



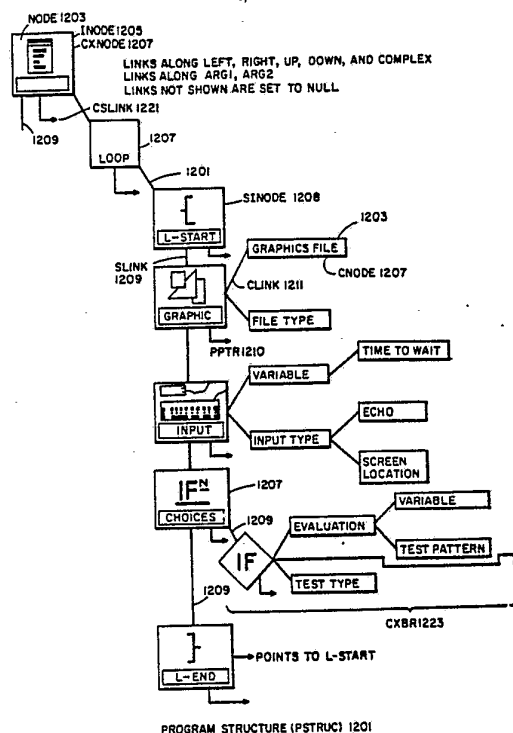
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁴ : G06F 9/44	A3	(11) International Publication Number: WO 88/ 07719 (43) International Publication Date: 6 October 1988 (06.10.88)
(21) International Application Number: PCT/US88/01081 (22) International Filing Date: 31 March 1988 (31.03.88) (31) Priority Application Number: 033,340 (32) Priority Date: 31 March 1987 (31.03.87) (33) Priority Country: US (71) Applicant: AIMTECH CORPORATION [US/US]; 77 Northeastern Boulevard, Nashua, NH 03062 (US). (72) Inventor: OLAPURATH, John, C. ; Six Woodfield Street, Nashua, NH 03062 (US). (74) Agents: SMITH, James, M. et al.; Hamilton, Brook, Smith & Reynolds, Two Militia Drive, Lexington, MA 02173 (US).		(81) Designated States: AT (European patent), BE (European patent), CH (European patent), DE (European patent), FR (European patent), GB (European patent), IT (European patent), JP, LU (European patent), NL (European patent), SE (European patent). Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 1st December 1988 (01.12.88)

(54) Title: APPARATUS FOR ICONOGRAPHICALLY REPRESENTING AND EXECUTING A PROGRAM

(57) Abstract

A visual programming system used in a digital computer system which includes memory and a graphics display terminal. The program produced by the visual programming system is represented by a program structure in memory in which nodes represent program steps and links between the nodes the order of execution of the steps. The program represented by the program structure is executed by an interpreter component of the visual programming system. A display component of the system interprets the program structure to produce a display on the graphics terminal which represents the program as a structure of interconnected icons. The icons represent program steps and their interconnections specify the order of execution. Editing components of the system permit a program author to modify the program by manipulating icons representing the steps. The editing components include a structure editor which permits an author to add icons from an icon library to the icon structure and to move icons and copy icons already in the structure and a content editor which permits the author to add user-defined content to the program step represented by an icon. The author can further define complex icons, add them to the icon library, and use the complex icons in the program structure.



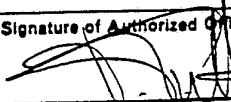
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INTERNATIONAL SEARCH REPORT

International Application No PCT/US 88/01081

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) *		
According to International Patent Classification (IPC) or to both National Classification and IPC		
IPC ⁴ : G 06 F 9/44		
II. FIELDS SEARCHED		
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Documentation Searched other than Minimum Documentation to the Extent that such Documents are included in the Fields Searched ⁸		
III. DOCUMENTS CONSIDERED TO BE RELEVANT *		
Category ⁹	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³
X	Proceedings COMPSAC 85, October 9-11, 1985 Chicago, US, IEEE (US) A, Arora et al.: "An overview of the VISE visual software development environment", pages 464-471, see page 465, right-hand column, lines 25-31; page 467, right-hand column, line 16 - page 469, right-hand column, line 39; page 470, left-hand column, lines 15-18; figures 1-4 --	1-57
X	WO, A1, 8505204 (ANALYSTS INTERNATIONAL CO.) 21 November 1985 see page 9, line 18 - page 13, line 24; claims 1,5-7; figures 3,4 --	16-22,32,36, 49-57
A	Electronics Design, vol. 34, no. 19, 21 August 1986 (Hasbrouck Heights, US) M. Schindler: "Pictures propel programming to a new plane", pages 94-104, see page 96, right-hand column, lines 19-22; figure 3 --	1-4 ./.
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IV. CERTIFICATION		
Date of the Actual Completion of the International Search	Date of Mailing of this International Search Report	
15th October 1988	- 2. 11. 88	
International Searching Authority	Signature of Authorized Officer	
EUROPEAN PATENT OFFICE	 P.C.G. VAN DER PUTTEN	

III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)		
Category*	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No
A	<p>IEEE Transactions on Software Engineering, SE-12, no. 6, June 1986, IEEE (New York, US) S.S. Yau et al.: "A survey of software design techniques", pages 713-721, see page 716, right-hand column, line 44 - page 717, left-hand column, line 41</p> <p>--</p>	1-4
A	<p>Computer, vol. 17, no. 11, November 1984 (Long Beach, US) E. Glinert et al.: "PICT, an interactive graphical programming environment", pages 7-25</p> <p>cited in the application</p> <p>-----</p>	

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