504991891 07/06/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5038639

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JONG-KAB KWAK	03/05/2016
JONG-HO PARK	03/05/2016
YOUNG-IK LEE	06/21/2016

RECEIVING PARTY DATA

Name:	LSIS CO., LTD.
Street Address:	LS TOWER, 127, LS-RO, DONGAN-GU
City:	ANYANG-SI, GYEONGGI-DO
State/Country:	KOREA, REPUBLIC OF

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15221470

CORRESPONDENCE DATA

Fax Number: (312)827-8185

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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Correspondent Name: K&L GATES LLP
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Address Line 4: CHICAGO, ILLINOIS 60690

ATTORNEY DOCKET NUMBER:	0313073.00254
NAME OF SUBMITTER:	MATTHEW S. DICKE
SIGNATURE:	/Matthew S. Dicke/
DATE SIGNED:	07/06/2018
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 6

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PATENT 504991891 REEL: 046279 FRAME: 0805

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COMBINED DECLARATION & ASSIGNMENT (37 CFR 1.63(e))

Application Data Sheet filed previously or concurrently

Docket No.: Page 1 of 4

Title: APPARATUS AND METHOD FOR MANAGING OF STUDY MODE IN ENERGY MANAGEMENT SYSTEM

Inventors: Jong-Kab KWAK, Jong-Ho PARK, Yong-Ik LEE

Declaration

This Declaration is directed to the application identified above that:

is attached, where "attached" means filed concurrently with.

As a named inventor, I declare that:

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 in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both.

I have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

Assignment from Inventors

WHEREAS, above-identified inventors (individual(s) hereinafter "ASSIGNOR") invented certain new and useful improvements, technology, inventions, developments, ideas, ornamental designs, or discoveries, and hereby assign or are under an obligation to assign to the below identified Assignee the above-titled application (collectively hereinafter referred to as the "Work") for which an application for Letters Patent in the United States (identified above) has been prepared for filling with the United States Patent and Trademark Office (hereinafter the "Application").

AND WHEREAS, LSIS Co., Ltd., with its principal place of business at LS Tower, 127, LS-ro, Dongar-gu, Anyang-si, Gyeonggi-do 14119, Republic of Korea (hereinafter the "ASSIGNEE"), desires to acquire the entire right, title, and interest in and to the Application and the Work.

NOW, THEREFORE, for good and valuable consideration of which receipt is hereby acknowledged, ASSIGNOR hereby acknowledges that ASSIGNOR has sold, assigned, transferred and set over, and by these presents does hereby sell, assign, transfer and set over, unto said ASSIGNEE, its successors, legal representatives and assigns, the entire right, title, and interest throughout the world in the Application and the Work, including all patent properties filed or issued upon the Application and the Work; where "Patent Properties" include, but are not limited to.

all provisional applications relating thereto (including but not limited to U.S. Provisional Application No(s)., filed (respectively if plural applications));

all nonprovisional applications claiming priority to aforementioned provisional(s) and/or the present Application, including, all divisions, continuations, continuations—in-part, and reissues, and all Letters Patent of the United States which may be granted thereon and all reissues and extensions thereof; and

all rights of priority under International Conventions and any related Letters Patent which may hereafter be granted or filed in any country or countries foreign to the United States, all extensions, renewals and reissues thereof.

COMBINED DECLARATION & ASSIGNMENT (37 CFR 1.63(e))

Application Data Sheet filed previously or concurrently

Page 2 of 4 Docket No.: Title: APPARATUS AND METHOD FOR MANAGING OF STUDY MODE IN ENERGY MANAGEMENT SYSTEM Inventors: Jorig-Kab KWAK, Jong-Ho PARK, Yong-Ik LEE ASSIGNOR hereby acknowledges the ASSIGNEE as the Applicant for all aforementioned patent properties, and authorizes and requests the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on

AND ASSIGNOR DOES HEREBY sell, assign, transfer, and convey to ASSIGNEE, its successors, legal representatives, and assigns all claims for damages and all remedies arising out of any violation of the rights assigned hereby that may have accrued prior to the date of assignment to ASSIGNEE, or may accrue hereafter, including, but not limited to, the right to sue for, collect, and retain damages for past infringements of said Letters Patent before or after issuance.

applications as aforesaid, to issue all related Letters Patent to the ASSIGNEE, its successors, legal

representatives and assigns, in accordance with the terms of this instrument.

