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Datasheet for the decision of 2 February 2010

Case Number: T 0963/06 - 3.5.05

Application Number: 01995527.7

Publication Number: 1428348

IPC: H04L 12/00

Language of the proceedings: EN

Title of invention:
Information browser system and method for a wireless communication device

Applicant:
Research In Motion Limited

Headword:
Information browser system/RESEARCH IN MOTION

Relevant legal provisions:
EPC Art. 52(1), 123(2)

Relevant legal provisions (EPC 1973):
EPC Art. 56, 84, 106, 107, 108

Keyword:
"Clarity and support by the description - yes (after amendment)"
"Added subject-matter - no (after amendment)"
"Inventive step - yes (after amendment)"

Decisions cited:
J 0010/07

Catchword:
-

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Case Number: T 0963/06 - 3.5.05

D E C I S I O N
of the Technical Board of Appeal 3.5.05
of 2 February 2010

Appellant: Research In Motion Limited
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 19 January 2006 refusing European patent application No. 01995527.7 pursuant to Article 97(1) EPC 1973.**

Composition of the Board:

Chairman: D. H. Rees
Members: P. Corcoran
G. Weiss

Summary of Facts and Submissions

I. This is an appeal against the decision of the examining division to refuse the European patent application No. 01 995 527.7 published as No. 1 428 348. The decision was announced in oral proceedings held on 12 December 2005 and written reasons were dispatched on 19 January 2006.

II. In the decision under appeal reference was made to the following documents cited during the examination procedure (cf. decision: I. Summary of Facts and Submissions, in particular I.4, I.8 and I.9):

D1: "Multi-modal Data Access", RESEARCH DISCLOSURE, No. 426, October 1999, pp. 1393-1396, Kenneth Mason Publications, GB, ISSN: 0374-4353;

D2: C. FREYTAG et al.: "Resource adaptive WWW access for mobile applications", COMPUTERS & GRAPHICS, vol. 23, no. 6, December 1999, pp 841-848, Pergamon Press Ltd., GB, ISSN: 0097-8493;

D3: B. SCHILIT et al.: "TeleWeb: Loosely connected access to the World Wide Web", COMPUTER NETWORKS AND ISDN SYSTEMS, vol. 28, no. 11, May 1996, pp.1431-1444, North Holland Publishing, NL, ISSN: 0169-7552;

D4: US 5 675 507 A;

D5: EP 0 911 728 A;

D6: US 6 105 028 A;

D7: L. HOFF: "Netscape Plug-Ins", LINUX JOURNAL, Volume 1999, Issue 65es, Article No. 5, September 1999, ISSN: 1075-3583, [Retrieved from the Internet on 28 November 2005, URL: http://www.linuxjournal.com/article/3088];

D8: S. BJÖRK et al.: "WEST: A Web Browser for Small Terminals", PROCEEDINGS OF THE 12th ANNUAL ACM SYMPOSIUM ON USER INTERFACE SOFTWARE AND TECHNOLOGY, UIST'99, November 7-10 1999, US, pp.187-196, ACM, ISBN:1-58113-075-9.

III. The decision under appeal was based on a main request and three auxiliary requests.

The examining division found that the subject matter of claims 1 and 15 of the main request lacked inventive step in view of D1 combined with general knowledge in respect of which reference was made to the disclosures of D2 and D8 (cf. decision: II Reasons for the Decision, MAIN REQUEST items 1.1 and 1.2). Claims 1 and 15 of the first and second auxiliary requests were likewise found to lack inventive step. Claims 1 and 15 of the third request were found to infringe Article 123(2) EPC.

IV. Notice of appeal was filed with a letter dated 14 March 2006 which was received by telefax at the EPO on 15 March 2006. The appeal fee was paid on 17 March 2006 A statement setting out the grounds of appeal dated 29 May 2006 was received at the EPO by telefax on the same date. With the statement setting out the grounds, the appellant submitted a new main request and five auxiliary requests. The statement setting out the grounds also included a precautionary request for oral proceedings.

