PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

SUBMISSION TYPE:		NEW ASSIGNMENT			
NATURE OF CONVEYANCE:			ASSIGNMENT		
CONVEYING PARTY DATA					
		١	lame	Execution Date	
Hai Yu				11/19/2012	
Mathew Alan Boesch				11/19/2012	
Ryan Abraham McGee				12/13/2012	
RECEIVING PARTY DATA					
Name:	Ford Global T	echnolo	ogies, LLC		
Street Address:	Fairlane Plaza				
Internal Address:	330 Town Cei	nter Dri	ve		
City:	Dearborn	Dearborn			
State/Country:	MICHIGAN	MICHIGAN			
Postal Code:	48126				
PROPERTY NUMBERS Total: 1					
Property Type			Number		
		13735	35367		
CORRESPONDENCE DATA					
Fax Number:	3133227	7162			
Fax Number: 3133227162 Correspondence will be sent via US Mail when the fax attempt is unsuccessful.					
Email: chughes@brookskushman.com					
Correspondent Name: Brooks Kushman P.C./FGTL					
Address Line 1: 1000 Town Center Address Line 2: 22nd Floor			ter		
Address Line 2. 2210 Floor Address Line 4: Southfield, MICHIGAN 48075					
ATTORNEY DOCKET NUMBER:			83258396		
NAME OF SUBMITTER:			Andrew B. Turner		
Total Attachments: 3 source=AssignDec#page1.tif source=AssignDec#page2.tif source=AssignDec#page3.tif					

Attorney Docket Number 83258396

ASSIGNMENT AND DECLARATION (37 C.F.R. 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76)

