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Technical Report



No. 13280

CREATING TITLE BLOCKS

FOR VEHICLE ANIMATIONS

AUGUST 1987

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REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188
Exp. Date: Jun 30, 1986

1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED			1b. RESTRICTIVE MARKINGS None A185620			
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release: distribution is unlimited			
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE			4. PERFORMING ORGANIZATION REPORT NUMBER(S)			
4. PERFORMING ORGANIZATION REPORT NUMBER(S)			5. MONITORING ORGANIZATION REPORT NUMBER(S) 13280			
6a. NAME OF PERFORMING ORGANIZATION U.S. Army Tank-Automotive Command		6b. OFFICE SYMBOL (if applicable) AMSTA-RYA		7a. NAME OF MONITORING ORGANIZATION U.S. Army Tank-Automotive Command		
6c. ADDRESS (City, State, and ZIP Code) Warren, MI 48397-5000			7b. ADDRESS (City, State, and ZIP Code) Warren, MI 48397-5000			
8a. NAME OF FUNDING/SPONSORING ORGANIZATION		8b. OFFICE SYMBOL (if applicable)		9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER		
8c. ADDRESS (City, State, and ZIP Code)			10. SOURCE OF FUNDING NUMBERS			
			PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO.	WORK UNIT ACCESSION NO.
11. TITLE (include Security Classification) Creating Title Blocks for Vehicle Animations (U)						
12. PERSONAL AUTHOR(S) Morlan, Christopher E.						
13a. TYPE OF REPORT Final		13b. TIME COVERED FROM Jun 87 TO Aug 87		14. DATE OF REPORT (Year, Month, Day) 87 Aug 12		15. PAGE COUNT 14
16. SUPPLEMENTARY NOTATION						
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)			
FIELD	GROUP	SUB-GROUP	MOVIE, BYU, FONT Lexidata System			
19. ABSTRACT (Continue on reverse if necessary and identify by block number) This report is intended to describe an efficient method of creating title blocks for vehicle animations. It details the use of the FORTRAN program FONT and the various manners in which the resulting title blocks may be displayed and used. to p. 7						
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT <input type="checkbox"/> DTIC USERS				21. ABSTRACT SECURITY CLASSIFICATION Unclassified		
22a. NAME OF RESPONSIBLE INDIVIDUAL David S. Rohweder			22b. TELEPHONE (Include Area Code) (313) 574-5574		22c. OFFICE SYMBOL AMSTA-RYA	

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1.0. INTRODUCTION

This report, prepared by the Physical Analytical Simulation Branch of the U.S. Army Tank-Automotive Command, describes the use of a FORTRAN program called FONT. This program was written to generate title blocks in MOVIE.BYU format for use with vehicle animations. → FONT uses the Lexidata device and the VAX 8800 computer system. ←

2.0. OBJECTIVE

The goal of this report is to enable the user to create title blocks in MOVIE.BYU format using FONT with a minimum of difficulty. To this end, step-by-step instructions and an example are included here. It is recommended, however, that the user have at least a basic understanding of MOVIE.BYU before attempting to use FONT.

3.0. CONCLUSIONS

Using this report and the program FONT, anyone with a minimal knowledge of MOVIE.BYU can create and use title blocks for vehicle animations.

4.0. RECOMMENDATIONS

FONT should be integrated with a display program if an instant viewing of the title blocks created is desired.

5.0. DISCUSSION

5.1. Planning Title Blocks

5.1.1. Use. Title blocks are usually used as leaders for video animations of vehicle simulations. They usually contain the type of vehicle, the type of simulation, the speed, and any other pertinent information the user feels necessary.

5.1.2. Data. The user must first decide on what is to be included in the title block. Once this has been determined the information should be blocked out, preferably on graph paper. In this manner the user should decide on character sizes and line spacing.

5.2. Using FONT

5.2.1. Setup. FONT must be in a directory containing the two data files, NODE.DAT and ELEM.DAT. The compiled version of the program is used by simply typing RUN FONT.