V. In a communication accompanying a summons to oral proceedings to be held on 2 February 2010 the board gave its preliminary opinion that none of the applicant's requests were allowable.

VI. The following additional prior art documents were referred to by the board in its communication:

D9: T. W. BICKMORE et al.: "Digestor: device-independent access to the World Wide Web", SELECTED PAPERS FROM THE 6th INTERNATIONAL CONFERENCE ON THE WORLD WIDE WEB, pp.1075-1082, September 1997, Elsevier Science Publishers Ltd., US, ISSN:0169-7552;

D10: Nokia 9000i Communicator User's Manual, Chapters 1 and 7, Nokia Mobile Phones Ltd., 1998;

D11: J. F. BARTLETT: "Experience with a Wireless World Wide Web Client", Technical Note TN-46, March 1995, Digital Western Research Laboratory;

D12: B. J. THOMAS: "The World Wide Web for Scientists & Engineers", Glossary p.337, SPIE Press, 1998, ISBN 0-8194-2775-6;

D13: C. SZYPERSKI: "Component Software", p.3-13 and 84-87, ACM Press, 1998, ISBN: 0-201-17888-5.

VII. With respect to the main request, the board noted objections under Articles 83 and 84 EPC 1973. Without prejudice to these objections, the board was of the preliminary opinion that the independent claims of the request were not allowable due to lack of an inventive step. Taking account of the appellant's submissions relating to D1, the board considered that it was more appropriate to use D9 as the closest prior art. The board was of the opinion that starting from the prior art of D9, the skilled person would arrive at the subject-matter of claim 1 on the basis of his common general knowledge and routine design skills.

With respect to the first auxiliary request, the board noted objections under Articles 83, 84 EPC 1973 and 123(2) EPC. Without prejudice to these objections, the board was of the preliminary opinion that the independent claims of the request were not allowable due to lack of an inventive step. Similar objections were raised against the further auxiliary requests.

VIII. With a letter of reply dated 31 December 2009 and received at the EPO by telefax on the same date, the appellant submitted fifteen amended sets of claims corresponding to new first to fifteenth auxiliary requests. The five auxiliary requests previously filed with the statement of grounds were maintained, being renumbered as the sixteenth to twentieth auxiliary requests. The appellant also submitted amended pages 4, 4a and 34 of the description.

The appellant also submitted a number of extracts from textbooks with the aim of establishing that the meaning of the terms "converting" and "rendering" was clear.

IX. At the oral proceedings the appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of claims 1 and 2 of a new request submitted at the oral proceedings. All other requests were withdrawn.

X. Claim 1 of the appellant's request reads as follows:

"A wireless device (300, 900) and a web browser (100, 800) implemented in the wireless device (300; 900), the web browser comprising:

a raw data cache (126) for storing input data, received over a wireless network, for a web page;

at least one converter (206) for converting the input data for the web page into an object that can be rendered;

means (204) for selecting a converter;

at least one renderer (208) for rendering the object that can be rendered to create a rendered page object (124) for display by a browser object (106);

a browser object (106) for displaying the rendered page object (124); and

a page cache (114) for storing the rendered page object (124),

wherein a background operation to load and display a new page is initiated if an information request is made by entering a URL or selecting a link on a displayed page, and

wherein the background operation attempts to download the new page from an information source through a network request if no valid copy of the new web page is stored in the page cache,

and the wireless device (300, 900) having a message store to which the returned content is stored if an information request is completed after the browser has been closed."

