PATENT ASSIGNMENT COVER SHEET

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

CONVEYING PARTY DATA

| Name | Execution Date |
|------------------------|----------------|
| QIFAN CHEN | 01/30/2014 |
| RAMAKUMAR KOSURU | 01/30/2014 |
| CHOUDUR LAKSHMINARAYAN | 01/30/2014 |

RECEIVING PARTY DATA

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| City: | Houston | |
| State/Country: | TEXAS | |
| Postal Code: | 77070 | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 15115006 |

CORRESPONDENCE DATA

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| ATTORNEY DOCKET NUMBER: | 90241041 |
|-------------------------|-----------------|
| NAME OF SUBMITTER: | JESSICA MANIA |
| SIGNATURE: | /Jessica Mania/ |
| DATE SIGNED: | 08/22/2016 |

Total Attachments: 2

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PATENT 503970256 REEL: 039497 FRAME: 0128

HEWLETT-PACKARD COMPANY Intellectual Property Administrator 3404 E. Harmony Road Mail Stop 35 Fort Collins, Colorado 80528

PATENT APPLICATION

| RECORD ID: | 83776661 |
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ASSIGNMENT OF PATENT APPLICATION

I/We, the undersigned (each) have agreed and hereby agree, that for good and valuable consideration, the receipt of which is hereby acknowledged, and in furtherance of my/our obligations to HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P., a Texas Limited Partnership having its principal place of business in Houston, Texas, (hereinafter HPDC), and to its subsidiaries and affiliates, to assign and transfer to HPDC, its successors and assigns, the entire right, title and interest, including the right of priority, in, to and under an application for Patent

| MANAGING DATABASE WITH COUNTING BLOOM FILTERS | |
|---|--|
| Filing Date: July 28, 2016 Application | ion No.: 15/115006 |
| and the invention(s) and improvement(s) set forth therein, and any and divisionals, and renewals of and substitutes for said application for sa countries thereto which may be granted thereon or therefore; and any repatent. | all continuations, continuations-in-part (C-I-P's), and Patent, and any and all other Patent of any |
| I/we additionally authorize HPDC to file applications in my/our name by HPDC, its successors, assigns, nominees or legal representatives, to Patent respectively may be granted, reissued or extended, as fully and enjoyed by me/us had this assignment, and transfer not been made; | the full end of the term or terms for which said |
| AND I/we hereby covenant that I/we have full right to convey the entirexecuted and will not execute any agreement in conflict herewith, and I/w time a request is made, and without undue delay, execute and deliver all perfect the title to said invention(s) or improvement(s), said application an nominees or legal representatives, and I/we agree to communicate to HF said invention(s) or improvement(s), said application and said Patent, to papers, to execute all disclaimers and divisionals, continuations, C-I-P rightful oaths and declarations, and generally to do everything possible and legal representatives to obtain and enforce, for its or their own benefimprovement(s) in any and all countries provided the expenses which cooperation and assistance are paid by HPDC; | we further covenant and agree that I/we will, each such papers as may be necessary or desirable to not said Patent, to HPDC, its successors, assigns, PDC, or to its nominee, all known facts respecting testify in any legal proceedings, to sign all lawfuls; reissue and foreign applications, to make all to aid HPDC, its successors, assigns, nominees it, proper patent protection for said invention(s) or |
| AND live hereby authorize and request the official of any country applications as aforesaid, to issue to HPDC, as assignee of the entire ri invention(s) or improvement(s) which may be issued and granted on accordance with the terms of this assignment. | oht, title and interest, any and all Patent for said |
| I/we further authorize and direct the attorneys of record to insert application for Patent, now identified by the Record ID and title set forth alknown to them. | the filing date and application number of said bove, as soon as the same shall have been made |
| IN WITNESS WHEREOF, I/we hereunto set my/our hand(s) and | seal(s): |
| | 1/30/2014 |
| Inventor's Signature | Date |
| | |
| QiFan Chen Inventor's Typed Name | |
| inventor's Typeu warne | * |
| Selections | 1/30/2014 |
| Inventor's Signature | Date |
| Ramakumar Kosuru | |
| Inventor's Typed Name | |
| Rev 1/ 2013 (Assignment) Page 1 of | |

PATENT

REEL: 039497 FRAME: 0129

HEWLETT-PACKARD COMPANY Intellectual Property Administrator 3404 E. Harmony Road Mail Stop 35 Fort Collins, Colorado 80528

PATENT APPLICATION

| Mail Stop 35 Fort Collins, Colorado 80528 | | RECORD ID: 83776661 | *************************************** |
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| | ENT OF PATENT AF | PLICATION (cont.) | |
| Chander Klassmine | ivez er | 01 30 2014 Date | |
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| Choudur Lakshminarayan Inventor's Typed Name | | nerveranningge | |
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| nventor's Typed Name | | | |
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