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(12) **United States Patent**  
**Ben-Harosh**

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(54) **HOST DEVICE COUPLED TO A USB PERIPHERAL AND METHOD OF OPERATING THE SAME**

(58) **Field of Classification Search**  
CPC .. G06F 9/4413; G06F 9/4415; G06F 41/0809;  
G06F 13/102; G06F 13/385; G06F 13/387  
(Continued)

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(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(22) PCT Filed: **Aug. 2, 2011**

EP Communication for EP 11844416 dated Feb. 10, 2015.  
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(57) **ABSTRACT**

(65) **Prior Publication Data**

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Embodiments of the present invention relate to methods and apparatus for operating a host device (e.g. a 'plug-and-play' host device) coupled to a peripheral device (e.g. a mobile phone). In some embodiments, the host device may analyze peripheral device-descriptive data (e.g. including but not limited to USB endpoint data) and determine information about the peripheral device in accordance with the results of the analysis. Operations that may be carried out by the host device in accordance with results of the analysis include but are not limited to protocol selection, retrieval of cell phone data, and determining software or hardware resource(s) of the peripheral device. In some embodiments, it is possible to actively suppress natural OS behavior whereby a device driver(s) specified by the peripheral device (e.g. in a hardware identifier) is loaded by the host device. For example, it is possible to load a surrogate driver instead. In one example, the hardware identifier is intercepted and not forwarded to a plug-and-play manager executing on the host device.

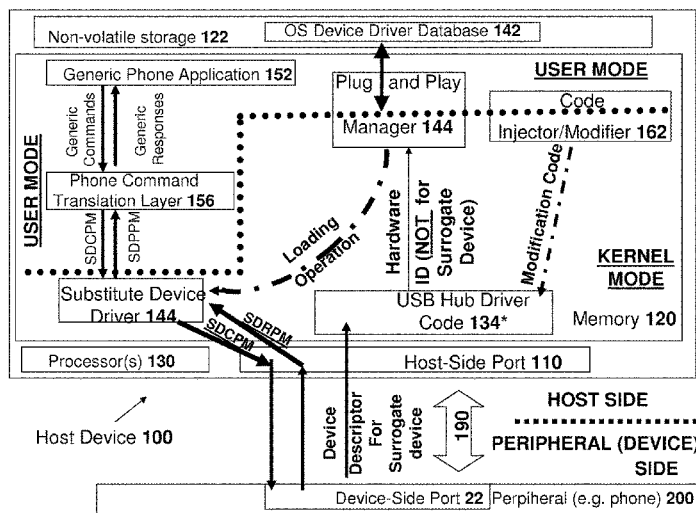
**Related U.S. Application Data**

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(51) **Int. Cl.**  
**G06F 13/12** (2006.01)  
**G06F 13/10** (2006.01)  
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(52) **U.S. Cl.**  
CPC ..... **G06F 13/102** (2013.01); **G06F 9/4413**  
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**13/387** (2013.01)

**31 Claims, 39 Drawing Sheets**





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(54) **HOST DEVICE COUPLED TO A MOBILE PHONE AND METHOD OF OPERATING THE SAME**

(58) **Field of Classification Search**  
CPC ..... H04W 8/245; H04W 24/00; H04W 24/02;  
H04W 24/06; H04W 24/08; H04W 88/02;  
H04W 16/18

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(73) Assignee: **MCE-SYS Ltd.**, Tel Aviv (IL)

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(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(21) Appl. No.: **14/774,136**

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(57) **ABSTRACT**

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Some embodiments relate to a host-side surrogate tool configured to service mobile phones from a host device that is coupled to one or more peripheral cell phones. The presently-disclosed host-side surrogate tool executes on the host device concurrently with one or more software components of a vendor-compliant phone maintenance tool. In some embodiments, the concurrently-executing host-side surrogate tool may cause the vendor-compliant phone maintenance tool to provide functionality for which it was not intended. In some embodiments, it may be said that the host-side surrogate tool provides a 'semi-virtual' environment under which host-side vendor-compliant phone maintenance tool operates. Related methods, devices and systems are disclosed herein.

**Related U.S. Application Data**

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**H04W 8/22** (2009.01)  
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**6 Claims, 14 Drawing Sheets**

