

DMD



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: Box ISSUE FEE
COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

COPY

80M170618

EDWIN H TAYLOR
BLANELY SOKOLOFF TAYLOR & ZAPKMAN
12400 WILSHIRE BLVD SEVENTH FLOOR
LOS ANGELES CA 90025

NOTICE OF ALLOWANCE
AND ISSUE FEE DUE

- Note attached communication from the Examiner
- This notice is issued in view of applicant's communication filed _____

SERIES CODE/SERIAL NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
08/29/79, 298	08/29/79	207	MINORAL	09/18/95
First Named Applicant	MARSHALL	JED		

TITLE OF INVENTION
PILOT AID USING SYNTHETIC REALITY

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
00055, 00000	251-113, 000	215	UTILITY	YES	5025.00	09/18/95

THE APPLICATION IDENTIFIES ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED.

THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.

HOW TO RESPOND TO THIS NOTICE:

- I. Review the SMALL ENTITY Status shown above.
If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:
 - A. If the status is changed, pay twice the amount of the FEE DUE shown above and notify the patent and Trademark Office of the change in status, or
 - B. If the Status is the same, pay the FEE DUE shown above.

- If the SMALL ENTITY is shown as NO:
 - A. Pay FEE DUE shown above, or
 - B. File verified statement of Small Entity Status before, or with, pay of 1/2 the FEE DUE shown above.

- II. Part B of this notice should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B should be completed and returned. If you are charging the ISSUE FEE to your deposit account, Part C of this notice should also be completed and returned.

- III. All communications regarding this application must give series code (or filing date), serial number and batch number. Please direct all communication prior to issuance to Box ISSUE FEE unless advised to contrary.

IMPORTANT REMINDER: Patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

COPY

SERIAL NUMBER 08/513,225	FILING DATE 08/17/95	MARGOLFIN NAMED APPLICANT	02055, P0020 ATTORNEY DOCKET NO.
-----------------------------	-------------------------	---------------------------	-------------------------------------

NGUYEN, T

B3M1/0618

EXAMINER

EDWIN H TAYLOR
BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BLVD SEVENTH FLOOR
LOS ANGELES CA 90025

ART UNIT 7304	PAPER NUMBER 06/18/95
------------------	--------------------------

DATE MAILED:

NOTICE OF ALLOWABILITY

PART I

- This communication is responsive to the amendment filed on 04/19/96
- All the claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice Of Allowance And Issue Fee Due or other appropriate communication will be sent in due course.
- The allowed claims are 1-28, 31-39 (now renumbered as 1-37)
- The drawings filed on 02/13/95 are acceptable.
- Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has [] been received. [] not been received. [] been filed in parent application Serial No. _____, filed on _____
- Note the attached Examiner's Amendment.
- Note the attached Examiner Interview Summary Record, PTOL-413.
- Note the attached Examiner's Statement of Reasons for Allowance.
- Note the attached NOTICE OF REFERENCES CITED, PTO-892.
- Note the attached INFORMATION DISCLOSURE CITATION, PTO-1449.

PART II.

A SHORTENED STATUTORY PERIOD FOR RESPONSE to comply with the requirements noted below is set to EXPIRE THREE MONTHS FROM THE "DATE MAILED" indicated on this form. Failure to timely comply will result in the ABANDONMENT of this application. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

- Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION, PTO-152, which discloses that the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.
- APPLICANT MUST MAKE THE DRAWING CHANGES INDICATED BELOW IN THE MANNER SET FORTH ON THE REVERSE SIDE OF THIS PAPER.
 - Drawing informalities are indicated on the NOTICE RE PATENT DRAWINGS, PTO-948, attached hereto or to Paper No. _____ CORRECTION IS REQUIRED.
 - The proposed drawing correction filed on _____ has been approved by the examiner. CORRECTION IS REQUIRED.
 - Approved drawing corrections are described by the examiner in the attached EXAMINER'S AMENDMENT. CORRECTION IS REQUIRED.
 - Formal drawings are now REQUIRED.

Any response to this letter should include in the upper right hand corner, the following information from the NOTICE OF ALLOWANCE AND ISSUE FEE DUE: ISSUE BATCH NUMBER, DATE OF THE NOTICE OF ALLOWANCE, AND SERIAL NUMBER.

