PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

SUBMISSION TYPE: NEW ASSIGNMENT				
NATURE OF CONVEYANCE:	ASSIGNMENT	ASSIGNMENT		
CONVEYING PARTY DATA	, <u>, , , , , , , , , , , , , , , , , , </u>			
	Execution Date			
Paramvir Bahl	07/10/2012			
Douglas C. Burger	06/12/2012			
Ranveer Chandra	07/12/2012			
Matthew G. Dyor	06/18/2012			
William Gates	06/25/2012			
Pablos Holman	06/12/2012			
Roderick A. Hyde	11/26/2012			
Muriel Y. Ishikawa	09/14/2012			
Jordin T. Kare	07/10/2012			
Royce A. Levien	08/30/2013			
Richard T. Lord	06/16/2012			
Robert W. Lord	06/16/2012			
Mark A. Malamud	06/15/2012			
Craig J. Mundie	06/12/2012			
Nathan P. Myhrvold	06/15/2012			
Tim Paek	07/22/2013			
John D. Rinaldo Jr.	01/25/2013			
Desney S. Tan	06/12/2012			
Clarence T. Tegreene	08/02/2012			
Charles Whitmer	05/16/2012			
Lowell L. Wood Jr.	07/15/2012			
Victoria Y.H. Wood	09/09/2012			
Lin Zhong	06/18/2012			

RECEIVING PARTY DATA

Name:	Elwha LLC		
Street Address:	11235 S.E. 6th Street, Suite 200		
City:	Bellevue		
State/Country:	WASHINGTON		
	PATENT		

502484499

Postal Code:	98004				
PROPERTY NUMBERS Total: 1					
Property Type			Number		
Application Number: 13340		13340	0512		
CORRESPONDENCE DATA					
Fax Number:4252834820Correspondence will be sent via US Mail when the fax attempt is unsuccessful.Email:saral@intvenls.comCorrespondent Name:The Invention Science FundAddress Line 1:11235 S.E. 6th Street, Suite 200Address Line 4:Bellevue, WASHINGTON 98004					
ATTORNEY DOCKET NUMBER:			0711-003-023-000000		
NAME OF SUBMITTER:			S. Craig Rochester		
Signature:			/S. Craig Rochester/		
Date:			09/05/2013		
Total Attachments: 23 source=Executed Assignments#page1.tif source=Executed Assignments#page3.tif source=Executed Assignments#page3.tif source=Executed Assignments#page4.tif source=Executed Assignments#page6.tif source=Executed Assignments#page8.tif source=Executed Assignments#page8.tif source=Executed Assignments#page9.tif source=Executed Assignments#page9.tif source=Executed Assignments#page1.tif source=Executed Assignments#page1.tif source=Executed Assignments#page1.tif source=Executed Assignments#page12.tif source=Executed Assignments#page13.tif source=Executed Assignments#page18.tif source=Executed Assignments#page18.tif source=Executed Assignments#page18.tif source=Executed Assignments#page18.tif source=Executed Assignments#page18.tif source=Executed Assignments#page18.tif source=Executed Assignments#page18.tif source=Executed Assignments#page18.tif source=Executed Assignments#page19.tif source=Executed Assignments#page18.tif source=Executed Assignments#page18.tif source=Executed Assignments#page18.tif source=Executed Assignments#page21.tif source=Executed Assignments#page21.tif source=Executed Assignments#page21.tif source=Executed Assignments#page21.tif source=Executed Assignments#page22.tif					

WHEREAS, I, Paramvir Bahl, (hereinafter referred to as ASSIGNOR), having post office address of 1311 108th Avenue NE, Bellevue, WA 98004 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340.512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries:

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

July 10, 2012

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0711-003-023-000000

p.3

ASSIGNMENT

WHEREAS, I, Douglas C. Burger, (hereinafter referred to as ASSIGNOR), having post office address of 13615 NE 48th Pl, Bellevue, WA 98005-1113 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340,512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

Burge

0711-003-023-000000

WHEREAS, I, Ranveer Chandra, (hereinafter referred to as ASSIGNOR), having post office address of 538 Central Way, Apt. #B115, Kirkland, WA 98033 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340,512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

Ranveer Chandra

WHEREAS, I, Matthew G. Dyor, (hereinafter referred to as ASSIGNOR), having post office address of 1646 184th Avenue NE, Bellevue, WA 98008 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340,512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

6/18/12

Date

Matthew G. Dvor

WHEREAS, I, William Gates (hereinafter referred to as ASSIGNOR), having post office address of One Microsoft Way, Redmond, WA 98052-6399 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340,512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

Date 6/25/12 William Gates

-0711-003-023-000000

WHEREAS, I, Pablos Holman (hereinafter referred to as ASSIGNOR), having post office address of 2431 7th Avenue West, Seattle, WA 98119 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340,512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore

