

Internal distribution code:

- (A) [-] Publication in OJ
(B) [-] To Chairmen and Members
(C) [-] To Chairmen
(D) [X] No distribution

**Datasheet for the decision
of 4 October 2012**

Case Number: T 1869/08 - 3.5.04

Application Number: 02777626.9

Publication Number: 1493277

IPC: H04N7/173, H04N7/16

Language of the proceedings: EN

Title of invention:

METHOD AND APPARATUS FOR RECOMMENDING ITEMS OF INTEREST TO A
USER BASED ON RECOMMENDATIONS OF ONE OR MORE THIRD PARTIES

Applicant:

Koninklijke Philips Electronics N.V.

Headword:

Relevant legal provisions:

EPC 1973 Art. 56

Keyword:

Inventive step - (no)

Decisions cited:

T 641/00, T 154/04

Catchword:



**Beschwerdekammern
Boards of Appeal
Chambres de recours**

European Patent Office
D-80298 MUNICH
GERMANY
Tel. +49 (0) 89 2399-0
Fax +49 (0) 89 2399-4465

Case Number: T1869/08 - 3.5.04

D E C I S I O N
of the Technical Board of Appeal 3.5.04
of 4 October 2012

Appellant: Koninklijke Philips Electronics N.V.
(Applicant) Groenewoudseweg 1
5621 BA Eindhoven (NL)

Representative: Verweij, Petronella Danielle
Philips Intellectual Property & Standards
P.O. Box 220
5600 AE Eindhoven (NL)

Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted 27 June 2008
refusing European patent application No.
02777626.9 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman: F. Edlinger
Members: R. Gerdes
C. Vallet

Summary of Facts and Submissions

- I. The appeal is directed against the decision to refuse European patent application No. 02 777 626.9.
- II. The patent application was refused by the examining division in accordance with Article 97(2) EPC because the independent claims according to the applicant's main and auxiliary requests were found to be unclear and their subject-matter was found to lack inventive step in view of the prior-art document

D1: WO 01/15449 A1.
- III. With the statement setting out the grounds of appeal the appellant filed a set of amended claims replacing the claims on which the decision under appeal was based.
- IV. In a communication annexed to the summons to oral proceedings, the board *inter alia* raised objections under Article 56 EPC 1973.
- V. Oral proceedings before the board were held on 4 October 2012. Nobody attended the oral proceedings on behalf of the appellant. The board noted that the appellant had submitted sets of amended claims of a main request and of a first to a seventh auxiliary request with a letter of 3 September 2012. The appellant's final requests were therefore taken to be that the decision under appeal be set aside and that a patent be granted on the basis of these sets of claims filed in preparation of the oral proceedings.
- VI. Independent claim 9 of the main request reads as follows:

"A system (100) for recommending one or more available items (305, 310, 320) to a user, comprising:
- a memory (160) for storing computer readable code;
and
- a processor (150) operatively coupled to said memory (160), said processor (150) configured to:
- generate an initial recommendation score for at least one of said items (305, 310, 320) that reflects an evaluation of viewing or purchasing habits of the user;
- obtain at least one third party recommendation for said at least one of said available items (305, 310, 320) that reflects an evaluation of viewing or purchasing habits of at least one selected third party,
- filter recommendations generated for the at least one third party to only employ recommendation scores for items that were actually watched or recorded by the at least one selected third party;
- adjust the initial item recommendations score to generate an adjusted recommendation score (A) for said at least one of said available items (305, 310, 320) based on the filtered recommendation of the at least one selected third party."

VII. Claim 9 according to the first auxiliary request contains the following additional feature, inserted before the filtering feature of claim 9 according to the main request:

"- exchange recommendations generated for the at least one third party with a recommender of the at least one third party;"

The filtering feature has been slightly modified by including a definite article:

"- filter the recommendations ...".

VIII. Claim 1 according to the second auxiliary request is identical to claim 9 of the main request except for a missing bullet point in the filtering feature.

IX. Claim 9 according to the third auxiliary request reads as follows (amendments to claim 9 of the main request have been indicated by the board by underlining new or amended text and by striking through deleted text):

"A system (100) for recommending one or more ~~available item~~television programs (305, 310, 320) to a user, comprising:

- a memory (160) for storing computer readable code; and

- a processor (150) operatively coupled to said memory (160), said processor (150) configured to:

- generate an initial recommendation score for at least one of said ~~item~~television programs (305, 310, 320) that reflects an evaluation of viewing ~~or purchasing~~ ~~habits~~[sic] of the user;

- obtain at least one third party recommendation for said at least one of said ~~available item~~television programs (305, 310, 320) that reflects an evaluation of viewing ~~or purchasing~~ ~~habits~~[sic] of at least one selected third party,

- filter recommendations generated for the at least one third party to only employ recommendation scores for ~~item~~television programs that were actually watched or recorded by the at least one selected third party;

- adjust the initial ~~item~~television program recommendations score to generate an adjusted recommendation score (A) for said at least one of said ~~available item~~television programs (305, 310, 320)

based on the filtered recommendation of the at least one selected third party."