Attachments:

- Examiner's Amendment
- Examiner Interview Summary Record, PTOL-413
- Notice of Informal Application, PTO-152
- Notice re Patent Drawings, PTO-948
- Listing of Bonded Draftsmen

Reasons for Allowance

NOTICE OF ALLOWABILITY

PART I

- 1. This communication is responsive to the amendment filed on 02/19/96
- 2. All the claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice Of Allowance And Issue Fee Due or other appropriate communication will be sent in due course.
- 3. The allowed claims are 1-28, 31-39 (now renumbered as 1-37)
- 4. The drawings filed on 02/13/95 are acceptable.
- 5. Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has [-] been received. [-] not been received. [-] been filed in parent application Serial No. _____, filed on _____
- 6. Note the attached Examiner's Amendment.
- 7. Note the attached Examiner Interview Summary Record, PTOL-413.
- 8. Note the attached Examiner's Statement of Reasons for Allowance.
- 9. Note the attached NOTICE OF REFERENCES CITED, PTO-892.
- 10. Note the attached INFORMATION DISCLOSURE CITATION, PTO-1449.

PART II

A SHORTENED STATUTORY PERIOD FOR RESPONSE to comply with the requirements noted below is set to EXPIRE THREE MONTHS FROM THE "DATE MAILED" indicated on this form. Failure to timely comply will result in the ABANDONMENT of this application. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

- 1. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION, PTO-152, which discloses that the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.
- 2. APPLICANT MUST MAKE THE DRAWING CHANGES INDICATED BELOW IN THE MANNER SET FORTH ON THE REVERSE SIDE OF THIS PAPER.
 - a. Drawing informalities are indicated on the NOTICE RE PATENT DRAWINGS, PTO-948, attached hereto or to Paper No. _____ CORRECTION IS REQUIRED.
 - b. The proposed drawing correction filed on _____ has been approved by the examiner. CORRECTION IS REQUIRED.
 - c. Approved drawing corrections are described by the examiner in the attached EXAMINER'S AMENDMENT. CORRECTION IS REQUIRED.
 - d. Formal drawings are now REQUIRED.

Any response to this letter should include in the upper right hand corner, the following information from the NOTICE OF ALLOWANCE AND ISSUE FEE DUE: ISSUE BATCH NUMBER, DATE OF THE NOTICE OF ALLOWANCE, AND SERIAL NUMBER.

Attachments:

- Examiner's Amendment
- Examiner Interview Summary Record, PTOL-413
- Reasons for Allowance
- Notice of References Cited, PTO-892
- Information Disclosure Citation, PTO-1449
- Notice of Informal Application, PTO-152
- Notice re Patent Drawings, PTO-948
- Listing of Bonded Draftsmen
- Other

[Handwritten Signature]
 KENNETH J. TESKA
 SUPERVISORY PATENT EXAMINER
 GROUP 2300

I. **EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE**

II. This communication is an Examiner's reasons for allowance in response to application filed on August 09, 1995, assigned serial 08/513,298 and titled "PILOT AIDED USING SYNTHETIC REALITY".

III. The following is an Examiner's statement of reasons for the indication of allowable subject matter:

1. After carefully reviewing the application in light of the prior art of record, the amended claims and additional search of all the possible areas relevant to the present application a set of related prior art have been found, but those prior art references are not deemed strong to make the application unpatentable. Thus, it is found that the application is now in condition for allowance.

2. Although the prior art disclose several claimed limitations, none of the references teach a pilot aid which uses an aircraft's position and attitude to transform data from a digital data base to present a pilot with a synthesized three dimensional projected view of the world which includes a digital data base comprising terrain data representing real terrestrial terrain as at least one polygon and said terrain data generated from elevation data of the real terrestrial terrain (claims 1, 7, 13 and 36).

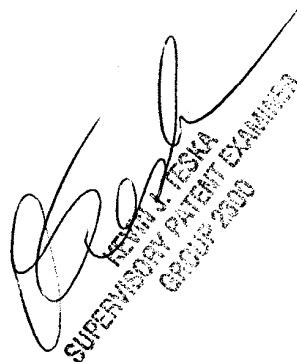
3. The closest references have been found were Beckwith et al., Behensky et al., Ulrich, Jacobs et al., Raymer et al., Patrick. However, taken individually or in combination, they do not teach or make obvious a polygon database representing real terrestrial terrain where that polygon database was generated from elevation data of real terrestrial terrain.

4. Claims 1-28 and 31-39 are allowable over the prior art of record (now renumbered as 1-37).

IV. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Tan Nguyen, whose telephone number is (703) 305-9755. The examiner can normally be reached on Monday-Thursday from 7:30 AM-6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin J. Teska, can be reached on (703) 305-9704. The fax phone number for this Group is (703) 305-9564.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3800.