6/12/12

Date

Pablos Holman

WHEREAS, I, Roderick A. Hyde (hereinafter referred to as ASSIGNOR), having post office address of 9915-161st Avenue N.E., Redmond, WA 98052 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340,512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

_______ Date

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WHEREAS, I, Muriel Y. Ishikawa (hereinafter referred to as ASSIGNOR), having post office address of 1185 Hillcrest Avenue, Livermore, CA 94550-4921 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340,512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

ember 14, 2012

Shilen

0711-003-023-000000

WHEREAS, I, Jordin T. Kare (hereinafter referred to as ASSIGNOR), having post office address of 908 15th Ave. East, Seattle, WA 98112 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340,512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

7/10/2012

Date

WHEREAS, I, Royce A. Levien, (hereinafter referred to as ASSIGNOR), having post office address of 43 Somerset Road, Lexington, MA 02420-3519 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340,512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

2013-08-30

Date

Royce **A**. Le**y**ien **/**

WHEREAS, I, Richard T. Lord, (hereinafter referred to as ASSIGNOR), having post office address of 233 St. Helens Ave., Apt. 513, Tacoma, WA 98402-2585 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340.512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

6/16/2012

Richard T. Lord

WHEREAS, I, Robert W. Lord., (hereinafter referred to as ASSIGNOR), having post office address of 1410-41st Ave. East, Seattle, WA 98112 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340,512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

6/16/2012

Date

Robert W. Lord

WHEREAS, I, Mark A. Malamud, (hereinafter referred to as ASSIGNOR), having post office address of Highcastle, 1508 Ninth Avenue West, Seattle, WA 98119 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340,512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

6/15/12

Mark A. Malamud

WHEREAS, I, Craig J. Mundie (hereinafter referred to as ASSIGNOR), having post office address of 1209 38th Avenue East, Seattle, WA 98112-4447 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340,512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

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Mundei

Craig J. Mundie

WHEREAS, I, Nathan P. Myhrvold (hereinafter referred to as ASSIGNOR), having post office address of 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340,512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

1000 15,2012

Nathan P. Myhrvold

Date

0711-003-023-000000

WHEREAS, I, Tim Paek, (hereinafter referred to as ASSIGNOR), having post office address of 21223 SE 35th Way, Sammamish, WA 98075 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340,512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

<u>7/22/13</u>

Date

WHEREAS, I, John D. Rinaldo, Jr., (hereinafter referred to as ASSIGNOR), having post office address of 1560-134th Avenue S.E. #301, Bellevue, WA 98005-8030 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340,512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

Januar, 25, 2013 Date

John D. Rinaldo, Jr.

0711-003-023-000000

WHEREAS, I, Desney S. Tan (hereinafter referred to as ASSIGNOR), having post office address of 11514 NE 107th Place, Kirkland, WA 98033 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340,512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

12 June, 2012

 $\mathcal{O}_{\mathcal{I}}$

Date

Desney S. Tan

WHEREAS, I, Clarence T. Tegreene (hereinafter referred to as ASSIGNOR), having post office address of 10629 NE 17th Street, Bellevue, WA 98004-2834 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340,512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

Date

nce T. Tegreene

WHEREAS, I, Charles Whitmer (hereinafter referred to as ASSIGNOR), having post office address of 15509 Uplands Way S.E., North Bend, WA 98045 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340,512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

5/16/2012

<u>III A</u> arles Whitmer

Date

0711-003-023-000000

WHEREAS, I, Lowell L. Wood, Jr. (hereinafter referred to as ASSIGNOR), having post office address of 989 112th Avenue NE #2310, Bellevue, WA 98004 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340,512 : and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

Date

15 July 2012 Towell I. Wood, Jr

Lowell L. Wood, Jr.

WHEREAS, I, Victoria Y.H. Wood (hereinafter referred to as ASSIGNOR), having post office address of 1185 Hillcrest Avenue, Livermore CA 94550-4921 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340,512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

September 9, 2012

Victoria Y.H. The

WHEREAS, I, Lin Zhong (hereinafter referred to as ASSIGNOR), having post office address of 3510 Deal Street, Houston, TX 77025 am the joint inventor of an invention entitled "Computational Systems and Methods for Locating a Mobile Device," as described and claimed in the specification for which an application for United States letters patent was filed on December 29, 2011 and assigned Application No. 13/340,512 ; and

WHEREAS, Elwha LLC, (hereinafter referred to as ASSIGNEE), a limited liability corporation of the State of Delaware, having a place of business at 11235 S.E. 6th Street, Suite 200, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby sells, assigns and transfers unto said ASSIGNEE the entire right, title and interest in and to said invention, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR had this assignment, transfer and sale not been made. ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said invention, for litigation regarding letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

/18/1Z

Date

Lin Zhong

0711-003-023-000000

PATENT REEL: 031145 FRAME: 0651

RECORDED: 09/05/2013