

01-17-2003



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To the Honorable Commissioner of Patents

102340819

Send original documents or copy thereof.

1. Name of conveying party(ies):  
**Walter E. Red Robert M. Cheatham  
C. Gregory Jensen**  
Additional name(s) of conveying party(ies) attached?  Yes  No

1-14-03

2. Name and address of receiving party(ies)  
Name: **Brigham Young University**  
Internal Address:  
  
Street Address: **A-285 ASB**  
  
City: **Provo** State/Country: **Utah** Zip: **84602**  
Additional name(s) and address(es) attached?  Yes  No

3. Nature of conveyance:  
 Assignment  Merger  
 Security Agreement  Change of Name  
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Execution Date: **December 17, 2002**

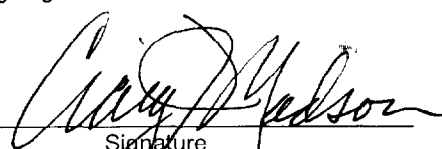
4. Application number(s) or patent number(s):  
If this document is being filed together with a new application, the execution date of the application is:  
A. Patent Application No.(s)  
**10/272,537**  
Additional numbers attached?  Yes  No

B. Patent No.(s)

5. Name and address of party to whom correspondence concerning document should be mailed:  
Name: **Craig J. Madson, MADSON & METCALF**  
Internal Address:  
  
Street Address: **15 West South Temple, Suite 900**  
  
City: **Salt Lake City** State: **Utah** ZIP: **84101**

6. Total number of applications and patents involved:   
7. Total fee (37 CFR 3.41) ..... \$ 40.00  
 Enclosed  
 Authorized to be charged to deposit account (any deficiencies)  
8. Deposit account number:  
13-0763  
(Attach duplicate copy of this page if paying by deposit account)

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9. Statement and signature.  
*To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.*  
  
Craig J. Madson  January 9, 2003  
Name of Person Signing Signature Date

01/16/2003 LMJELLER 00000120 10272537  
01 FC 8021 40.00

Total number of pages including cover sheet, attachments, and document:

Mail documents to be recorded with required cover sheet information to:  
Commissioner of Patents and Trademarks, Box Assignments  
Washington, D.C. 20231

# ASSIGNMENT

Docket No.: 1737.2.14

We, Walter E. Red, Robert M. Cheatham, and C. Gregory Jensen, of 3710 North 920 East, Provo, Utah 84604, 670 East 800 North, Provo, Utah 84606, and 498 East 2600 North, Provo, Utah 604, respectively, have invented a method and apparatus entitled SYSTEMS AND METHODS FOR REPRESENTING COMPLEX N-CURVES FOR DIRECT CONTROL OF TOOL MOTION, hereinafter called the "invention."

Preferred embodiments of said invention are disclosed in a United States patent application executed concurrently herewith by us and now identified as File No. 1737.2.14 of the law firm of Madson & Metcalf, Gateway Tower West, 15 West South Temple, Suite 900, Salt Lake City, Utah 84101, and filed in the United States Patent and Trademark Office as Serial No. 10/272,537 on October 15, 2002.

The Assignee, Brigham Young University, a corporation of the State of Utah, having a principal place of business at A-285 ASB, Provo, Utah 84602, desires to secure the entire right, title and interest in said invention.

In consideration of \$1.00 and other good and valuable consideration paid to us by the Assignee, the receipt and sufficiency of which we hereby acknowledge, WE HEREBY ASSIGN TO THE ASSIGNEE:

The entire right, title and interest in said invention, in the above-identified United States patent application and in all divisions, continuations and continuations-in-part of said application, all previously filed provisional applications for which the present application seeks the benefit of an earlier filing date under 35 U.S.C. § 119, all reissues or extensions of Letters Patent or Patents granted thereon, and in all corresponding applications filed in countries foreign to the United States, and in all patents issuing thereon in the United States and foreign countries.

The right to file foreign patent applications on said invention in its own name, wherever such right may be legally exercised, including the right to claim the benefits of the International Convention for such applications.

We hereby authorize and request the United States Commissioner of Patents and Trademarks, and such Patent Office officials in foreign countries as are duly authorized by their patent laws to issue patents, to issue any and all patents on said invention to the Assignee as the owner of the entire interest, for the sole use and benefit of the said Assignee, its successors, assigns and legal representatives.

We hereby agree, without further consideration and without expense to us, to sign all lawful papers and to perform all other lawful acts which the Assignee may request of us to

make this Assignment fully effective, including, by way of example but not of limitation, the following:

Prompt execution of all original, divisional, substitute, reissue, and other United States and foreign patent applications on said invention, and all lawful documents requested by the Assignee to further the prosecution of any of such patent applications.

Cooperation to the best of our ability in the execution of all lawful documents, the production of evidence, nullification, reissue, extension, or infringement proceedings involving said invention.

This assignment and agreement shall be binding upon our heirs and legal representatives.