Claim 2 of the appellant's request reads as follows:

"A method of browsing on a wireless communication device, the method comprising the steps of:

storing, in a raw data cache, input data for a web page received over a wireless network;

selecting a converter;

converting the input data using the selected converter into an object that can be rendered;

rendering the page to create a rendered page object for display by a browser object;

displaying the rendered page object; and

storing the rendered page object in a page cache,

wherein a background operation to load and display a new web page is initiated if an information request is made by entering a URL or selecting a link on a displayed page,

wherein the background operation attempts to download the new page from an information source through a network request if no valid copy of the new web page is stored in the page cache,

and wherein the returned content is stored to a message store of the wireless communication device if an information request is completed after the browser has been closed."

XI. The further application documents on which the appellant's request is based are as follows:

Description, pages:
1-3, 5-33 as published;
4,4a and 34 as filed with the letter dated 31 December 2009.
Drawings, sheets:
1/15-15/15 as published.

XII. At the end of the oral proceedings the chairman announced the board's decision.

Reasons for the Decision

1. *Admissibility*

1.1 The appeal complies with the provisions of Articles 106 to 108 EPC 1973 which are applicable according to J 0010/07, point 1 (cf. Facts and Submissions, item IV. above). Therefore it is admissible.

2. *Claim 1 - Article 84 EPC 1973 and 123(2) EPC*

2.1 Claim 1 of the main request is directed towards a wireless device and a web browser implemented in the wireless device.

2.2 According to the claim the web browser comprises the following features:

(a) a raw data cache for storing input data, received over a wireless network, for a web page;

(b) at least one converter for converting the input data for the web page into an object that can be rendered;

(c) means for selecting a converter;

(d) at least one renderer for rendering the object that can be rendered to create a rendered page object for display by a browser object;

(e) a browser object for displaying the rendered page object; and

(f) a page cache for storing the rendered page object.

2.3 The claim further specifies the following:

(g1) wherein a background operation to load and display a new page is initiated if an information request is made by entering a URL or selecting a link on a displayed page;

(g2) wherein the background operation attempts to download the new page from an information source through a network request if no valid copy of the new web page is stored in the page cache; and

(g3) wherein the returned content is stored to a message store of the wireless communication device if an information request is completed after the browser has been closed.

2.4 The features of the web browser enumerated as (a)-(f) in 2.2 above correspond to the features of claim 1 of the main request on which the decision under appeal was based. Support for these features can be found in the description as follows (references to published application):

Feature (a): cf. p.11 l.18-21 which discloses a raw data cache as claimed.

Features (b), (c) and (d): cf. p.13 l.6-19 which discloses at least one converter, means for selecting a converter and at least one renderer as claimed.

Feature (e): cf. p.10 l.6-22 which discloses a browser object as claimed.

Feature (f): cf. p.11 l.12-16 which discloses a page cache as claimed.

2.5 The additional features of claim 1, i.e. items (g1) - (g3) as enumerated in 2.3 above, are based on an embodiment of the invention disclosed, in particular, on p 5 l.3-11, p.11 l.5-10, p.26 l.8 - p.33 l.3 of the published application. According to this embodiment, the web browser has a background processing object which permits the browser to access information after the browser has been closed (cf. p 5 l.3-11). Requests which have been initiated by a user when the browser is open may continue execution as background operations after the browser has been closed in which case the returned content is stored to a message store from

which it can be subsequently accessed during the next browser session (cf. p.11 l.5-10; p.32 l.21 - p.33 l.3).

2.6 In the light of the documents submitted by the appellant with the letter of 31 December 2009 the board is satisfied that the term "to render" was well-defined and would have been understood by the person skilled in the art at the priority date of the application. As a consequence it would also have been clear to the skilled person what functions a "converter" would be required to perform in the context of the claimed invention and, moreover, it would have been within the capacities of the skilled person to provide converters appropriate to different formats of web pages.

2.7 In the board's judgement, the definition of the claimed invention in claims 1 is clear and supported by the description as required by Article 84 EPC 1973. In view of the fact that the passages of the description providing support for the claimed subject-matter form part of the application documents as originally filed, the board concludes that the requirements of Article 123(2) EPC are also complied with.