This declaration is directed to: X The attached application, or PCT international application number filed on	Title of Invention	DYNAMIC ROAD GRADIENT ESTIMATION					
United States application or PCT international application number filed on	This declaration is c	lirected to:					
1 hereby state that I have reviewed and understand the contents of the specification in the above-identified application, including the claims. 1 believe that I am the original inventor or an original joint inventor of a claimed invention in the application. I am aware of the duty to disclose information which is material to patentability as defined in 37 C.F.R. 1.56, including for continuation-in-part applications, material information which became available between the filling date of the prior application and the national or PCT international filling date of the continuation-in-part application. Pursuant to my employment agreement heretofore made or by contractual obligation, I do sell, assign and set over unto FORD GLOBAL TECHNOLOGIES, LLC, a Ford Motor Company subsidiary, organized and existing by virtue of the laws of the State of Delaware, having its principal place of business at Dearborn, County of Wayne, and State of Michigan, hereinafter referred to as the ASSIGNEE, its successors, assigns or other legal representatives, the entire right, title and interest, domestic and foreign, in and to the inventions and discoveries in the above-identified invention including the right of the ASSIGNEE is attentiate and filling date of the application to receive Letters Patent for the inventions and discoveries in any and all countries, entities and intergovernmental organizations, in its or their election (and 1 hereby authorize the ASSIGNEE or ASSIGNEE's attorney to insert the serial/applications. Claim and points and discoveries in any and all countries, entities and intergovernmental organizations, in ad to the inventions and discoveries in any and all countries, entities and intergovernmental organizations, in ad to the inventions and discoveries in any and all countries, entities and intergovernmental organizations, in ad to the inventions and discoveries in any and all countries, entities and intergovernmental organizations including and provisional applications, in and to the inven	1 🗌 U	United States application or PCT international application number					
Including the claims. I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. I am aware of the duty to disclose information which is material to patentability as defined in 37 C.F.R. 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application. Pursuant to my employment agreement heretofore made or by contractual obligation, I do sell, assign and set over unto FORD GLOBAL TECHNOLOGIES, LLC, a Ford Motor Company subsidiary, organized and existing by virtue of the laws of the State of Delaware, having its principal place of business at Dearborn, County of Wayne, and State of Michigan, hereinafter referred to as the ASSIGNEE, its successors, assigns or other legal representatives, the entire right, title and interest, domestic and foreign, in and to the inventions and discoveries in the above-identified invention including the right of the ASSIGNEE, its successors, assigns or other legal representatives to make applications and to receive Letters Patent for the inventions and discoveries in any and all countries, entities and intergovernmental organizations, in its or their own name or names, or in my name, at its or other legal representatives. ASSIGNEE or ASSIGNEE is successors, assigns or other legal representatives, all rights of priority, including any provisional applications, in and to the inventions and discoveries in any and all countries, entities and intergovernmental organizations, including all applications claiming benefit of the filing date hereof, continuations, continuations-in-part, divisionals, reexaminations and reissue applications. And I hereby agree for myself, my heirs, successors, assigns or other legal representatives to execute any and all papers, including applications for Letters Patent of any and all kinds and in any and all countries, entities and int	The above-identifie	d application was made or authorized to be made by me.					
I am aware of the duty to disclose information which is material to patentability as defined in 37 C.F.R. 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application. Pursuant to my employment agreement heretofore made or by contractual obligation, I do sell, assign and set over unto FORD GLOB AL TECHNOLOGIES, LLC, a Ford Motor Company subsidiary, organized and existing by virtue of the laws of the State of Delaware, having its principal place of business at Dearborn, County of Wayne, and State of Michigan, thereinafter referred to as the ASSIGNEE, its successors, assigns or other legal representatives, the entire right, tile and interest, domestic and foreign, in and to the inventions and discoveries in the above-identified invention including the right of the ASSIGNEE, its successors, assigns or other legal representatives to make applications, in its or their own name or names, or in my name, at its or their election (and I hereby authorize the ASSIGNEE or ASSIGNEE's attorney to insert the serial/application number and filing date of the application to receive Letters Patent hereits: Serial No. 13/735,367							
continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application. Pursuant to my employment agreement heretofore made or by contractual obligation, I do sell, assign and set over unto FORD GLOBAL TECHNOLOGIES, LLC, a Ford Motor Company subsidiary, organized and existing by virtue of the laws of the State of Delaware, having its principal place of business at Dearborn, County of Wayne, and State of Michigan, hereinafter referred to as the ASSIGNEE, its successors, assigns or other legal representatives, the entire right, title and interest, domestic and foreign, in and to the inventions and discoveries in the above-identified invention including the right of the ASSIGNEE is successors, assigns or other legal representatives to make applications and to receive Letters Patent for the inventions and discoveries in any and all countries, entities and intergovernmental organizations, in its or their own name or names, or in my name, at its or their election (and 1 hereby authorize the ASSIGNEE or ASSIGNEE's attorney to insert the serial/application number and filing date of the application to receive Letters Patent herein: Serial No. <u>13/735,367</u> , Filing Date January 7, 2013	I believe that I am th	he original inventor or an original joint inventor of a claimed invention in the application.					
