

PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT						
NATURE OF CONVEYANCE:	ASSIGNMENT						
CONVEYING PARTY DATA							
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Wenguang Wang</td> <td>10/16/2012</td> </tr> <tr> <td>David A. Majnemer</td> <td>10/16/2012</td> </tr> </tbody> </table>		Name	Execution Date	Wenguang Wang	10/16/2012	David A. Majnemer	10/16/2012
Name	Execution Date						
Wenguang Wang	10/16/2012						
David A. Majnemer	10/16/2012						
RECEIVING PARTY DATA							
Name:	Apple Inc.						
Street Address:	1 Infinite Loop						
City:	Cupertino						
State/Country:	CALIFORNIA						
Postal Code:	95014						
PROPERTY NUMBERS Total: 1							
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13653371</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13653371		
Property Type	Number						
Application Number:	13653371						
CORRESPONDENCE DATA							
Fax Number:	4087208383						
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>							
Phone:	4087208300						
Email:	Tuyen_Lam@bstz.com						
Correspondent Name:	Blakely, Sokoloff, Taylor & Zafman LLP						
Address Line 1:	1279 Oakmead Parkway						
Address Line 4:	Sunnyvale, CALIFORNIA 94085-4040						
ATTORNEY DOCKET NUMBER:	4860P16943						
NAME OF SUBMITTER:	James C. Scheller, Reg. No. 31,195						
Total Attachments: 2 source=P16943US1_Assignment_101712#page1.tif source=P16943US1_Assignment_101712#page2.tif							

CH \$40.00 13653371

ASSIGNMENT OF PATENT APPLICATION

Attorney Docket No.: 4860P16943

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I/we, the undersigned, Wenguang Wang and David A. Majnemer

hereby sell, assign, and transfer to Apple Inc.

a corporation of California

(Type of Assignee: e.g., corporation, company, partnership, university, etc.)

having a principal place of business at 1 Infinite Loop, Cupertino, CA, 95014

("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions or improvements that are disclosed in the application (provisional or non-provisional) for the United States patent which for the non-provisional application may have a declaration executed by the undersigned prior hereto or concurrently herewith and which application (provisional or non-provisional) is entitled

**METHODS AND SYSTEMS FOR MAINTAINING A STORAGE VOLUME WITH HOLES
AND FILLING HOLES**

said patent application also identified as follows (when known):

[I/we hereby authorize an attorney or agent for said Assignee to insert below the application number and filing date of said patent application when known.]

United States Patent Application Number 13/653,371 filed 10/16/2012,

and in and to said application (provisional or non-provisional) and all provisional applications, non-provisional applications, utility applications, design applications, divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications that have been or shall be filed in the United States and all foreign countries on any of said inventions or improvements; and in and to all original patents, reissued patents, reexamination certificates, and extensions, that have been or shall be issued in the United States and all foreign countries on said inventions or improvements; and in and to all rights of priority resulting from the filing of said United States application;

agree that said Assignee may apply for and receive a patent or patents for said inventions or improvements in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all provisional applications, non-provisional applications, utility applications, design applications, divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications on any and all said inventions or improvements; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and representatives all facts known to the undersigned relating to said inventions or improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or representatives in securing and maintaining proper patent protection for said inventions or improvements and for vesting title to said inventions or

improvements, and all applications for patents and all patents on said inventions or improvements, in said Assignee, its successors, assigns, and legal representatives; and

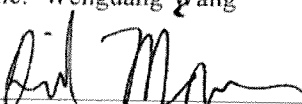
covenant with said Assignee, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

Each Inventor: Please Sign and Date Below:

10/16, 20 12
Date


Name: Wenguang Wang

10/16, 20 12
Date


Name: David A. Majnemer

Assignment Document Return Address:
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP
1279 Oakmead Parkway
Sunnyvale, CA 94085-4040
(408) 720-8300