- X. Claim 1 according to the fourth auxiliary request is identical to claim 9 of the third auxiliary request.
- XI. Claim 1 according to the fifth auxiliary request is identical to claim 9 of the first auxiliary request except for the feature starting with "- filter the recommendations ..." which has been replaced by "filtering the recommendations ...".
- XII. Claim 9 according to the sixth auxiliary request corresponds to claim 9 of the third auxiliary request, with the additional feature of claim 9 according to the first auxiliary request ("exchange recommendations ...") inserted before the filtering feature which has been slightly modified as in claim 1 according to the fifth auxiliary request.
- XIII. Claim 1 according to the seventh auxiliary request is identical to claim 9 according to the sixth auxiliary request.
- XIV. The further claims according to the appellant's requests have no bearing on the present decision.
- XV. The appellant's arguments with respect to inventive step may be summarised as follows:

Re: main request, second to fourth auxiliary requests

D1 discloses the use of a collaborative filtering engine, which is assumed in D1 to be known per se. In the context of recommender systems, collaborative filtering involves looking for users with similar

rating patterns to those of the user for which a recommendation is generated. The ratings from those similar users are used to calculate a prediction for the active user. In contrast, the independent claims of all requests require - as a first distinguishing feature - the use of "recommendations generated for" a third party, rather than "third party recommendations". Hence, all independent claims of the present application concern a distinct concept, wherein recommendations generated for a selected other user are used, provided that the user has watched or recorded the recommended item.

The technical effect associated with this first distinguishing feature is that recommendations for third parties do not require the overhead of setting up a computation of scores for the user for which the recommendation is generated. Hence, the use of resources is reduced.

The second distinguishing feature concerns the filtering of recommendations generated for the third party such that only recommendations of items that were actually watched or recorded by the third party are made. The filtering provides for a form of automated communication from the third party of his or her preferences that requires a minimum of overhead. Moreover, filtering enhances the reliability of recommendations.

Re: first and fifth to seventh auxiliary requests

The independent claims of these requests contain the additional feature that recommendations generated for the at least one third party are exchanged with a recommender of the at least one third party. This

feature implies that the third-party recommendations are obtained from a remote recommender, which avoids burdening the recommender for the actual user with computing the recommendations for the third party. This achieves the technical effect that the communication between recommenders requires a minimum of user input.

Reasons for the Decision

1. The appeal is admissible.
2. *Main request and second to fourth auxiliary requests*
 - 2.1 Claim 9 according to the main request and claim 1 according to the second auxiliary request (identical in substance; see point VIII above) refer to a system for generating recommendations for one or more items. Claim 9 of the third auxiliary request and the identical claim 1 of the fourth auxiliary request are essentially distinguished from those of the main request only by replacing the term "available items" with "television programs". Because the latter expression limits the scope of the claim to generating recommendations for "television programs" as an instance of "available items", the following analysis referring to claim 9 according to the third auxiliary request equally applies to claim 9 of the main request and to claim 1 of each of the second and fourth auxiliary requests.
 - 2.2 It is established case law that an invention which consists of a mixture of technical and non-technical features is to be assessed, for inventive-step purposes, by taking account of all those features which contribute to the technical character of the claimed

subject-matter, whereas features making no such contribution cannot support the presence of an inventive step. Non-technical features which refer to an aim to be achieved may legitimately appear in the formulation of the problem as part of the framework of the technical problem that is to be solved, in particular as a constraint that has to be met; see, e.g. T 641/00, headnote I, and T 154/04, Reasons, points 5.F and 5.G.

- 2.3 Claim 9 relates to a system comprising a processor and a memory for generating recommendations for at least one television program to a user. In order to inform the user of recommendable programs, the processor is configured to generate a recommendation score for the at least one program so as to reflect an evaluation of viewing habits of the user himself and to obtain recommendations from a selected third party such as a friend, trendsetter, etc. The initially generated recommendation score is filtered and adjusted to take account of recommendations generated for the third party. Recommendations for the third party are only taken into account if the party actually watched or recorded the program.
- 2.4 It is common ground that D1 constitutes the closest prior art with respect to the subject-matter of claim 9. D1 relates to an entertainment media management system recommending a television program to a user based on program metadata and on user profiles (see figure 1 and page 1, lines 1 to 3). According to D1 a first or initial recommendation score is generated that reflects an evaluation of the viewing habits of the user. In addition, a collaborative filtering engine is employed to generate a second recommendation score. The first and second recommendation scores are

aggregated to generate an adjusted recommendation score for the television program (see abstract; figures 1 and 7 together with the description from page 15, line 5 to page 17, line 21). The board concludes from the implementation of the entertainment media management system on a central server that the above features relating to the generation of a recommendation score are implicitly carried out by a processor and that a memory for storing computer-readable code is employed.

