



Office de la Propriété
Intellectuelle
du Canada

Un organisme
d'Industrie Canada

Canadian
Intellectual Property
Office

An agency of
Industry Canada

CA 2493196 C 2009/09/22

(11)(21) **2 493 196**

(12) **BREVET CANADIEN
CANADIAN PATENT**

(13) **C**

(86) Date de dépôt PCT/PCT Filing Date: 2003/07/23
 (87) Date publication PCT/PCT Publication Date: 2004/01/29
 (45) Date de délivrance/Issue Date: 2009/09/22
 (85) Entrée phase nationale/National Entry: 2005/01/21
 (86) N° demande PCT/PCT Application No.: CA 2003/001104
 (87) N° publication PCT/PCT Publication No.: 2004/010306
 (30) Priorité/Priority: 2002/07/23 (US60/397,621)

(51) Cl.Int./Int.Cl. *G06F 12/02* (2006.01),
G06F 12/12 (2006.01), *H04W 88/02* (2009.01),
G06F 15/02 (2006.01)

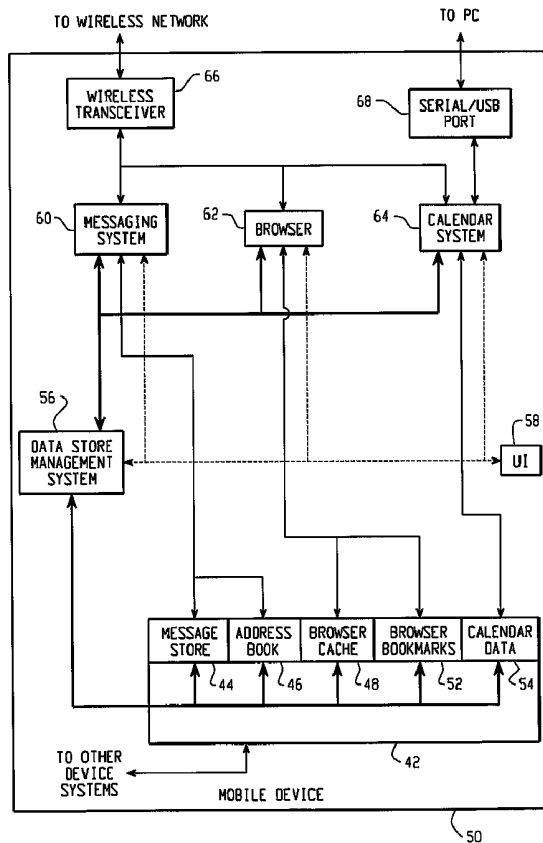
(72) Inventeurs/Inventors:
KLASSEN, GERHARD D., CA;
MAURICE, ROBBIE J., CA

(73) Propriétaire/Owner:
RESEARCH IN MOTION LIMITED, CA

(74) Agent: BORDEN LADNER GERVAIS LLP

(54) Titre : SYSTEME DE GESTION DE MEMOIRE DE DONNEES ET PROCEDE DESTINE A DES APPAREILS SANS
FIL

(54) Title: DATA STORE MANAGEMENT SYSTEM AND METHOD FOR WIRELESS DEVICES



(57) Abrégé/Abstract:

In accordance with the teaching described herein, systems and methods are provided for managing memory space in a mobile device (50). A plurality of data storage locations (44, 46, 48, 52, 54) may be included. A plurality of software applications may be

(57) **Abrégé(suite)/Abstract(continued):**

included, with each software application being operable to store data to a different data storage location (44, 46, 48, 52, 54). A data store management system (56) may be operable to access and delete data stored in the plurality of data storage locations (44, 46, 48, 52, 54). If insufficient memory space is available in one of the data storage locations, then the data store management system (56) may access the one data storage location and at least one other data storage location and delete data from at least one of the accessed data storage locations.

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
29 January 2004 (29.01.2004)

