PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5387760

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
AKBAR ANSARI	02/21/2019
THOMAS FAY	02/21/2019
ADNAN ALI LONE	02/21/2019

RECEIVING PARTY DATA

Name:	NASDAQ, INC.
Street Address:	ONE LIBERTY PLAZA, 165 BROADWAY
City:	NEW YORK
State/Country:	NEW YORK
Postal Code:	10006

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16251570

CORRESPONDENCE DATA

Fax Number: (703)816-4100

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: 703-816-4000

Email: ptomail@nixonvan.com, tmonroe@nixonvan.com

Correspondent Name: NIXON & VANDERHYE, P.C.

Address Line 1: 901 N. GLEBE ROAD

Address Line 2: **SUITE 1100**

Address Line 4: ARLINGTON, VIRGINIA 22203

ATTORNEY DOCKET NUMBER:	AC-4010-472
NAME OF SUBMITTER:	ADAM CHAPIN
SIGNATURE:	/Adam Chapin/
DATE SIGNED:	02/22/2019
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 3

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PATENT REEL: 048404 FRAME: 0853

Doc code: Dath Document Description: Dath or declaration filed		
	Afformey Docket Number	AG-4010-0472
	First Named Inventor	ANSARI, Akbar
INVENTOR'S DECLARATION AND ASSIGNMENT FOR UTIL USING AN APPLICATION DA Declaration Submitted With Initial Filing OR Declaration Submitted After Initial Filing (surcharge (37 C.F.I	IA SHEET (37 CFR 1.76)	APPLICATION (37 CFR 1.63)
SYSTEMS AND METHODS OF DIGIT, AND VERIFICATION USING CRYPTC (Tibe of the inv	AL CONTENT CERTIFICATIO	N N
As a below named inventor, I hereby declare that:		
This declaration is directed to: the attached application, or United States Application Number 16/251,570 filed 01/18/20- PCT International application number filed on	19.00 - 20.00	
The above-identified application was made or authorized to be made by I believe I am the original inventor or an original joint inventor of a claime I hereby acknowledge that any willful false statement made in this declar by fine or imprisonment of not more than live (5) years, or both.	ad invention in the application.	
WHEREAS, the undersigned (hereinafter ASSIGNOR), has made an inv	vaction in the Anntention is us	
WHEREAS, Nasdaq, Inc. (hereinafter ASSIGNEE), an entity, having an Broadway, New York, New York United States 10006, is desirous of acq	office and class of musings a	ilioo accve. I One Liberty Plaza, 165
NOW, THEREPORE, in consideration of Ten Ociliars (\$10.00) and/or oftr of which are hereby acknowledged, the said ASSIGNOR by these presents assigned in the said ASSIGNOR of these presents as and all foreign countries, in and to the invention as described in subsequent applications based thereon including any and all continuational resulting patents, together with the right of priority under the International Relating to Patents, Designs and Industrial Models States of America adheres, and the ASSIGNOR hereby authorizes and resaid Letters Patent to ASSIGNEE, for its interest as ASSIGNEE, its subsequent ASSIGNEE with respect to this invention;	ier good and valuable conside nts hereby sells, assigns, and OR'S entire right, title and inte the aforeseld application, and ns, divisions, releases, and su mal Convention for the Protect s, and any other international a equests the Commissioner of	transfers unto the said rest in the United States of to the said application and to all betitutes of said application, and tion of Industrial Property, Inter- agreements to which the United Patents and Trademarks to issue
ASSIGNOR hereby agrees to transfer a like interest upon request of said representatives, and without further remuneration, in and to any improve of or related to the said invention;	i ASSIGNEE, its successors, of menis, and applications for pa	assigns, and legal tents based thereon, growing out
ASSIGNOR hereby agrees to execute any papers by ASSIGNEE, its suc to ASSIGNEE'S full protection and tille in and to the invention hereby train	oceasors, assigns, and legal re	presentatives, deemed essential
ASSIGNOR hereby agrees, upon request of ASSIGNEE, and without furl ASSIGNEE, for the filing and granting of foreign applications and the periods.	ther remunaration to execute	any and all papers desired by
AGREED and executed as noted below:	revious an one discussion of the con-	
LEGAL NAME OF INVENTOR/JOINT INVENTOR		
(E.g., Given Name (first and middle (if any)) and Family Name or Suman		
AEDar	ANSARI	
Inventor's Signature: At 4 Lor / SVV2	Date: 2- 1-1 2-te	\ 1
Winessed by: Name: Spyressyromar Theyrgarajan	***************************************	
Signature of winess		

I/We acknowledge the duty to disclose information which is material to the patentability of this application as defined in 37 CFR §1.56.

