12/06/2018 505223581

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5270350

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
MURALI SANTHANAM	12/04/2018
MICHAEL JOSEPH PEPE JR.	11/30/2018
JEANNE M. MOULTON	12/03/2018
KERRY KURT SIMPKINS	12/04/2018
JASHER DAVID FOWLES	11/29/2018
JOHN B. HALL	12/03/2018

RECEIVING PARTY DATA

Name:	BANK OF AMERICA CORPORATION
Street Address:	MAIL CODE NC 1-027-20-05
Internal Address:	214 N. TRYON ST.
City:	CHARLOTTE
State/Country:	NORTH CAROLINA
Postal Code:	28255

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16211963

CORRESPONDENCE DATA

Fax Number: (312)463-5001

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.

Phone: (312) 463-5000

Email: bwptopat@bannerwitcoff.com, mmccarthy@bannerwitcoff.com

BANNER & WITCOFF, LTD. **Correspondent Name:** 71 SOUTH WACKER DRIVE Address Line 1:

Address Line 2: **SUITE 3600**

Address Line 4: CHICAGO, ILLINOIS 60606

ATTORNEY DOCKET NUMBER:	007131.02067
NAME OF SUBMITTER:	PETER D. NIGRELLI
SIGNATURE:	/Peter D. Nigrelli/
DATE SIGNED:	12/06/2018

PAIENI REEL: 047696 FRAME: 0751 505223581

This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 12

source=combineddeclarationandassignmentasfiled#page1.tif source=combineddeclarationandassignmentasfiled#page2.tif source=combineddeclarationandassignmentasfiled#page3.tif source=combineddeclarationandassignmentasfiled#page4.tif source=combineddeclarationandassignmentasfiled#page5.tif source=combineddeclarationandassignmentasfiled#page6.tif source=combineddeclarationandassignmentasfiled#page7.tif source=combineddeclarationandassignmentasfiled#page8.tif source=combineddeclarationandassignmentasfiled#page9.tif source=combineddeclarationandassignmentasfiled#page10.tif source=combineddeclarationandassignmentasfiled#page11.tif source=combineddeclarationandassignmentasfiled#page12.tif

PATENT REEL: 047696 FRAME: 0752

COMBINED DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	Item Validation and Image Evaluation System with Feedback Loop
As the below	named inventor, I hereby declare that:
This declaration is directed to:	(A) the appropriate abbitraries of
	United States application or PCT international application number
The above-ide	entified application was made or authorized to be made by me.
I believe that	I am the original inventor or an original joint inventor of a claimed invention in the application.
	owledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or tof not more than five (5) years, or both.
	ASSIGNMENT
Illinois (City, S filed on even hereby author	Murali Santhanam ("Assignor"), a citizen of the <u>United States of America</u> (Country), residing in <u>Naperville,</u> itate/Province) have invented the above invention. If the following lines are blank, the above application was date herewith, otherwise, to comply with 37 C.F.R. §3.21 for recordal of this assignment, I, an assignor below, rize the attorneys for Bank of America to insert the filing date and application number below after they in and prior to filing the recordation.
	U.S. Application No, filed
Delaware, and title and inter	INK OF AMERICA CORPORATION ("Assignee"), a Corporation duly organized under the laws of the State of 5 having its offices and place of business at Charlotte, North Carolina, is desirous of acquiring the entire right, est in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the of America, and in any and all countries foreign thereto:
NOW, THEREFORE, TO WHOM IT MAY CONCERN, be it known that, for good and valuable consideration, including salary or payment for the making of inventions, or employee benefits, the receipt and sufficiency of which is hereby acknowledged, I said Assignor, by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal representatives, the full and exclusive right, title and interest for the territory of the United States of America and all countries foreign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and Letters Patent granted therefor, and all non-provisionals, divisionals, reissues, reexaminations, continuations, in-parts and extensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, confidential information, and compilations, necessary or useful to make, use, or sell the inventions. I hereby authorize and request the Commissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said inventions or resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and interest. I represent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will without further consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or nominees, any and all facts known to me regarding said inventions whenever requested, and that I will execute all non-provisional, divisional, reissue, reexamination, continuation and continuation-in-part applications, testify in any legal proceedings, sign all lawful papers, make all rightful oaths, and generally do everything re	