FORD GLOBAL TECHNOLOGIES, LLC, a Ford Motor Company subsidiary, organized and existing by virtue of the laws of the State of Delaware, having its principal place of business at Dearborn, County of Wayne, and State of Michigan, hereinafter referred to as the ASSIGNEE, its successors, assigns or other legal representatives, the entire right, title and interest, domestic and foreign, in and to the inventions and discoveries in the above-identified invention including the right of the ASSIGNEE, its successors, assigns or other legal representatives to make applications and to receive Letters Patent for the inventions and discoveries in any and all countries, entities and intergovernmental organizations, in its or their own ame or names, or in my name, at its or their election (and 1 hereby authorize the ASSIGNEE or ASSIGNEE's attorney to insert the serial/application number and filing date of the application to receive Letters Patent herein: Serial No. <u>13/735,367</u> , Filing Date January 7, 2013, and 1 hereby sell, assign and set over to the ASSIGNEE, its successors, assigns or other legal representatives, and I hereby sell, assign and set over to the fassign and release applications. ASSIGNEE or myself, my heirs, successors, assigns or other legal representatives to execute any and all papers, including applications for Letters Patent of any and all kinds and in any and all countries, entities and intergovernmental organizations, and to perform any and all acts which the ASSIGNEE, its successors, assigns or other legal representatives to execute any and all papers, including applications for Letters Patent of any and all kinds and in any and all countries, entities and intergovernmental organizations, and to perform any and all acts which the ASSIGNEE, its successors, assigns or other legal representatives may deem necessary to secure thereto the rights herein sold, assigned and set over.	continuation-in-part applications, material information which became available between the filing date of the prior						
including applications for Letters Patent of any and all kinds and in any and all countries, entities and intergovernmental organizations, and to perform any and all acts which the ASSIGNEE, its successors, assigns or other legal representatives may deem necessary to secure thereto the rights herein sold, assigned and set over. And I hereby represent and warrant that I have not granted any rights inconsistent with the rights granted herein. 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. LEGAL NAME OF INVENTOR Inventor: Hai Yu Signature: Note: An Application Data Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use an additional declaration form for each additional inventor.	FORD GLOBAL TECHNOLOGIES, LLC, a Ford Motor Company subsidiary, organized and existing by virtue of the laws of the State of Delaware, having its principal place of business at Dearborn, County of Wayne, and State of Michigan, hereinafter referred to as the ASSIGNEE, its successors, assigns or other legal representatives, the entire right, title and interest, domestic and foreign, in and to the inventions and discoveries in the above-identified invention including the right of the ASSIGNEE, its successors, assigns or other legal representatives to make applications and to receive Letters Patent for the inventions and discoveries in any and all countries, entities and intergovernmental organizations, in its or their own name or names, or in my name, at its or their election (and I hereby authorize the ASSIGNEE or ASSIGNEE's attorney to insert the serial/application number and filing date of the application to receive Letters Patent herein: Serial No. 13/735,367 , Filing Date January 7, 2013), and I hereby sell, assign and set over to the ASSIGNEE, its successors, assigns or other legal representatives, all rights of priority, including any provisional applications, in and to the inventions and discoveries in any and all countries, entities and intergovernmental organizations including all applications claiming benefit of the filing date hereof, continuations, continuations-in-part, divisionals, reexaminations and reissue applications.						
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. LEGAL NAME OF INVENTOR Inventor: <u>Hai Yu</u> Date: <u>1//19//7.012</u> Signature: Note: An Application Data Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use an additional declaration form for each additional inventor.	including applications for Letters Patent of any and all kinds and in any and all countries, entities and intergovernmental organizations, and to perform any and all acts which the ASSIGNEE, its successors, assigns or other legal representatives						
or imprisonment of not more than five (5) years or both. LEGAL NAME OF INVENTOR Inventor: Hai Yu Signature: Note: An Application Data Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use an additional declaration form for each additional inventor.	And I hereby repress	ent and warrant that I have not granted any rights inconsistent with the rights granted herein.					
Inventor: <u>Hai Yu</u> Date: <u>United and Street (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form.</u> Use an additional declaration form for each additional inventor.	or imprisonment of not more than five (5) years or both.						
Note: An Application Data Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use an additional declaration form for each additional inventor.							
Use an additional declaration form for each additional inventor.							
	Note: An Application Use an additional deel	Data Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. aration form for each additional inventor.					