PATENT

REEL: 048404 FRAME: 0854

Doc code: Oath Document Description: Oath or declaration filed Attorney Docket Number AC-4010-0472 First Named Inventor ANSARI, Akbar INVENTOR'S DECLARATION AND ASSIGNMENT FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63) **USING AN APPLICATION DATA SHEET (37 CFR 1.76) Declaration Submitted With Initial Filing** OR XDeclaration Submitted After Initial Filing (surcharge (37 C.F.R. § 1.16(f)) required) SYSTEMS AND METHODS OF DIGITAL CONTENT CERTIFICATION AND VERIFICATION USING CRYPTOGRAPHY AND BLOCKCHAIN (Title of the Invention) As a below named inventor, I hereby declare that: This declaration is directed to: the attached application, or United States Application Number 16/251,570 filed 01/18/2019, or PCT International application number filed on The above-identified application was made or authorized to be made by me. I believe 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. WHEREAS, the undersigned (hereinafter ASSIGNOR), has made an invention in the Application identified above. WHEREAS, Nasdag, Inc. (hereinafter ASSIGNEE), an entity, having an office and place of business at One Liberty Plaza, 165 Broadway, New York, New York United States 10006, is desirous of acquiring an interest therein; NOW, THEREFORE, in consideration of Ten Dollars (\$10.00) and/or other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the said ASSIGNOR by these presents hereby sells, assigns, and transfers unto the said ASSIGNEE, its successors, assigns, and legal representatives, ASSIGNOR'S entire right, title and interest in the United States of America and all foreign countries, in and to the invention as described in the aforesaid application, and to the said application and to all subsequent applications based thereon including any and all continuations, divisions, reissues, and substitutes of said application, and all resulting patents, together with the right of priority 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 the ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue said Letters Patent to ASSIGNEE, for its interest as ASSIGNEE, its successors, assigns, and legal representatives. It is understood and agreed that ASSIGNEE'S attorneys Nixon & Vanderhye P.C. have represented only ASSIGNEE and will continue to represent only ASSIGNEE with respect to this invention; ASSIGNOR hereby agrees to transfer a like interest upon request of said ASSIGNEE, its successors, assigns, and legal representatives, and without further remuneration, in and to any improvements, and applications for patents based thereon, growing out of or related to the said invention; ASSIGNOR hereby agrees to execute any papers by ASSIGNEE, its successors, assigns, and legal representatives, deemed essential to ASSIGNEE'S full protection and title in and to the invention hereby transferred: and ASSIGNOR hereby agrees, upon request of ASSIGNEE, and without further remuneration, to execute any and all papers desired by ASSIGNEE, for the filing and granting of foreign applications and the perfecting of title thereto in ASSIGNEE. AGREED and executed as noted below: Legal Name of Additional Joint Inventor, if any: (E.g., Given Name (first and middle (if any)) and Family Name or Surname) Thomas FAY

Thomas FAY
Inventor's Signature:

Witnessed by:
Name:

Signature of witness:

Date:
2/21/19

Date:
2/21/19

Dec cade: Oath Dosument Description: Oath or declaration filed		4
	Attorney Docket Number	AC-4010-0472
	First Named Inventor	ANSARI, Akbar
INVENTOR'S DECLARATION AND ASSIGNMENT FOR U USING AN APPLICATION I Declaration Submitted With Initial Filing OR Declaration Submitted After Initial Filing (surcharge (37 C	DATA SHEET (37 CFR 1.76)	PPLICATION (37 CFR 1.63)
	PTOGRAPHY AND BLOCKCHAIN	
(Title of the As a below named inventor, I hereby declare that:	e Invention)	
This declaration is directed to: the attached application, or United States Application Number 16/251,570 filed 01/18/ PCT International application number filed on		
The above-identified application was made or authorized to be made	**************************************	
I believe I am the original inventor or an original joint inventor of a cir I hereby acknowledge that any willful felse statement made in this de by line or imprisonment of not more than five (5) years, or both		S.C. 1001
WHEREAS, the undersigned (hereinafter ASSIGNOR), has made an	i invention in the Application identifi	ed above
WHEREAS, Nasdaq, Inc. (hereinafter ASSIGNEE), an entity, having Broadway, New York, New York United States 10006, is desirous of	an office and place of husiness at (
NOW, THEREFORE, in consideration of Ten Dollars (\$10.00) and/or of which are hereby acknowledged, the said ASSIGNOR by these properties and all foreign countries, and legal representatives, ASSIGNEE, its successors, assigns, and legal representatives, ASSIGNEE, its successors, assigns, and to the invention as describe subsequent applications based thereon including any and all continuali resulting patents, together with the right of priority under the Internamencan Convention Relating to Patents, Designs and Industrial McStates of America adheres, and the ASSIGNOR hereby authorizes a said Letters Patent to ASSIGNEE, for its interest as ASSIGNEE, its agreed that ASSIGNEE'S afformacys Nixon & Vandernye P.C. have readSIGNEE with respect to this invention.	resents hereby sells, assigns, and traid to IGNOR'S entire right, title and interest in the aforesald application, and to lations, divisions, reissues, and submational Convention for the Protectional and any other international agond requests the Commissioner of Passions and legal repressions.	ansfers unto the said set in the United States of the said application and to all stitutes of said application, and on of Industrial Property, Inter- reements to which the United atents and Trademarks to issue specializes. It is undershood and
ASSIGNOR hereby agrees to transfer a like interest upon request of representatives, and without further remuneration, in and to any improve or or misted to the said expeditor.	said ASSIGNEE, its successors, as rovements, and applications for pate	signs, and legal ints based thereon, growing out

ASSIGNOR hereby agrees to execute any papers by ASSIGNEE, its successors, assigns, and legal representatives, deemed essential to ASSIGNEE'S full protection and title in and to the invention hereby transferred; and

ASSIGNOR hereby agrees, upon request of ASSIGNEE, and without further remuneration, to execute any and all papers desired by ASSIGNEE, for the filling and granting of foreign applications and the perfecting of title thereto in ASSIGNEE.

AGREED and executed as noted below:

TO VILLO BIO EXCOU	······		
	nal Joint Inventor, if any:		
(t.g., Given Name (first)	and middle (if any)) and Family Name or t	Surname)	
Adnen	All and the second seco	LONE	
Inventor's Signature:	Man Di	Date: 02/21/2019	
Witnessed by: Name	KRAR ANDA		
Signature of witness:	Albe Assi	Date: 02\21\22\9	

I/We acknowledge the duty to disclose information which is material to the patentability of this application as defined in 37 CFR §1.56.

REEL: 048404 FRAME: 0856