

## PATENT ASSIGNMENT COVER SHEET

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
ZHIQI CHENG	02/22/2018
YANG LIU	02/22/2018
XIANSHENG HUA	02/22/2018
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	ALIBABA GROUP HOLDING LIMITED
<b>Street Address:</b>	FOURTH FLOOR, ONE CAPITAL PLACE
<b>Internal Address:</b>	PO BOX 847
<b>City:</b>	GRAND CAYMAN
<b>State/Country:</b>	CAYMAN ISLANDS
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15903751
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	
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<b>DATE SIGNED:</b>	10/18/2019
<b>Total Attachments: 3</b>	
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial Number .....  
Filing Date .....  
Inventorship ..... Cheng et al  
Assignee ..... Alibaba Group Holding Limited  
Attorney's Docket No. .... A81-0571US  
Client Docket No. .... A883US  
Title ..... Determining Recommended Object

PATENT ASSIGNMENT

PARTIES TO THE ASSIGNMENT

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Grand Cayman  
Cayman Islands

AGREEMENT

WHEREAS, ASSIGNOR(S) (listed above) are inventor(s) of an invention entitled  
" Determining Recommended Object" for which:

a provisional application for United States Letters Patent was filed on ..... and  
was given U.S. Serial No. .... and/or

a foreign priority Chinese patent application was filed on 24 February 2017 and was given CN Patent Application Serial No. 201710102422.3 and/or

a PCT International application for was filed on \_\_\_\_\_ and was given PCT Serial No. \_\_\_\_\_ and/or

a non-provisional application for United States Letters Patent was

filed on \_\_\_\_\_ and was given U.S. Serial No. \_\_\_\_\_ or filed concurrently herewith. Assignors hereby authorize and request ASSIGNEE's legal representatives, of Lee & Hayes, PLLC, 601 W Riverside Ave, Suite 1400, Spokane, Washington 99201, who are associated with customer number 29150, to insert in the caption above the serial number and filing date of the patent application when known.

WHEREAS, Alibaba Group Holding Limited (hereinafter referred to as ASSIGNOR), a corporation of Cayman Islands having a place of business at Fourth Floor, One Capital Place, P.O. Box 847, Grand Cayman, Cayman Islands, 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 exchange for good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR(S) hereby sell, assign and transfer unto 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 for their use and benefit and of their successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR(S)

had this assignment, transfer and sale not been made. ASSIGNOR(S) hereby authorize and request the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR(S) agree 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 said letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

<p><u>程志奇</u> Zhiqi Cheng</p> <p><u>02/22/2018</u> Date (mm/dd/yyyy)</p>	<p><u>沈飞</u> Witness Signature</p> <p><u>Shen Fei</u> Name (printed)</p> <p><u>2/22/2018</u> Date (mm/dd/yyyy)</p>
<p><u>刘阳</u> Yang Liu</p> <p><u>2/22/2018</u> Date (mm/dd/yyyy)</p>	<p><u>沈飞</u> Witness Signature</p> <p><u>Shen Fei</u> Name (printed)</p> <p><u>2/22/2018</u> Date (mm/dd/yyyy)</p>
<p><u>华先程</u> Xiansheng Hua</p> <p><u>02/22/2018</u> Date (mm/dd/yyyy)</p>	<p><u>沈飞</u> Witness Signature</p> <p><u>Shen Fei</u> Name (printed)</p> <p><u>2/22/2018</u> Date (mm/dd/yyyy)</p>