3. *Claim 1 - Articles 52(1) EPC and 56 EPC 1973*

3.1 D9 relates to the automatic re-authoring of documents from the world-wide web in order to provide device-independent access to the web (cf. D9: Abstract; p.1076, 2. Approaches to device independent access, in particular right-hand col. l.28 et seq.). In the board's judgement, this document represents the closest prior art to the subject-matter of claim 1.

3.2 D9 discloses the provision of access to world-wide web documents from wireless personal electronic devices such as the Nokia 9000 Communicator (cf. D9: p.1075, 1. Introduction, first paragraph; p.1076, 2. Approaches to device independent access, second paragraph). On this basis D9 is found to disclose, at least implicitly, in the wording of claim 1 "a wireless device and a web browser implemented in the wireless device", i.e. a wireless device with web browsing software. It is further implicit to the skilled person that the web browsing software used to access world-wide web documents on the wireless device would be inherently suitable for displaying the rendered page objects of the present application. D9 thus discloses, at least implicitly, feature (e) of claim 1, i.e. a browser object for displaying a rendered page object.

3.3 D9 further discloses an automatic re-authoring approach to displaying web pages on small screen devices. This approach consists of applying a series of transformations to a web page so that it can be appropriately displayed on a particular device (cf. D9: p.1076, 2. Approaches to device independent access, in particular right-hand col. l.28 et seq.).

According to the appellant's submissions the terms "converting" and "rendering" used in the present application were well known to the skilled person and denote conventional operations relating to the transformation of source data such as HTML into a format that could be displayed or otherwise output on a user device. The appellant has not, however, established to the board's satisfaction that there is any effective difference between the "transformations"

applied to a web page in accordance with the automatic re-authoring approach of D9 and the "converting" and "rendering" operations of the present application.

On this basis, D9 is also found to disclose the provision of functionality substantially identical to features (b), (c) and (d) of claim 1.

3.4 D9 further discloses that the transformation processes which are applied to the web page can be performed either on the client, on the server or on an intermediary proxy server (cf. D9: p.1076, right-hand col., l.34-37). A proxy server was used for a prototype implementation (cf. D9: p.1080, 5. Implementation, first paragraph), but D9 also states that the re-authoring system can be moved to the client and coupled with the browser (cf. D9: p.1081, 6.1 Future work, right-hand col. l.6-8).

D9 is thus found to further disclose, at least implicitly, that the functionality referred to in 3.3 above is provided in conjunction with the browser of a wireless device as required by claim 1.

3.5 In view of the foregoing, the subject matter of claim 1 is found to differ from the disclosure of D1 in the following respects:

(i) D9 does not disclose a raw data cache, i.e. feature (a).

(ii) D9 does not disclose a page cache, i.e. feature (f).

(iii) D9 does not disclose the provision of functionality corresponding to the group of features (g1)-(g3).

3.6 In the board's judgement, the aforementioned distinguishing features solve independent partial technical problems and may therefore be considered separately for the purposes of assessing inventive step.

3.7 With respect to feature (a) the following is noted:

3.7.1 The technical effect associated with the claimed raw data cache is a reduction in the time needed to access previously retrieved raw data because if such data is already present locally in the raw data cache on the client device it does not need to be retrieved across the network from a remote site (cf. application: p.12 l.16-17).

3.7.2 The partial technical problem addressed by this feature may thus be formulated as how to reduce the time required to service requests for accessing previously retrieved raw data.

3.7.3 The board notes in this regard that, in the context of web browsers, it was generally known to provide client-side caches for locally storing copies of data retrieved from a remote site over a network. An example of such a cache associated with a web browser on a wireless device is disclosed in D10 which relates to the Nokia 9000i Communicator, a commercially available wireless device comprising a web browser and cache for storing data received over a wireless network (cf. D10: Chapter 7, in particular p.7-11, "WWW settings", "Clear cache and history", and p.7-13 "Locally stored WWW pages").