PATENT REEL: 029582 FRAME: 0691

Attorney Docket Number 83258396

ASSIGNMENT AND DECLARATION (37 C.F.R. 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76)

Title of Invent	ion	DYNAMIC ROAD GRADIENT ESTIMATION				
This declaration	is direct	ed to:				
x □	The attached application, or United States application or PCT international application number filed on					
The above-identi	ified app	lication was made or authorized to be made by me.				
I hereby state th including the cla	nat l hav ims.	ve reviewed and understand the contents of the specification in the above-identified application,				
I believe that I a	m the or	iginal inventor or an original joint inventor of a claimed invention in the application.				
antinuation in	nort one	o disclose information which is material to patentability as defined in 37 C.F.R. 1.56, including for dications, material information which became available between the filing date of the prior and or PCT international filing date of the continuation-in-part application.				
FORD GLOBAI of the State of I hereinafter refer interest, domesti of the ASSIGNI for the inventior name or names, insert the seria <u>13/735,367</u> ASSIGNEE, its applications, in including all ap reexaminations	L TECH Delawar red to a ic and fo EE, its s as and d or in m l/applica s succes and to t pplicatic and reis					
including applic	ations f	myself, my heirs, successors, assigns or other legal representatives to execute any and all papers, or Letters Patent of any and all kinds and in any and all countries, entities and intergovernmental erform any and all acts which the ASSIGNEE, its successors, assigns or other legal representatives secure thereto the rights herein sold, assigned and set over.				
		and warrant that I have not granted any rights inconsistent with the rights granted herein.				
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by find or imprisonment of not more than five (5) years or both.						
LEGAL NAME	OF IN	VENTOR A/OF 19 2012				
Inventor:	Mathew	Alan Boesch Date: //////////				
Signature:	Math	an A. Breach				
1	* ?					
Note: An Applic	ation Da	ta Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. ion form for each additional inventor.				
Use an additional	ucciarat					

Attorney Docket Number 83258396

ASSIGNMENT AND DECLARATION (37 C.F.R. 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76)

Title of Inventio	n DYNAMIC ROAD GRADIENT ESTIMATION					
This declaration is	directed to:					
	X The attached application, or United States application or PCT international application number filed on					
The above-identifie	d application was made or authorized to be made by me.					
I hereby state that I have reviewed and understand the contents of the specification in the above-identified application, including the claims.						
I believe that I am t	he original inventor or an original joint inventor of a claimed invention in the application.					
continuation-in-part	uty to disclose information which is material to patentability as defined in 37 C.F.R. 1.56, including for applications, material information which became available between the filing date of the prior national or PCT international filing date of the continuation-in-part application.					
FORD GLOBAL II of the State of Delt hereinafter referred interest, domestic an of the ASSIGNEE, for the inventions an name or names, or i insert the serial/app 13/735,367 ASSIGNEE, its su applications, in and	ployment agreement heretofore made or by contractual obligation, I do sell, assign and set over unto ECHNOLOGIES, LLC, a Ford Motor Company subsidiary, organized and existing by virtue of the laws aware, having its principal place of business at Dearborn, County of Wayne, and State of Michigan, to as the ASSIGNEE, its successors, assigns or other legal representatives, the entire right, title and differeign, in and to the inventions and discoveries in the above-identified invention including the right its successors, assigns or other legal representatives to make applications and to receive Letters Patent and discoveries in any and all countries, entities and intergovernmental organizations, in its or their own n my name, at its or their election (and I hereby authorize the ASSIGNEE or ASSIGNEE's attorney to plication number and filing date of the application to receive Letters Patent herein: Serial No					
And I hereby agree for myself, my heirs, successors, assigns or other legal representatives to execute any and all papers, including applications for Letters Patent of any and all kinds and in any and all countries, entities and intergovernmental organizations, and to perform any and all acts which the ASSIGNEE, its successors, assigns or other legal representatives may deem necessary to secure thereto the rights herein sold, assigned and set over.						
And I hereby represent and warrant that I have not granted any rights inconsistent with the rights granted herein.						
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.						
LEGAL NAME OF INVENTOR Inventor: Ryan Abraham McGee Date: 12-13-12 Signature: Signature:						
Note: An Application Data Sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use an additional declaration form for each additional inventor.						

PATENT REEL: 029582 FRAME: 0693

RECORDED: 01/08/2013

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