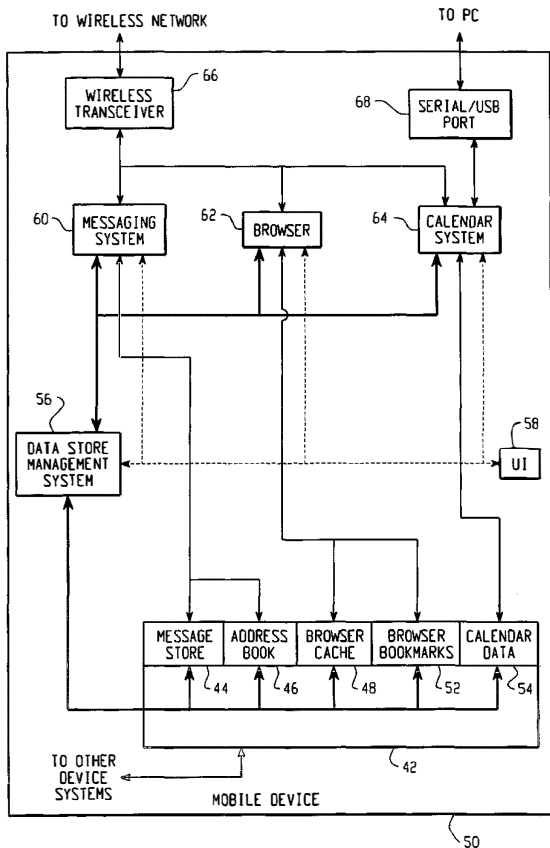
PCT

(10) International Publication Number
WO 2004/010306 A1

- (51) International Patent Classification⁷: **G06F 12/12**, H04M 1/725, 1/2745, G06F 12/02, 12/08, 1/26, H04M 1/73
- (72) Inventors; and
(75) Inventors/Applicants (for US only): **KLASSEN, Gerhard, D.** [CA/CA]; 510 Heatherhill Place, Waterloo, Ontario N2T 1H7 (CA). **MAURICE, Robbie, J.** [CA/CA]; 597 Winterburg Walk, Waterloo, Ontario N2V 2M8 (CA).
- (21) International Application Number: PCT/CA2003/001104
- (74) Agents: **ARMSTRONG, Craig, R.** et al.; Borden Ladner Gervais LLP, 1100-100 Queen Street, Ottawa, Ontario K1P 1J9 (CA).
- (22) International Filing Date: 23 July 2003 (23.07.2003)
- (25) Filing Language: English
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (26) Publication Language: English
- (30) Priority Data: 60/397,621 23 July 2002 (23.07.2002) US
- (71) Applicant (for all designated States except US): **RESEARCH IN MOTION LIMITED**[CA/CA]; 295 Phillip Street, Waterloo, Ontario N2L 3W8 (CA).
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),

[Continued on next page]

(54) Title: DATA STORE MANAGEMENT SYSTEM AND METHOD FOR WIRELESS DEVICES



(57) Abstract: In accordance with the teaching described herein, systems and methods are provided for managing memory space in a mobile device (50). A plurality of data storage locations (44, 46, 48, 52, 54) may be included. A plurality of software applications may be included, with each software application being operable to store data to a different data storage location (44, 46, 48, 52, 54). A data store management system (56) may be operable to access and delete data stored in the plurality of data storage locations (44, 46, 48, 52, 54). If insufficient memory space is available in one of the data storage locations, then the data store management system (56) may access the one data storage location and at least one other data storage location and delete data from at least one of the accessed data storage locations.

WO 2004/010306 A1

WO 2004/010306 A1



Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,

- of inventorship (Rule 4.17(iv)) for US only

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

**DATA STORE MANAGEMENT SYSTEM AND
METHOD FOR WIRELESS DEVICES**

TECHNICAL FIELD

5 The technology described in this patent document relates generally to the field of data stores. More particularly, the patent document describes a data store management system and method that is particularly well-suited for use with a mobile communication device, such as a wireless two-way messaging device, a cellular telephone, a personal digital assistant (PDA), or other mobile
10 communication device having limited memory space.

BACKGROUND ART

 Known mobile communication devices typically have limited memory space relative to personal computers (PCs). PCs, including laptop and desktop
15 computers, for example, normally have at least tens of megabytes (Mb) of random access memory (RAM) in addition to gigabytes of other storage, such as one or more hard disk drives. However, due mainly to power supply and physical space limitations, mobile communication devices are typically provided with much less memory than PCs. Due to the limited memory resources on a typical mobile
20 communication device, enhanced device applications, such as electronic messaging, web browsing, calendar management, and the like, may quickly exhaust available memory space. Thus, typical mobile communication devices often employ memory management functions to make better use of available memory resources. For example, when additional memory space is require in a
25 typical mobile communication device, the device's memory management system may delete oldest or least-used data from memory to make room for new information.

DISCLOSURE OF INVENTION

30 In accordance with the teaching described herein, systems and methods are provided for managing memory space in a mobile device. A plurality of data storage locations may be included. A plurality of software applications may be included, with each software application being operable to store data to a different

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.