KEVIN J. TESKA
SUPERVISORY PATENT EXAMINER
GROUP 2300

TAN NGUYEN
June 17, 1996

COPY

TO SEPARATE, HOLD TOP AND BOTTOM EDGES, SNAP-APART AND DISCARD CARBON

FORM PTO-892 (REV. 2-92)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	SERIAL NO. 08/513,289	GROUPART UNIT 2304	ATTACHMENT TO PAPER NUMBER 15
NOTICE OF REFERENCES CITED		APPLICANT(S) MARGOLIN		

U.S. PATENT DOCUMENTS						
*	DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE
A						
B						
C						
D						
E						
F						
G						
H						
I						
J						
K						

FOREIGN PATENT DOCUMENTS								
*	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUB-CLASS	PERTINENT SHTS. DWG.	PP. SPEC.
L								
M								
N								
O								
P								
Q								

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)	
R	Ulrich, "Tactical Mapping in Combat Aircraft", IEEE 1988, pp. 74-78
	... "Advanced Terrain Data Processor" IEEE 1994 pp.

COPY

FORM PTO-892 (REV. 2-92)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	SERIAL NO. 08/274,394	GROUPART UNIT 2304	ATTACHMENT TO PAPER NUMBER 3
NOTICE OF REFERENCES CITED		APPLICANT(S) MARGOLIN		

U.S. PATENT DOCUMENTS

	DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE
A	4028725	06/77	LEWIS	340	980	
*B	4660157	04/87	BECKWITH ET AL	305	101	
C	4910674	03/90	LERCHE	364	443	
D	4954837	09/90	BAIRD	364	449	
*E	5005148	04/91	BEHENSKY ET AL.	364	578	
F	5072396	12/91	FITZPATRICK ET AL.	364	450	
G	5192208	03/93	FERGUSON ET AL.	342	169	
H	5208590	05/93	PITTS	340	9.73	
I	5334991	08/94	WELLS ET AL.	340	705	05/92
J						
K						

FOREIGN PATENT DOCUMENTS

	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUB-CLASS	PERTINENT SHTS. DWG.	PP. SPEC.
L								
M								
N								
O								
P								
Q								

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

*R	Polhemus, P.O. Box-560, Colchester, VT, Sales brochure for 3D head tracker, Jan. 1994						
*S	Atari Games Corp. 675 Sycamore Dr., Milpitas, CA 95031 Sales brochure for coin operated video game with 3D, 1991						
*T	Atari Game Corp, 675 Sycamore, Milpitas, CA 95035, Sales brochure for coin operated video game with 3D video head tracker						

D	4	9	5	7	8	6	7	09/90	DAIKU	304	447	
*E	5	0	0	5	1	4	8	04/91	BEHENSKY ET AL.	364	578	
F	5	0	7	2	3	9	6	12/91	FITZPATRICK ET AL.	364	450	
G	5	1	9	2	2	0	8	03/93	FERGUSON ET AL.	342	169	
H	5	2	0	8	5	9	0	05/93	PITTS	340	9.73	
I	5	3	3	4	9	9	1	08/94	WELLS ET AL.	340	705	05/92
J												
K												

FOREIGN PATENT DOCUMENTS

•	L	M	N	O	P	Q	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUB-CLASS	PERTINENT	
													SHTS. DWG.	PP. SPEC.

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

*R	Polhemus, P.O. Box-560, Colchester, VT, Sales brochure for 3D head tracker, Jan. 1994												
*S	Atari Games Corp. 675 Sycamore Dr., Milpitas, CA 95035 Sales brochure for coin-operated video game with 3D, 1991												
*T	Atari Game Corp, 675 Sycamore, Milpitas, CA 95035, Sales brochure for coin-operated video game with 3D polygon-based graphics (Hard Dist.)												
U	1988												

EXAMINER Jan Nguyen	DATE 11/06/94
------------------------	------------------

A copy of this reference is not being furnished with this office action.
(See Manual of Patent Examining Procedure, section 707.05 (a).)

COPY

FORM PTO-892 (REV. 2-92)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	SERIAL NO. 08/274,394	GROUPART UNIT 2304	ATTACHMENT TO PAPER NUMBER 6
NOTICE OF REFERENCES CITED		APPLICANT(S) MARGOLIN		

U.S. PATENT DOCUMENTS

*	DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE
A	4213252	07/80	SULLIVAN ET AL.	364	125	
B	4715005	12/87	HEHRT	364	125 521	
C	5179638	01/93	DAWSON ET AL.	395	125	
D	5317689	05/94	NACK ET AL.	395	163	
E						
F						
G						
H						
I						
J						
K						

FOREIGN PATENT DOCUMENTS

*	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUB-CLASS	PERTINENT SHTS. DWG.	PP. SPEC.
L								
M								
N								
O								
P								
Q								

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

R	
S	
T	

COPY

LIST OF PRIOR ART CITED BY APPLICANT	ATTY DOCKET NO.	SERIAL NO. 08/274,394
	APPLICANT Jed Margolin	
	FILING DATE 07/11/94	GROUP 2304

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appl.
TN	AA	5,296,854	03/94	Hamilton et al.	340	980
TN	AB	5,302,964	04/94	Lewins	345	7
	AC					
	AD					
	AE					
	AF					
	AG					
	AH					
	AI					
	AJ					
	AK					

FOREIGN PATENT DOCUMENTS

	Document Number	Date	Country	Class	Subclass	Translation Yes No	
	AL						
	AM						

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, etc.)

