets listed in the table below, together, with the 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:

<u>Inactive Patent(s)</u> – (Abandoned; Lapsed; Expired)

Patent/Application Number	Country	Issue Date/ Filing Date	Title of Patent and First Named Inventor
7461058 (09/404597)	US	12/2/2008 (9/24/1999)	Optimized rule based constraints for collaborative filtering systems
			Rauser, John
(PCT/US2000/019731)	wo	(7/20/2000)	Optimized rule based constraints for collaborative filtering systems
			Rauser, John

Assignor 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 or issuances that may be granted upon any of the Patent Rights in the name of Assignee, as the assignee to the entire interest therein.

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Assignor will, at the reasonable request of Assignee, do all things necessary, proper, or advisable, 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, perfecting, sustaining, and/or enforcing the Patent Rights.

The terms and conditions of this Assignment of Patent Rights 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.

on	IN WITNESS WHEREOF this Assignment o	f Patent Rights is executed at <u>BelleVVC, W</u> A
	GNOR: eg Data Flow LLC	
Ву:	Down //2	
Name	Lawrence Frombor	
Title:	CFO	•
	STATE OF WASHINGTON)	
)ss.	
	COUNTY OF KING)	10 00
	On/ <i>D</i> _/ <i>31</i> _//9, before	me, Cetherine Kudtt
	Notary Public in and for said State, person	
	personally known to me (or proved to me on person whose name is subscribed to the with	
	he/she executed the same in his/her authorize	The state of the s
	the instrument the person, or the entity upon	behalf of which the person acted, executed
	the instrument.	
	WITNESS my hand and official seal.	(Seal) and the office
		WO SWILL TIME
	Signature AND TOWN	
	Notary Public, State of Washington	- 191 A.VIDI
	My commission expires: 6/18/22	788791914
	Next #83439	VI VI VI VI VI VIII VIII VIII VIII VII

	SNEE: ctual Ventures Assets 147 LLC	
By:	Same /2	
Name:	Lawrence Fromber	
Title:	CFo	
	STATE OF WASHINGTON) (SS. COUNTY OF KING)	
	person whose name is subscribed to the with he/she executed the same in his/her authoriz	
	WITNESS my hand and official seal.	l. (Seal)
	Signature 1770	
	Notary Public, State of Washington	
	My commission expires: 6/18/464	
	Ont-# 83439	A CONTRACTOR AND THE STATE OF T

PATENT REEL: 050885 FRAME: 0186