AND ASSIGNOR DOES HEREBY covenant and agree that ASSIGNOR will communicate to said ASSIGNEE, its successors, legal representatives and assigns, any facts known to ASSIGNOR respecting the Work, and testify in any legal proceeding, assist in the preparation of any other Patent Property relating to the Application and the Work or any improvements made thereto, sign/execute all lawful papers, authorize the filing of and execute and make all rightful paths and/or declarations in connection with the Application and the Work including any improvements made thereto, any patent applications filed therefrom, and any continuing application filed from any of the aforementioned applications, and generally do everything possible to aid the ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for the Work in all countries.

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Legal Name of inventor: Jong-Kab KWAK	
Signature:	Oate: 20/6 3 4
Witnessed by:	KANG
Witness Name (printed):	NAT YWA

COMI	BINED DECLARATION & Application Data Sheet filed	ASSIGNMENT (37 CFR 1.63(e)) I previously or concurrently
Docket No.		Page 3 of 4
Title: APPARATUS A SYSTEM	ND METHOD FOR MANAGING	OF STUDY MODE IN ENERGY MANAGEMENT
Inventors: Jong-Kab	KWAK, Jong-Ha PARK, Yong-ik	LEE
Legal Name of inve	ntor: Jong-Ho PARK	
Signature:		Date: 27/6 3 2 /-
an >≠ in the first times .	Witnessed by:	<u> </u>

Witness Name (printed):

COMBINED DECLARATION & ASSIGNMENT (37 CFR 1.63(e)) Application Data Sheet filed previously or concurrently Docket No.: Page 4 of 4 Title: APPARATUS AND METHOD FOR MANAGING OF STUDY MODE IN ENERGY MANAGEMENT SYSTEM Inventors: Jong-Kab KWAK, Jong-Ho PARK, Yong-Ik LEE Legal Name of Inventor: Yong-Ik LEE Signature: Date: Witnessed by:

Witness Name (printed):

21498199 098215

PTO/SB/AIA02 (07-13)

Approved for use through 01/31/2014. OMB 0651-0032

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SUBSTITUTE STATEMENT

				reasine and the second
Circumstances permitting execution	on of this substitute stateme	int:		
Inventor is deceased,				
Inventor is under legal incapacity,				
Inventor cannot be found	or reached after diligent ef	fort, or		
Inventor has refused to ex	xecute the oath or declarati	on under 37 (OFR 1.63.	
If there are joint inventors, please				
Parameter Control of the Control of			ivalent) naming the e	entire inventive entity has been
OR				
An application data sheet Statement Supplemental information is attached. S	Sheet (PTO/AIA/TT or equi	AIA/14 or equivalent) namin	ivalent) has not beer g the entire inventive	submitted. Thus, a Substitute entity and providing inventor
	WARN	ING:		
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.				
PERSON EXECUTING THIS SUBST	ITUTE STATEMENT:		3 (10 m)	
Name: Jung, Jang Se June 21, 2016 Date (Optional):				
Signature				
APPLICANT NAME AND TITLE OF F	PERSON EXECUTING THE	S SUBSTITU	TE STATEMENT:	
If the applicant is a juristic entity, list the		litle of the sign	ner:	
LSIS CO., LTD Applicant Name:).			
Title of Person Executing				
This Substitute Statement: Team Manager The signer, whose title is supplied above, is authorized to act on behalf of the applicant.				
Residence of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent):				
_{City} Anyang-si	THE STATE OF THE S		KD	
Oity	State	tion data at	Country KR	
Mailing Address of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent) LS Tower, 127, LS-ro, Dongan-gu, Anyang-si, Gyeonggi-do 14119, Republic of Korea				
_{City} Anyang-si	State	OCCUPATION OF THE PROPERTY OF	Zip 14119	Country KR
Note: Use an additional PTO/AIA/02 for after diligent effort, or has refused to a	orm for each inventor who is	deceased, le	egally incapacitated	
after diligent effort, or has refused to execute the oath or declaration under 37 CFR 1.63.				