5.2.2. Running the Program. FONT will first prompt the user for line 1 of text. The next prompt will ask if the line is to be centered. If a

positive response is entered, FONT prompts for the location of the line center. The default values (if a carriage return is entered) are 10,20,0. Any coordinates may be entered, but it is important to be consistent throughout a run. If a carriage return is entered for the original centering question, the default answer is no and FONT continues.

The next prompt asks if the line is to be right-justified. If so, FONT requests the coordinates of the right edge. Once again there are default values (20,20,0) but any coordinates may be used, provided the user is aware of the resulting position relative to any text already entered. Again a return for the original question causes FONT to continue.

The following prompt, assuming the text is to be neither centered nor right-justified, simply states that the text is to be left-justified and requests the coordinates of the left edge. The defaults value here, if the user chooses not to enter some, are 0,0,0.

FONT next asks for the character size (height, width). The default values here are 1,1. Once all of this data is entered for line 1, FONT begins doing the necessary calculations. During this brief time, the user is shown a message to indicate that the program is still running. When this process is complete, the next prompt asks if another line of text is desired. If so, the above process repeats itself as many times as are necessary. Once the last line is completed, FONT requests a name for the output file to be created. The program will then write all of the data into a file and give it the appropriate name with the extension .DAT.

5.3. Using Results

5.3.1. File. As a result of running FONT, a MOVIE.BYU file will have been created, containing the data for all of the text. Each line is defined as separate part in MOVIE.BYU format.

5.3.2. Display. The resulting file can be used with any of several MOVIE.BYU display programs. The program DISPLAY may be used on a graphics terminal to view the results to check character size and line spacing. Once everything appears to be correct, the program SOLDIS3 may be used in conjunction with the Lexidax device and a color video monitor to display the results. In this manner each line may be defined by a different color for effect. When the desired colors have been found, the title may be recorded on video tape for an animation. If more elaborate titles are desired, the command SHIFT in SOLDIS3 may be used in conjunction with the multiple-images option to create thicker lettering and a shadowing effect. Light sources may also be adjusted for shadows.

5.4. Example

5.4.1. Explanation. In an effort to better convey the proper use of FONT to the user, a complete example of a run is provided here. For

this example title block, the M9 ACE vehicle will be used. It will be run on the Fort Knox course at 15 miles per hour. Since the vehicle type is the most important information, it will be on the top line and be twice the size of the other text. Therefore, line 1 will be 'M9 ACE,' line 2 will be 'Fort Knox,' line 3 will be '15 m.p.h.,' and line 4 will be 'USATACOM.' After blocking out these lines and deciding that line 1 is to be 2 high and 2 wide and the rest of the lines will be the default size 1,1 the line spacing may be assigned. (See Figures 5-1 and 5-2 for screen display examples.)

5.4.2. Example run.

R.FONT

This program will create a MOVIE.BYU geometry file containing lines of text. It will accept capitals, lowercase, numbers, and punctuation marks.

Enter text line 1

M9 ACE

Center line (Y/N)? Defaults=<N>

Y

Enter X,Y,Z coordinates of line center:

Default=<10 20 0> Note: enter 1 value per line

10

12

0

Enter height, width of characters:

Default=<1 1> Note: enter 1 value per line

2

2

One moment, please...

Do you wish to do another line of text (Y/N)?

Default=<N>

Y

Enter text line 2

Fort Knox

Center line (Y/N)? Default=<N>

n

Right justify line (Y/N)? Default=<N>

n

Text will be left-justified.

Enter X, Y, Z coordinates of lower left corner:

Default=<0 0 0> Note: enter 1 value per line

0

6

0

Enter height, width of characters:

Default=<1 1> Note: enter 1 value per line

1

1

One moment, please...

Do you wish to do another line of text (Y/N)?