3.7.4 In view of the foregoing, the board concludes that the skilled person faced with the stated partial technical problem would not require the exercise of inventive skill to provide a raw data cache as recited in claim 1. The provision of such a cache represents an obvious design choice which is freely available to the skilled person in the given context and the technical effect of which can be readily foreseen by the skilled person.

3.8 With respect to feature (b) the following is noted:

3.8.1 The technical effect associated with the claimed page data cache is the reduction of the delay in displaying a previously accessed page object when the user wishes to revisit it.

3.8.2 The partial technical problem which this feature solves may thus be formulated as improving the response time of the client device when servicing requests to revisit previously displayed web pages.

3.8.3 Improving the response time of a client device is a general design aim of the skilled person. Hence posing the problem lies within the routine competence of the skilled person and, in the board's judgement, does not require the exercise of inventive skill.

3.8.4 In the given context, a "rendered page object" is the end result of a set of transformation operations. If a user wants to revisit a web page, it is evident that regenerating the "rendered page object" from scratch will involve a computational delay due to repeating the

requisite transformation operations. The extent of this delay will ultimately depend on the complexity of the processing operations and the capabilities of the client device.

The skilled person can be expected to recognise without the exercise of inventive skill that the need to re-generate the "rendered page object" from scratch may be eliminated by storing a copy of the end result of the aforementioned transformation operations in a cache. As evidenced by D12 (cf. D12: p.337, entry for "caching"), caching is a generally known technical measure used to reduce latency and to improve response times which can, in principle, be applied to any type of data with the aim of enhancing performance.

3.8.5 The appellant has submitted that none of the cited prior art documents disclose the provision of an additional cache corresponding to the page cache of the present application. However, the board takes the view that the provision of this additional cache represents a further obvious design choice which is freely available to the skilled person in the given context. Moreover, the technical effect resulting from this design choice can be readily foreseen by the skilled person. In the board's judgement, the mere fact that such a cache is not disclosed in any of the cited prior art documents is not sufficient to establish that its provision involves an inventive step when due account is taken of the skilled person's general knowledge and routine design skills.

3.8.6 In view of the foregoing, the board concludes that the provision of a page cache as recited in claim 1

represents an obvious solution to the further partial technical problem stated in 3.8.2 above.

3.9 With respect to the feature group (g1)-(g3), the following is noted:

3.9.1 These features define an arrangement according to which an information request initiated as a background operation when the browser is closed may continue execution after the browser has been closed with the returned content being stored to a message store (cf. p 11 l.5-10; p.32 l.21 - p.33 l.3). As submitted by the appellant, such an arrangement allows the user to close the browser and switch to performing another task on the client device while a previously initiated information request from the browser is completed in the background.

3.9.2 In an *obiter dictum* following the decision under appeal the examining division expressed its opinion that dependent claims relating to provision of a background processing object which permits the browser to access information after the browser has been closed and to the provision of a message store containing processing results from the background object lacked an inventive step in view of the disclosure of D3 (cf. decision: Obiter Dictum, III.2.5, in particular items II and IV, p.19). The board does not, however, consider the disclosure of D3 to be prejudicial to the feature group (g1)-(g3) of the present claim 1.

3.9.3 D3 discloses a "daemon process" resident on a portable host and interposed between a browser and a network. This daemon process acts like a caching proxy in that

it receives requests from the browser and either passes them on to the network or, if the requested page is in its cache, services the request itself (cf. D3: Section 4.1 System overview, first paragraph). In a further passage of D3 referred to by the examining division, it is stated that the system of D3 "introduces an asynchronous email style to mobile browsing" (cf. decision: Obiter Dictum, III.2.5, paragraph bridging p.19-20). This is achieved by providing support for disconnected browsing by means of a cache, i.e. the caching proxy functionality of the daemon process, and by maintaining a queue of user requests that will trigger when certain conditions are met, e.g. availability of a high-speed network connection (cf. D3: p.1436, left-hand col. l.33-39).

