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Reeves et al.

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(54) **MULTI-OPERATING SYSTEM**

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(52) **U.S. Cl.**

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USPC **713/1**; 713/2

(58) **Field of Classification Search**

USPC 713/1, 2
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,396,630	A	3/1995	Banda et al.	
5,673,403	A	9/1997	Brown et al.	
5,764,984	A	6/1998	Loucks	
5,874,928	A *	2/1999	Kou	345/1.1
6,108,715	A	8/2000	Leach et al.	
6,157,959	A	12/2000	Bonham et al.	
6,178,503	B1	1/2001	Madden et al.	

(Continued)

FOREIGN PATENT DOCUMENTS

JP	7219903	8/1995
JP	08115144	5/1996

(Continued)

OTHER PUBLICATIONS

Stallman Richard, GNU Operating System: Android and Users' Freedom, Sep. 2, 2013, http://gnu.org/philosophy/android-and-users-freedom.html.*

(Continued)

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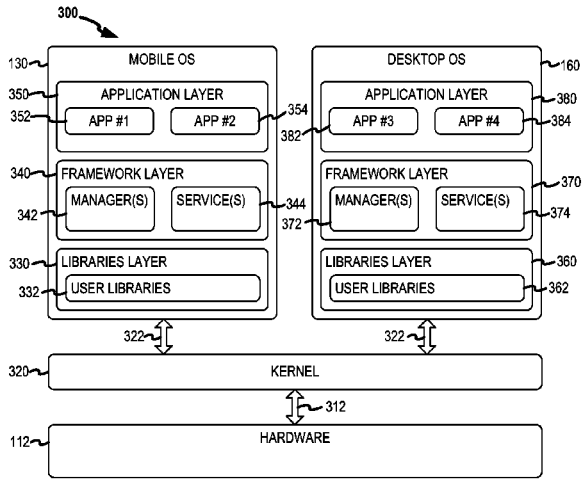
(57) **ABSTRACT**

A mobile computing device with a mobile operating system and desktop operating system running concurrently and independently on a shared kernel without virtualization. The mobile operating system provides a user experience for the mobile computing device that suits the mobile environment. The desktop operating system provides a full desktop user experience when the mobile computing device is docked to a secondary terminal environment. The mobile computing device may be a smartphone running the Android mobile OS and a full desktop Linux distribution on a modified Android kernel.

20 Claims, 9 Drawing Sheets