## 504669050 12/04/2017

# PATENT ASSIGNMENT COVER SHEET

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| SUBMISSION TYPE:      | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT     |

#### **CONVEYING PARTY DATA**

| Name               | Execution Date |
|--------------------|----------------|
| WEI LIU            | 12/08/2015     |
| VINAY DAMODAR SHET | 12/08/2015     |
| YING LIU           | 12/27/2015     |
| AARON MALENFANT    | 12/08/2015     |
| HAIDONG SHAO       | 12/08/2015     |
| HONGSHU LIAO       | 12/08/2015     |
| JIEXING GU         | 12/08/2015     |
| EDISON TAN         | 12/17/2015     |

### **RECEIVING PARTY DATA**

| Name:           | GOOGLE INC.               |
|-----------------|---------------------------|
| Street Address: | 1600 AMPHITHEATRE PARKWAY |
| City:           | MOUNTAIN VIEW             |
| State/Country:  | CALIFORNIA                |
| Postal Code:    | 94043                     |

### **PROPERTY NUMBERS Total: 1**

| Property Type       | Number   |
|---------------------|----------|
| Application Number: | 15700395 |

#### **CORRESPONDENCE DATA**

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| ATTORNEY DOCKET NUMBER: | GGL-1123-CON       |  |
|-------------------------|--------------------|--|
| NAME OF SUBMITTER:      | ROHIT K. KRISHNA   |  |
| SIGNATURE:              | /rohit k. krishna/ |  |

PATENT 504669050 REEL: 044285 FRAME: 0968

DATE SIGNED: 12/04/2017

Total Attachments: 2
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PATENT REEL: 044285 FRAME: 0969

ATTORNEY DOCKET NUMBER: GGL-1123

## JOINT INVENTION ASSIGNMENT OF WORLDWIDE RIGHTS

WHEREAS, we, Wei Liu, a citizen of China, residing in San Jose, California; Vinay Damodar Shet, a citizen of India, residing in Millbrae, California; Ying Liu, a citizen of China, residing in Sunnyvale, California; Aaron Malenfant, a citizen of the United States, residing in Redwood City, California; Haidong Shao, a citizen of China, residing in Sunnyvale, California; Hongshu Liao, a citizen of China, residing in Mountain View, California; Jiexing Gu, a citizen of China, residing in San Jose, California; and Edison Tan, a citizen of Australia, residing in Brooklyn, New York, as assignors, have made an invention entitled

### "IMAGE BASED CAPTCHA CHALLENGES"

as described in a patent application for U.S. Letters Patent bearing U.S. Serial No. 14/958,073, which was filed in the U.S. Patent and Trademark Office on December 3, 2015; and

WHEREAS, Google Inc., 1600 Amphitheatre Parkway, Mountain View, California 94043, a corporation organized and existing under the laws of the State of California, as assignee, is desirous of securing the entire right, title and interest in and to this invention in all countries throughout the world, and in and to the application for United States Letters Patent on this invention and the Letters Patent to be issued upon this application;

NOW, THEREFORE, be it known that for good and valuable consideration the receipt of which from assignee is hereby acknowledged, we, as assignors, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the assignee, its lawful successors and assigns, our entire right, title, and interest in and to this invention and this application, and all divisions, and continuations thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues thereof, and all rights to claim priority on the basis of such applications, and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, and all extensions, renewals, and reissues thereof, and all rights to sue and recover for past, present, and future infringement thereof, and we hereby authorize and request the Commissioner for Patents of the United States and any official of any foreign country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to assignee, its successors and assigns, in accordance with the terms of this Agreement.

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RECORDED: 12/04/2017

**AND, WE HEREBY** covenant that we have the full right to convey the interest assigned by this Assignment, and we have not executed, and will not execute any agreement in conflict with this Assignment;

AND, WE HEREBY further covenant and agree that we will, without further consideration, communicate with assignee, its successors and assigns, any facts known to us respecting this invention, and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title of this invention in said assignee, its successors and assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the assignee, its successors and assigns.

IN WITNESS WHEREOF, the Assignors have executed this document on the date

| Compositioned by:                                       |            |
|---|------------|
| Wei Lin   | 12/8/2015  |
| Docusigned by:  Wei Liu                                 | Date       |
| Vinay Shet  | 12/8/2015  |
| CF727F1EB56C4FF  Vinay Damodar Shet  Vinay Damodar Shet | Date       |
| 9C8641E2A2074EE   | 12/27/2015 |
| DocuSigned by: Ying Liu                                 | Date       |
| a Melfort   | 12/8/2015  |
| DocuSigned by:  ^ or on Malenfant                       | Date       |
| HALDONG SIAO  | 12/8/2015  |
| Docusigned by: Haidong Shao                             | Date       |
| Horgilulton   | 12/8/2015  |
| Mongshu Liao  Hongshu Liao                              | Date       |
| Jerms Con   | 12/8/2015  |
| Docusigned by:  Jiexing Gu                              | Date       |
| John  | 12/17/2015 |
| 3886F8D70204486 Edison Tan                              | Date       |

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