Default=<N>

y
Enter text line 3
15 m.p.h.
Center line (Y/N)? Default=<N>
n
Right justify line (Y/N)? Default=<N>
n
Text will be left-justified.
Enter X,Y,Z coordinates of lower left corner:
Default=<0 0 0> Note: enter 1 value per line
0
4
0
Enter height, width of characters:
Default=<1 1> Note: enter 1 value per line
1
1
One moment, please...
Do you wish to do another line of text (Y/N)?
Default=<N>
y
Enter text line 4
USATACOM
Center line (Y/N)? Default=<N>
n
Right justify line (Y/N)? Default=<N>
y
Enter X,Y,Z coordinates of right edge:
Default=<20 20 0> Note: enter 1 value per line
20
0
0
Enter height, width of characters:
Default=<1 1> Note: enter 1 value per line
1
1
One moment, please...
Do you wish to do another line of text (Y/N)?
Default=<N>
n
Enter output filename:
test

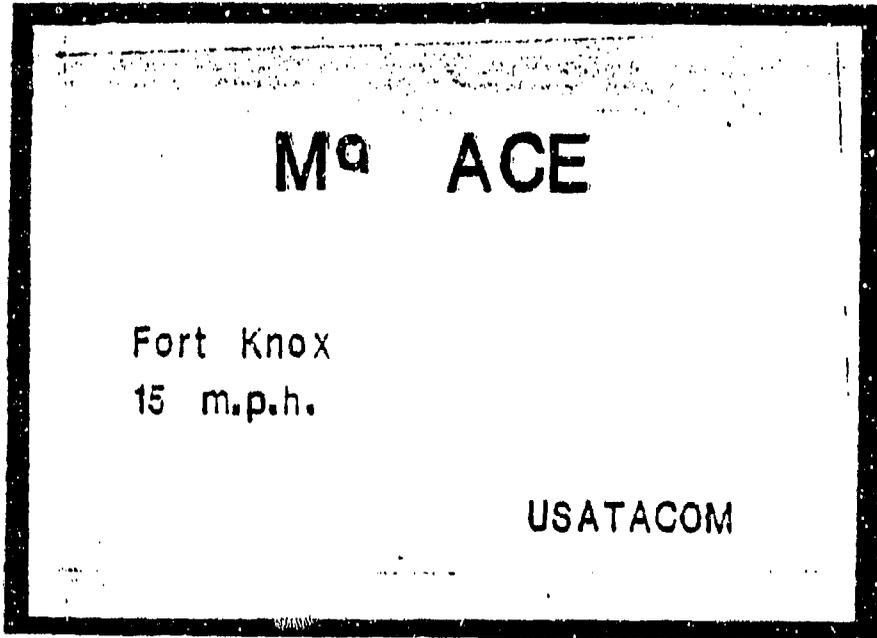


Figure 5-1. Display Picture of Example Title

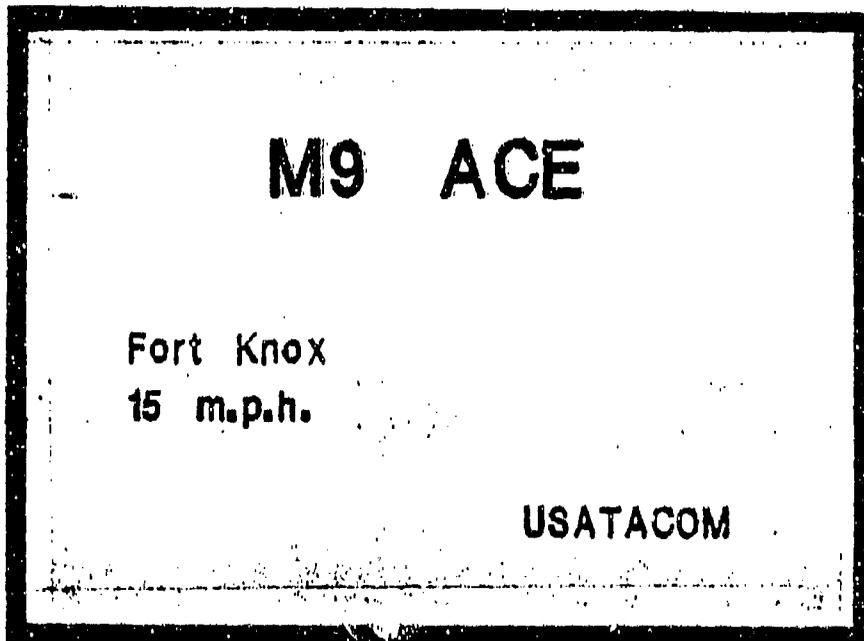


Figure 5-2. Enhanced Picture Using Shift Command

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