



When recorded please return to:

HEWLETT-PACKARD COMPANY  
Intellectual Property Administrator  
P. O. Box 272400  
Fort Collins, Colorado 80527-2400

PATENT APPLICATION

ATTORNEY DOCKET NO. 200311240-1

**ASSIGNMENT OF PATENT APPLICATION**

I/We, the undersigned (each) have agreed and hereby agree to assign to HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P., a Texas Limited Partnership having its principle place of business in Houston, Texas, (hereinafter HPDC) and PURDUE RESEARCH FOUNDATION, acting on behalf of Purdue University, West Lafayette, Indiana, (hereinafter PURDUE) in furtherance of my/our obligations to the Hewlett-Packard Company and its subsidiaries and affiliates or PURDUE, and do hereby assign and transfer to HPDC and PURDUE jointly, their successors and assigns, the entire right, title and interest, including the right of priority, in, to and under an application for Letters Patent of the United States entitled:

Halfonig Method And System

Filing date: Jan 26, 2004

Application No.: 10/764,839

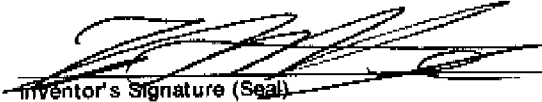
and the invention(s) and improvement(s) set forth therein, and any and all continuations, continuations-in-part (C-I-P's), divisionals, and renewals of and substitutes for said application for said Letters Patent, and any and all Letters Patent of the United States and of countries foreign thereto which may be granted thereon or therefor; and any reissues, or reexaminations, or extensions of said Letters Patent.

I/we additionally authorize HPDC and PURDUE to file applications in my/our name for Letters Patent in any country, to be held and enjoyed by HPDC and PURDUE jointly, their successors, assigns, nominees or legal representatives, to the full end of the term or terms for which said Letters Patent respectively may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by me/us had this assignment, and transfer not been made;

AND I/we hereby covenant that I/we have full right to convey the entire interest herein assigned, and that I/we have not executed and will not execute any agreement in conflict herewith, and I/we further covenant and agree that I/we will, each time a request is made, and without undue delay, execute and deliver all such papers as may be necessary or desirable to perfect the title to said invention(s) or improvement(s), said application and said Letters Patent, to HPDC, PURDUE their successors, assigns, nominees or legal representatives, and I/we agree to communicate to HPDC, PURDUE or to their nominees, all known facts respecting said invention(s) or improvement(s), said application and said Letters Patent, to testify in any legal proceedings, to sign all lawful papers, to execute all disclaimers and divisionals, continuations, C-I-P's, reissue and foreign applications, to make all rightful oaths and declarations, and generally to do everything possible to aid HPDC and PURDUE, their successors, assigns, nominees and legal representatives to obtain and enforce, for its or their own benefit, proper patent protection for said invention(s) or improvement(s) in any and all countries provided the expenses which may be incurred by me/us in lending such cooperation and assistance are paid by HPDC or PURDUE;

AND I/we hereby authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any country or countries foreign to the United States whose duty it is to issue patents on applications as aforesaid, to issue to HPDC and PURDUE, jointly, as assignee of the entire right, title and interest, any and all Letters Patent for said invention(s) or improvement(s), including any and all Letters Patent of the United States which may be issued and granted on or as a result of the application aforesaid, in accordance with the terms of this assignment.

I/we further authorize and direct HPDC and PURDUE attorneys to insert the serial number and filing date of said application now identified by the attorney docket number and title set forth above as soon as the same shall have been made known to them by the United States Patent and Trademark Office.

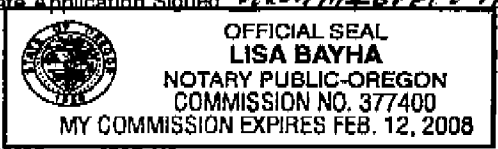
  
Inventor's Signature (Seal)

Date Assignment Signed: Mar. 23, 2004


Inventor's Typed Name: Zhen He

Date Application Signed: 1/20/04

State of Oregon )  
County of Clackamas ) ss.:



Before me this 23<sup>rd</sup> day of March, personally appeared Zhen He who is personally known or proved to me on the basis of satisfactory evidence to be the person who acknowledged the foregoing instrument of assignment to be his/her free act and deed.

  
Notary Public  
My commission expires: Feb 12, 2008

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**PATENT APPLICATION**  
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**ASSIGNMENT OF PATENT APPLICATION (cont.)**

IN WITNESS WHEREOF, I/we hereunto set my/our hand(s) and seal(s):

Charles A. Bouman Date Assignment Signed: 9/24/04  
Inventor's Signature (Seal)

Inventor's Typed Name: Charles A. Bouman Date Application Signed: 1/23/04

State of INDIANA )  
County of TIPPECANOE ) ss.:

Before me this 24th day of September, personally appeared Charles A. Bouman who is personally known or proved to me on the basis of satisfactory evidence to be the person who acknowledged the foregoing instrument of assignment to be his/her free act and deed.

Courtney A Hedge  
Notary Public  
My commission expires:

**COURTNEY A HEDGE**  
**NOTARY PUBLIC STATE OF INDIANA**  
**BOONE COUNTY**  
**MY COMMISSION EXP. AUG. 17, 2009**

\_\_\_\_\_  
Date Assignment Signed: \_\_\_\_\_  
Inventor's Signature (Seal)

\_\_\_\_\_  
Date Application Signed: \_\_\_\_\_  
Inventor's Typed Name:

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) ss.:

Before me this \_\_\_\_ day of \_\_\_\_\_, personally appeared \_\_\_\_\_ who is personally known or proved to me on the basis of satisfactory evidence to be the person who acknowledged the foregoing instrument of assignment to be his/her free act and deed.

\_\_\_\_\_  
Notary Public  
My commission expires:

\_\_\_\_\_  
Date Assignment Signed: \_\_\_\_\_  
Inventor's Signature (Seal)

\_\_\_\_\_  
Date Application Signed: \_\_\_\_\_  
Inventor's Typed Name:

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) ss.:

Before me this \_\_\_\_ day of \_\_\_\_\_, personally appeared \_\_\_\_\_ who is personally known or proved to me on the basis of satisfactory evidence to be the person who acknowledged the foregoing instrument of assignment to be his/her free act and deed.

\_\_\_\_\_  
Notary Public  
My commission expires: