

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

(51) International Patent Classification⁶: G06F 9/34, 9/44, 13/16, 13/40	A1	(11) International Publication Number: WO 99/56205 (43) International Publication Date: 4 November 1999 (04.11.99)
(21) International Application Number: PCT/US99/04559 (22) International Filing Date: 2 March 1999 (02.03.99) (30) Priority Data: 09/069,884 29 April 1998 (29.04.98) US (71) Applicant: ATMEL CORPORATION [US/US]; 2325 Orchard Parkway, San Jose, CA 95131 (US). (72) Inventors: CURRY, Duncan; 807 Lois Avenue, Sunnyvale, CA 94087 (US). YU, Arthur, Y.; 3147 Orange Street, San Jose, CA 95127 (US). MOK, Tsung, D.; 10485 Brewer Avenue, Cupertino, CA 95014 (US). (74) Agent: SCHNECK, Thomas; Law Offices of Thomas Schneck, P.O. Box 2-E, San Jose, CA 95109-0005 (US).	(81) Designated States: CA, CN, JP, KR, NO, SG, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i>	
(54) Title: A MICROCONTROLLER INCLUDING A SINGLE MEMORY MODULE HAVING A DATA MEMORY SECTOR AND A CODE MEMORY SECTOR AND SUPPORTING SIMULTANEOUS READ/WRITE ACCESS TO BOTH SECTORS		
(57) Abstract A microcontroller (1) having a special function register to internally select between internal memory and external memory on the fly. Two data pointers (41, 43) in conjunction with the special function register result in four effective quick reference locations. The internal memory (67) consists of one memory module having its array subdivided into a data memory store (37) and a code memory store (35), and having a bank of pass devices (73) to selectively isolate the code memory store from the data memory store. The present memory (67) can further support concurrent writing to the data memory store (37) while reading from the code memory store (35).		