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Lam

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(54) **EXTERNAL MEMORY ENABLING A USER TO SELECT AN APPLICATION PROGRAM TO BE LAUNCHED BEFORE LAUNCHING AN OPERATING SYSTEM**

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Related U.S. Application Data

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G06F 15/177 (2006.01)
G06F 9/24 (2006.01)
G06F 9/00 (2006.01)

(52) **U.S. Cl.** **713/2**; 713/1; 713/100

(58) **Field of Classification Search** 713/2
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,367,074	B1 *	4/2002	Bates et al.	711/170
6,519,659	B1 *	2/2003	Stevens	710/15
6,564,318	B1 *	5/2003	Gharda et al.	713/2
6,766,478	B2 *	7/2004	Leung	714/42
6,791,572	B1 *	9/2004	Cloney et al.	345/619
6,839,836	B2 *	1/2005	Cole et al.	713/2
6,976,172	B2 *	12/2005	Girard	713/193
7,082,526	B2 *	7/2006	Chang	713/2
7,107,441	B2 *	9/2006	Zimmer et al.	713/1
7,401,249	B2 *	7/2008	Zhang	714/5
2002/0068988	A1 *	6/2002	Chan et al.	700/94
2002/0077713	A1 *	6/2002	Du et al.	700/94
2003/0060911	A1 *	3/2003	Chan et al.	700/94
2003/0093659	A1 *	5/2003	Wen et al.	713/1
2003/0187775	A1 *	10/2003	Du et al.	705/37
2003/0188144	A1 *	10/2003	Du et al.	713/1

* cited by examiner

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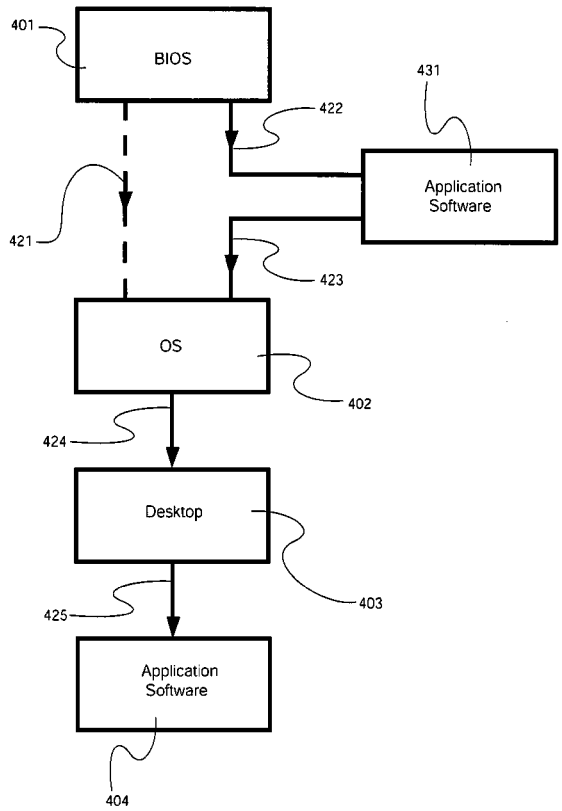
(57) **ABSTRACT**

An application program is provided to work with two operating systems of a computer. A first mode of the application program is configured to work with the computer before the primary operating system is booted. The second mode of the application program is provided to work under the environment provide by the primary operation system.

21 Claims, 5 Drawing Sheets