[Page 1 of 2]

WARNING:

purposes are not retained in the application file and therei	fore are not publi	icly available.	***************************************
		12/4/18	
Inventor: Murali Santhanam	Date:	3 64 / 8 8	
Signature: / Mush Saubawaw			

Firm No.: 007131.02067

PMN: 8753US1

COMBINED DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	Item Validation and Image Evaluation System with Feedback Loop
As the below	named inventor, I hereby declare that:
This declaration is directed to:	[X] The attached application, or
	United States application or PCT international application number
The above-ide	entified application was made or authorized to be made by me.
I believe that I	am the original inventor or an original joint inventor of a claimed invention in the application.
I hereby ackno imprisonment	owledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or of not more than five (5) years, or both.
	ASSIGNMENT
<u>Delaware</u> (City was filed on e below, hereby	Michael Joseph Pepe ("Assignor"), a citizen of the <u>United States of America</u> (Country), residing in <u>Wilmington</u> , State/Province) have invented the above invention. If the following lines are blank, the above application ven date herewith, otherwise, to comply with 37 C.F.R. §3.21 for recordal of this assignment, I, an assignor authorize the attorneys for Bank of America to insert the filing date and application number below after they n and prior to filing the recordation.
	U.S. Application No, filed
Delaware, and title and interes	NK OF AMERICA CORPORATION ("Assignee"), a Corporation duly organized under the laws of the State of having its offices and place of business at Charlotte, North Carolina, is desirous of acquiring the entire right, est in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the of America, and in any and all countries foreign thereto:
payment for the said Assignor, representative countries foreit countries in its entitled under Letters Patent in-parts and exconfidential intrequest the Countries or rinterest. I reproduct further nominees, any provisional, disproceedings, si	ORE, TO WHOM IT MAY CONCERN, be it known that, for good and valuable consideration, including salary or the making of inventions, or employee benefits, the receipt and sufficiency of which is hereby acknowledged, I by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal is, the full and exclusive right, title and interest for the territory of the United States of America and all ign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign own name and to claim any priority rights for such foreign applications to which such applications are international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and granted therefor, and all non-provisionals, divisionals, reissues, reexaminations, continuations, continuations, treaties on the reof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, formation, and compilations, necessary or useful to make, use, or sell the inventions. I hereby authorize and immissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said esulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and esent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will reconsideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or and all facts known to me regarding said inventions whenever requested, and that I will execute all non-visional, reissue, reexamination, continuation and continuation-in-part applications, testify in any legal ign all lawful papers, make all rightful oaths, and generally do everything reasonable for said Assignee, its igns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.

WARNING:

LEGAL NAME OF INVENTOR			
		11/20/10	
Inventor:	Michael Joseph Pepe	Date:	
Signature:	Melal Soot	Lee ,	

COMBINED DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Invention	iterm validation and image evaluation system with Feedback foob
As the below n	arned inventor, I hereby declare that:
This declaration is directed to:	n
	United States application or PCT international application number
The above-ider	ntified application was made or authorized to be made by me.
I believe that I .	am the original inventor or an original joint inventor of a claimed invention in the application.
I hereby acknow imprisonment o	wledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or of not more than five (5) years, or both.
	ASSIGNMENT
North Carolina application was assignor below.	anne M. Moulton ("Assignor"), a citizen of the <u>United States of America</u> (Country), residing in <u>Concord</u> , (City, State/Province) have invented the above invention. If the following lines are blank, the above silled on even date herewith, otherwise, to comply with 37 C.F.R. §3.21 for recordal of this assignment, I, an hereby authorize the attorneys for Bank of America to insert the filing date and application number below the known and prior to filing the recordation.
	U.S. Application No, filed,
Delaware, and I title and interes	IK OF AMERICA CORPORATION ("Assignee"), a Corporation duly organized under the laws of the State of having its offices and place of business at Charlotte, North Carolina, is desirous of acquiring the entire right, at in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the f America, and in any and all countries foreign thereto:
payment for the said Assignor, b representatives countries foreig countries in its entitled under i Letters Patent g in-parts and ext confidential inforequest the Cor inventions or reinterest. I reprewithout further	ORE, TO WHOM IT MAY CONCERN, be it known that, for good and valuable consideration, including salary or emaking of inventions, or employee benefits, the receipt and sufficiency of which is hereby acknowledged, I by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal is, the full and exclusive right, title and interest for the territory of the United States of America and all go thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign own name and to claim any priority rights for such foreign applications to which such applications are international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and granted therefor, and all non-provisionals, divisionals, reissues, reexaminations, continuations, continuations, tensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, formation, and compilations, necessary or useful to make, use, or sell the inventions. I hereby authorize and missioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said esulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and sent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or and all facts known to me regarding said inventions whenever requested, and that I will execute all non-