TN	AR	Magellan Systems Corp, 960 Overland Ct, San Dimas, CA 91773 Sales brochure for GPS receiver with moving map display (MAP 7000), Jan 1994
TN	AS	Trimble Navigation; 2105 Donley Dr, Austin TX 78758 Sales brochure for Airborne GPS receiver (TNL-1000) (No date is available)

EXAMINER <i>Jean Azguly</i>	DATE CONSIDERED 11/06/94
--------------------------------	-----------------------------

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

LIST OF PRIOR ART CITED BY APPLICANT	ATTY DOCKET NO.	SERIAL NO. 08/274,394
	APPLICANT Jed Margolin	
	FILING DATE 07/11/94	GROUP 2304

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appl.
AA						
AB						
AC						
AD						
AE						
AF						
AG						
AH						
AI						
AJ						
AK						

FOREIGN PATENT DOCUMENTS

	Document Number	Date	Country	Class	Subclass	Translation	
						Yes	No
AL							
AM							

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, etc.)

TW	AR	Jeppesen Sanderson, Inc; 55 Inverness Drive East, Englewood, CO 80112 Sales brochure for navigation data base in computer readable form
	AS	U.S. Geological Service, Earth Science Information Center, Menlo Park, CA Sales brochure for Digital Elevation Model data, June 1993

EXAMINER Jan Nguyen	DATE CONSIDERED 11/06/94
------------------------	-----------------------------

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

LIST OF PRIOR ART CITED BY APPLICANT	ATTY DOCKET NO.	SERIAL NO. 08/274,394
	APPLICANT Jed Margolin	
	FILING DATE 07/11/94	GROUP 2304

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appl.
AA						
AB						
AC						
AD						
AE						
AF						
AG						
AH						
AI						
AJ						
AK						

FOREIGN PATENT DOCUMENTS

	Document Number	Date	Country	Class	Subclass	Translation Yes No	
AL							
AM							

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, etc.)

TN	AR	U.S. Geological Service, Earth Science Information Center, Menlo Park, CA Sales brochure for Digital Line Graph data, June 93					
TN	AS	U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Washington Aeronautical Chart (paper map)					

EXAMINER Jan Nguyen	DATE CONSIDERED 11/06/94
------------------------	-----------------------------

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

LIST OF PRIOR ART CITED BY APPLICANT	ATTY DOCKET NO.	SERIAL NO. 08/274,394
	APPLICANT Jed Margolin	
	FILING DATE 08/11/94	GROUP 2304

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appl.
AA						
AB						
AC						
AD						
AE						
AF						
AG						
AH						
AI						
AJ						
AK						

FOREIGN PATENT DOCUMENTS

	Document Number	Date	Country	Class	Subclass	Translation Yes No
AL						
AM						

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, etc.)

TN	AR	Polhemus, P.O.Box 560, Colchester, VT Sales brochure for 3D head tracker, Jan. 1994
TN	AS	Atari Games Corp, 675 Sycamore Dr, Milpitas, CA 95035; Sales brochure for coin-operated video game with 3D polygon-based graphics (Hard Drivin'), 1988

EXAMINER Jan Myer	DATE CONSIDERED 11/06/94
----------------------	-----------------------------

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

LIST OF PRIOR ART CITED BY APPLICANT	ATTY DOCKET NO.	SERIAL NO. <i>08/274,394</i>
	APPLICANT <p style="text-align: center;">Jed Margolin</p>	
	FILING DATE <i>07/11/94</i>	GROUP <i>2304</i>

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appl.
	AA					
	AB					
	AC					
	AD					
	AE					
	AF					
	AG					
	AH					
	AI					
	AJ					
	AK					

FOREIGN PATENT DOCUMENTS

	Document Number	Date	Country	Class	Subclass	Translation Yes No
	AL					
	AM					

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, etc.)

<i>TH</i>	AR	Atari Games Corp, 675 Sycamore Dr, Milpitas, CA 95035; Sales brochure for coin-operated video game with 3D polygon-based graphics (Steel Talons), 1991
	AS	

EXAMINER <i>Jan Nguyen</i>	DATE CONSIDERED <i>11/06/94</i>
----------------------------	---------------------------------

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.