[Page 2 of 2]

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SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)

Mailing Address (except for a deceased or legally incapacitated inventor): 40, LS-ro 116beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do 14118, Republic of Korea 21, Anyang-si State 22, 14118 Country KR I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application. The above-identified application was made or authorized to be made by me. hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.					
United States application or PCT international application number		, s and a second se			
United States application or PCT international application number	This stateme	nt is directed to:			
United States application or PCT international application number	The atta	ached application,			
LEGAL NAME of inventor to whom this substitute statement applies: (E.g., Given Name (first and middle (if any)) and Family Name or Surname) Young-Ik Lee Residence (except for a deceased or legally incapacitated inventor): City Anyang-si State Country KR Mailing Address (except for a deceased or legally incapacitated inventor): 40, LS-ro 116beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do 14118, Republic of Korea City Anyang-si State Zip 14118 Country KR I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application. The above-identified application was made or authorized to be made by me. hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both. Relationship to the inventor to whom this substitute statement applies: Legal Representative (for deceased or legally incapacitated inventor only). Assignee. Person to whom the inventor is under an obligation to assign, Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or	OR				
Young-Ik Lee Residence (except for a deceased or legally incapacitated inventor): City Anyang—si State Country Mailing Address (except for a deceased or legally incapacitated inventor): 40, LS—ro 116beon—gil, Dongan—gu, Anyang—si, Gyeonggi—do 14118, Republic of Korea City Anyang—si State Country KR Country Anyang—si State Zip 14118 Country KR Country KR Country KR Country City Anyang—si State Zip 14118 Country KR C	United S	itates application or PCT internation	nal application number	filed or	
Young-Ik Lee Residence (except for a deceased or legally incapacitated inventor): City Anyang—si State Country Mailing Address (except for a deceased or legally incapacitated inventor): 40, LS—ro 116beon—gil, Dongan—gu, Anyang—si, Gyeonggi—do 14118, Republic of Korea City Anyang—si State Country KR Country Anyang—si State Zip 14118 Country KR Country KR Country KR Country City Anyang—si State Zip 14118 Country KR C	LEGAL NAI	WE of inventor to whom this s	substitute statement app	olies:	
Residence (except for a deceased or legally incapacitated inventor): Anyang—si State Country Mailing Address (except for a deceased or legally incapacitated inventor): 40, LS—ro 116beon—gil, Dongan—gu, Anyang—si, Gyeonggi—do 14118, Republic of Korea City Anyang—si State State Jep 14118 Country KR Delieve the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application. The above-identified application was made or authorized to be made by me. Thereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both. Relationship to the inventor to whom this substitute statement applies: Legal Representative (for deceased or legally incapacitated inventor only). Assignee. Person to whom the inventor is under an obligation to assign, Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or	(E.g., Given f	Name (first and middle (if any)) and	Family Name or Surname)		
City Anyang—si State Country KR Mailing Address (except for a deceased or legally incapacitated inventor): 40, LS—ro 116beon—gil, Dongan—gu, Anyang—si, Gyeonggi—do 14118, Republic of Korea City Anyang—si State Zip 14118 Country KR I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application. The above-identified application was made or authorized to be made by me. hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both. Relationship to the inventor to whom this substitute statement applies: Legal Representative (for deceased or legally incapacitated inventor only). Assignee. Person to whom the inventor is under an obligation to assign, Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or	And the second s	OTTO 100 (100 (100 (100 (100 (100 (100 (100			
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Any ang si State July 14118 Country KR Delieve the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application. The above-identified application was made or authorized to be made by me. hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both. Relationship to the inventor to whom this substitute statement applies: Legal Representative (for deceased or legally incapacitated inventor only). Assignee. Person to whom the inventor is under an obligation to assign, Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or	_{City} Anya	ng-si	State	Country KR	
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State Zip 19113 Country KR	40, LS-r	o 116beon-gil, Dongan-g	u, Anyang-si, Gyeon	ggi-do 14118, Repul	blic of Korea
State Zip 19110 Country KR					
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Legal Representative (for deceased or legally incapacitated inventor only), Assignee, Person to whom the inventor is under an obligation to assign, Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or	hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.				
Assignee, Person to whom the inventor is under an obligation to assign, Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or	Relationship t	o the inventor to whom this substitu	ute statement applies:		
Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or	Assignee,				
	Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or				

[Page 1 of 2]

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 36 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450, DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PATENT REEL: 046279 FRAME: 0812

RECORDED: 07/06/2018