provisional, divisional, reissue, reexamination, continuation and continuation-in-part applications, testify in any legal proceedings, sign all lawful papers, make all rightful oaths, and generally do everything reasonable for said Assignee, its successors, assigns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.

[Page 1 of 2]

Title of

WARNING:

LEGAL NAME OF INVENTOR		acy boundaries	
Inventor:Jeanne M. Moulton	Date:	12/3/2018	
Signature:	<u> </u>	<u> </u>	**********

COMBINED DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	Item Validation and Image Evaluation System with Feedback Loop
As the below	named inventor, I hereby declare that:
This declaration is directed to:	on
	United States application or PCT international application number filed on
The above-ide	entified application was made or authorized to be made by me.
I believe that	am the original inventor or an original joint inventor of a claimed invention in the application.
	owledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or of not more than five (5) years, or both.
	ASSIGNMENT
<u>Carolina</u> (City filed on even hereby autho	<u>Kerry K. Simpkins</u> ("Assignor"), a citizen of the <u>United States of America</u> (Country), residing in <u>Fort Mill, South</u> State/Province) have invented the above invention. If the following lines are blank, the above application was date herewith, otherwise, to comply with 37 C.F.R. §3.21 for recordal of this assignment, I, an assignor below, rize the attorneys for Bank of America to insert the filing date and application number below after they in and prior to filing the recordation.
	U.S. Application No, filed
Delaware, and title and inter	NK OF AMERICA CORPORATION ("Assignee"), a Corporation duly organized under the laws of the State of I having its offices and place of business at Charlotte, North Carolina, is desirous of acquiring the entire right, est in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the of America, and in any and all countries foreign thereto:
payment for the said Assignor, representative countries for ecountries in it entitled under Letters Patentin-parts and econfidential in request the Coinventions or interest. I repwithout furthen ominees, an provisional, diproceedings, si	ORE, TO WHOM IT MAY CONCERN, be it known that, for good and valuable consideration, including salary or the making of inventions, or employee benefits, the receipt and sufficiency of which is hereby acknowledged, I by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal es, the full and exclusive right, title and interest for the territory of the United States of America and all ign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign international conventions, treaties, or otherwise), in and to said inventions and in and to all applications are rinternational conventions, treaties, or otherwise), in and to said inventions and in and to all applications and a granted therefor, and all non-provisionals, divisionals, reissues, reexaminations, continuations, continuation-extensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, information, and compilations, necessary or useful to make, use, or sell the inventions. I hereby authorize and deminissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and resent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will execute all non-visional, reissue, reexamination, continuation and continuation-in-part applications, testify in any legal sign all lawful papers, make all rightful oaths, and generally do everything reasonable for said Assignee, its signs, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.

WARNING:

	1 '			
LEGAL NAME OF INVENTOR				
Inventor:	Kerry K. Simpkins	Date:	12/04/2018	
Signature:	, KnokSy	92 <u>-</u>	/	