3.9.4 The board notes in this regard that the aim of the aforementioned functionality of the TeleWeb system of D3, i.e. providing support for disconnected browsing and maintaining a queue of user requests that will trigger when certain conditions are met, is cost management (cf. D3: p.1436 left-hand col. l.26-33). The system of D3 is specifically designed to manage the costs associated with the servicing of information requests e.g. by limiting the retrieval of content, postponing retrieval operations or interrupting transfers based on predefined budgetary constraints and the type of network connectivity currently available (cf. D3: p.1434, Section 2.2 Controlling costs).

In this context, supporting disconnected browsing allows browsing of cached content to take place without incurring connection costs (cf. D3: Section 1., in particular, p.1432, left-hand col. l.23-28).

Maintaining a queue of user requests that will trigger when certain conditions are met allows the user to exercise control over the costs incurred when servicing information retrieval requests (cf. D3: Section 1., in particular, p.1432, left-hand col. l.23 et seq.; Section 2.2, in particular p.1434 right-hand col. l.17-28).

3.9.5 The feature group (g1)-(g3) of claim 1 permits an information request to be initiated by the user when the browser is open, i.e. "an information request ... made by entering a URL or selecting a link on a displayed page" in the wording of claim 1, and to continue and proceed to completion after the browser has been closed in which case the returned content is stored to an intermediate buffer, i.e. the "message store".

3.9.6 As noted in 3.9.4 above, the system of D3 is specifically designed to manage the costs associated with the servicing of information requests. Information requests can be suspended, for example when connectivity is interrupted, and queued for resumption at a later point when connectivity is available at an acceptable cost (cf. D3: p.1432, left-hand col. l.7 - right-hand col. l.13).

However, although the daemon process of D3 can be considered as a process which initiates a "background operation" to load and display a new page, there is no identifiable disclosure in D3 to the effect that an information request which has been initiated by the user in the browser when the browser is open will continue and proceed to completion after the browser

has been closed as specified in claim 1. Neither is there any identifiable indication or suggestion in D3 which would motivate the skilled person to modify the system disclosed therein to include such functionality.

3.9.7 The board therefore finds that D3 neither discloses nor suggests the provision of functionality corresponding to that of the feature group (g1)-(g3) of claim 1. Neither is there any identifiable disclosure or suggestion relating to the provision of such functionality in the other cited prior art documents.

The board further notes in this regard that it sees no grounds for considering the incorporation of such functionality into the system of D9 to be obvious on the basis of the skilled person's general knowledge and routine design skills. Although it can be argued that the required functionality could be provided without undue difficulty, there is no evident reason as to why the skilled person would introduce such a modification into the system of D9.

3.10 In view of the foregoing, the board's finding that the provision of features (a) and (f) of claim 1 does not require the exercise of inventive skill in the light of the skilled person's common general knowledge and routine design skills does not apply to the feature group (g1)-(g3) of said claim. The board thus concludes that the subject-matter of claim 1 involves an inventive step over D9 due to the presence of this feature group.

4. *Claim 2*

4.1 Claim 2 recites similar subject-matter to claim 1 in the from of a method claim. The observations made in respect of claim 1 under 2. and 3. above apply *mutatis mutandis* to claim 2.

5. The board therefore judges that it is appropriate to remit the case to the department of the first instance for grant of a patent on the basis of the amended claims submitted at the oral proceedings and a description and drawings to be adapted if and as necessary.

Order

For these reasons it is decided that:

– The decision under appeal is set aside.

– The case is remitted to the department of the first instance with the order to grant a patent on the basis of claims 1 and 2 submitted at the oral proceedings and a description and drawings to be adapted if and as necessary.

The Registrar: The Chairman:

K. Götz D. H. Rees