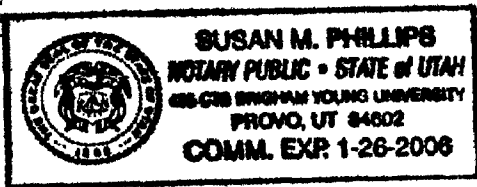
Walter E. Red  
Walter E. Red  
3710 North 920 East  
Provo, Utah 84604

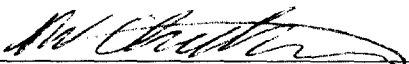
STATE OF Utah )  
COUNTY OF Utah ) §

On this 16<sup>th</sup> day of December, 2002, personally appeared before me Walter E. Red, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to on this Assignment, and acknowledged that he executed the same.

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Susan M. Phillips NOTARY PUBLIC  
1-26-2006 COMMISSION EXPIRATION



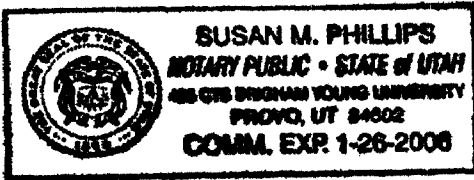
  
Robert M. Cheatham  
670 East 800 North  
Provo, Utah 84606


STATE OF Utah )  
COUNTY OF Utah ) §

On this 17<sup>th</sup> day of December, 2002, personally appeared before me Robert M. Cheatham, proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to on this Assignment, and acknowledged that he executed the same.

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 NOTARY PUBLIC  
1-26-06 COMMISSION EXPIRATION



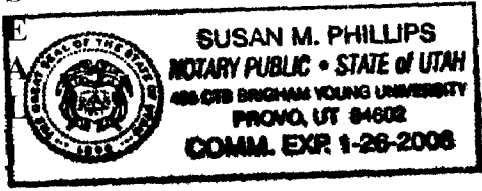
  
C. Gregory Jensen  
498 East 2600 North  
Provo, Utah 604

STATE OF Utah )  
COUNTY OF Utah ) §

On this 16<sup>th</sup> day of December, 2002, personally appeared before me C. Gregory Jensen, proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to on this Assignment, and acknowledged that he executed the same.

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 NOTARY PUBLIC  
12-26-2006 COMMISSION EXPIRATION



***DECLARATION, POWER OF ATTORNEY AND PETITION***

We, Walter E. Red, Robert M. Cheatham, and C. Gregory Jensen, declare: that we are citizens of the United States of America; that our residences and post office addresses are 3710 North 920 East, Provo, Utah 84604, 670 East 800 North, Provo, Utah 84606, and 498 East 2600 North, Provo, Utah 604, respectively; that we verily believe we are the original, first, and joint inventors of the subject matter of the invention or discovery entitled SYSTEMS AND METHODS FOR REPRESENTING COMPLEX N-CURVES FOR DIRECT CONTROL OF TOOL MOTION, for which a patent is sought and which is described and claimed in the specification filed in the United States Patent and Trademark Office as Serial No. 10/272,537 on October 15, 2002; that we have reviewed and understand the contents of the above-identified specification, including the claims; and that we acknowledge the duty to disclose all information known to us to be material to patentability as defined in Section 1.56 of Title 37 of the Code of Federal Regulations.

We hereby claim the benefit under Section 119 of Title 35 of the United States Code the earlier filed pending application, Serial No. 60/330,003, filed October 16, 2001; and, insofar as the subject matter of each of the claims of this application is not disclosed in the earlier filed pending application in the manner provided by the first paragraph of Section 112 of Title 35 of the United States Code, we acknowledge the duty to disclose material information, as defined in Section 1.56(a) of Title 37 of the Code of Federal Regulations, which occurred between the filing date of the earlier filed application and the filing date of this application.

We declare further that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful, false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful, false statements may jeopardize the validity of the application or any patent issuing thereon.

We hereby appoint as our attorneys and/or patent agents those individuals associated with U.S. Patent and Trademark Office Customer No. 21552 with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith. All correspondence and telephonic communications should be directed to Craig J. Madson at the address associated with Customer No. 21552.

Wherefore, we pray that Letters Patent be granted to us for the invention or discovery described and claimed in the foregoing specification and claims, declaration, power of attorney, and this petition.

Signed at Provo, UTAH, this 17 day of  
(City) (State)  
December, 2002.

Inventor Walter E. Red  
Walter E. Red  
3710 North 920 East  
Provo, Utah 84604

Signed at Provo, UTAH, this 17<sup>th</sup> day of  
(City) (State)  
December, 2002.

Inventor Robert M. Cheatham  
Robert M. Cheatham  
670 East 800 North  
Provo, Utah 84606

Signed at Provo, UT, this 17<sup>th</sup> day of  
(City) (State)  
December, 2002.

Inventor C. Gregory Jensen  
C. Gregory Jensen  
498 East 2600 North  
Provo, Utah 604