COMBINED DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	Item Validation and Image Evaluation System with Feedback Loop			
As the below named inventor, I hereby declare that:				
This declaration	The attached application, or			
	United States application or PCT international application number filed on			
The above-identified application was made or authorized to be made by me.				
I believe that	I am the original inventor or an original joint inventor of a claimed invention in the application.			
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.				
	ASSIGNMENT			
WHEREAS, I, <u>Jasher Fowles</u> ("Assignor"), a citizen of the <u>United States of America</u> (Country), residing in <u>Davidson, North Carolina</u> (City, State/Province) have invented the above invention. If the following lines are blank, the above application was filed on even date herewith, otherwise, to comply with 37 C.F.R. §3.21 for recordal of this assignment, I, an assignor below, hereby authorize the attorneys for Bank of America to insert the filing date and application number below after they become known and prior to filing the recordation.				
	U.S. Application No, filed			
WHEREAS, BANK OF AMERICA CORPORATION ("Assignee"), a Corporation duly organized under the laws of the State of Delaware, and having its offices and place of business at Charlotte, North Carolina, is desirous of acquiring the entire right, title and interest in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the United States of America, and in any and all countries foreign thereto:				
NOW, THEREFORE, TO WHOM IT MAY CONCERN, be it known that, for good and valuable consideration, including salary or payment for the making of inventions, or employee benefits, the receipt and sufficiency of which is hereby acknowledged, I said Assignor, by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal representatives, the full and exclusive right, title and interest for the territory of the United States of America and all countries foreign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and Letters Patent granted therefor, and all non-provisionals, divisionals, reissues, reexaminations, continuations, continuation-in-parts and extensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, confidential information, and compilations, necessary or useful to make, use, or sell the inventions. I hereby authorize and request the Commissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said inventions or resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and interest. I represent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will without further consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or nominees, any and all facts known to me regarding said inventions whenever requested, and that I will execute all non-provisional, divisional, reissue, reexamination, continuation and continuation-in-part applications, testify in any legal proceedings, sign all lawful papers, make all rightful oaths, and generally do				

WARNING:

purposes are not retained in the application file and therefore are not publicly available.					
LEGAL NAME OF INVENTOR					
Inventor:	Date:11/29/2018				
Signature: / Jasher David Fowles					

COMBINED DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR UTILITY OR DESIGN
APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	Item Validation and Image Evaluation with Feedback Loop				
As the below named inventor, I hereby declare that:					
	This declaration				
	United States application or PCT international application number filed on				
The above-identified application was made or authorized to be made by me.					
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.					
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.					
	ASSIGNMENT				
<u>Carolina</u> (City filed on even hereby autho	ohn B. Hall ("Assignor"), a citizen of the <u>United States of America</u> (Country), residing in <u>Charlotte, North</u> . State/Province) have invented the above invention. If the following lines are blank, the above application was date herewith, otherwise, to comply with 37 C.F.R. §3.21 for recordal of this assignment, I, an assignor below, rize the attorneys for Bank of America to insert the filing date and application number below after they and prior to filing the recordation.				
	U.S. Application No, filed				
WHEREAS, BANK OF AMERICA CORPORATION ("Assignee"), a Corporation duly organized under the laws of the State of Delaware, and having its offices and place of business at Charlotte, North Carolina, is desirous of acquiring the entire right, title and interest in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the United States of America, and in any and all countries foreign thereto:					
payment for t said Assignor, representativ countries fore countries in it entitled unde Letters Patent in-parts and e confidential in request the C inventions or interest. I rep without furth nominees, an provisional, d	FORE, TO WHOM IT MAY CONCERN, be it known that, for good and valuable consideration, including salary or he making of inventions, or employee benefits, the receipt and sufficiency of which is hereby acknowledged, I by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal es, the full and exclusive right, title and interest for the territory of the United States of America and all sign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign is own name and to claim any priority rights for such foreign applications to which such applications are rinternational conventions, treaties, or otherwise), in and to said inventions and in and to all applications and granted therefor, and all non-provisionals, divisionals, reissues, reexaminations, continuations, xtensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, information, and compilations, necessary or useful to make, use, or sell the inventions. I hereby authorize and commissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and resent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will er consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or y and all facts known to me regarding said inventions whenever requested, and that I will execute all non-ivisional, reissue, reexamination, continuation and continuation-in-part applications, testify in any legal sign all lawful papers, make all rightful paths, and generally do everything reasonable for said Assignee its				

successors, assigns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

purposes are not retained in the application me and therefore are not publicly available.				
LEGAL NAME OF INVENTOR				
Inventor: John B. Hall	Date:12/3/2018			
Signature: John Barrett Hall				

RECORDED: 12/06/2018

PATENT REEL: 047696 FRAME: 0764