2.5 D1 does not disclose details of the collaborative filtering engine except that it "finds correlation between user tastes" (see page 16, lines 22 and 23). As argued by the appellant and accepted by the board, collaborative filtering involves looking for users with similar rating patterns to those of the user for which a recommendation is generated, and the use of the ratings from those similar users to calculate a prediction for the active user. It follows that the subject-matter of claim 9 is distinguished from the system in D1 by the following two features:

- (a) The processor is configured to use "recommendations generated for" a third party, rather than "recommendations given by" third parties.
- (b) Recommendations generated for the third party are filtered by the processor such that only television programs that were actually watched or recorded by the third party are employed as third-party recommendations.

2.6 The board holds that apart from the aspect relating to their implementation on a processor neither distinguishing feature has a technical character. They

establish a new concept of providing recommendations based on recommendations made to a selected third party, such as a trendsetter. These recommendations are filtered and adjusted and subsequently presented to a user with the purpose of facilitating the identification of programs of interest to the user, by reference to the selected third party which may influence the user's likings. The different choice of recommendations may have an effect on the user's choice of television programs and thus possibly be used for commercial reasons such as to increase the sales of a video-on-demand service.

- 2.7 Technical aspects arise only in the context of the implementation of these features. However, claim 9 is silent with respect to these aspects, apart from the specification that a processor is configured to carry out the steps but without any indication as to how this configuration is to be reached.
- 2.8 Following the established case law (see point 2.2) the technical problem therefore has to be formulated as how to adapt the system of D1 to carry out the modified algorithm for generating recommendations including "recommendations generated for" a third party and filtering of recommendations generated for the third party such that only television programs that were actually watched or recorded by the third party are employed as third-party recommendations.
- 2.9 The appellant did not argue that the implementation of the distinguishing features on a processor required any special knowledge or skills, and the board sees no reasons why it would. As a consequence, the claimed invention was obvious to the skilled person in view of D1. Thus, the subject-matter of claim 9 according to

the main request, claim 1 according to the second auxiliary request, claim 9 according to the third auxiliary request and claim 1 of the fourth auxiliary request do not involve an inventive step (Article 56 EPC 1973).

- 2.10 The appellant argued that the distinguishing features had the technical effects that recommendations for third parties did not require the overhead of setting up a computation of scores for the third party and that the use of resources was reduced.

The board is not convinced by these arguments. It is accepted that the modifications of the steps which are carried out by the processor may result in a simplified algorithm for generating recommendations. According to the modified algorithm, recommendations for the third party are employed to generate a recommendation for the user. Hence, an explicit feedback from the third party as in collaborative filtering can be dispensed with (except for feedback on what was actually watched or recorded). In other words, there is no need for third parties to explicitly evaluate programs they have watched. Arguably, the omission of an explicit evaluation of programs by the third party may indirectly have consequences for the technical implementation of the algorithm, for example in the sense that a dialogue with the third party need not be implemented. However, apart from the fact that the board can only speculate about a possible implementation of the modified algorithm due to a lack of details in the claims, these consequences are only an indirect result of a different choice of recommendations being implemented on a computer system.

Nor was the board convinced by the appellant's argument that the "reliability" of recommendations was enhanced. The "reliability of recommendations" is to be distinguished from the reliability of a technical component. In this context the term "reliability" should be understood in the sense that a recommendation "better matches the taste of a user", which cannot be considered as a technical effect.

2.11 It follows from the above that the main request and the second to fourth auxiliary requests are not allowable due to lack of an inventive step.

3. *First and fifth to seventh auxiliary requests*

3.1 Claim 1 according to the seventh auxiliary request is essentially distinguished from claim 9 of the third auxiliary request by the following additional feature:

"- exchange recommendations generated for the at least one third party with a recommender of the at least one third party;"

3.2 The additional feature is understood in the sense that recommendations for the third party are generated in a "recommender of the at least one third party" separately from recommendations for the user (see also present application, figure 1: 120, 100). D1 shows a single recommendation engine (see figure 7 and page 15, lines 5 to 10) without disclosing whether it is internally divided into different recommenders.

3.3 Due to a lack of detail concerning its technical implementation, the board is not convinced that the additional feature serves a technical purpose going beyond the well-known exchange of information between

different entities of an entertainment media management system. In particular, it cannot be inferred from this feature that the recommenders are "remote", as was argued by the appellant. Instead they could, for example, be realised as separate entities in the same recommendation engine. Even if, for the sake of argument, a remote recommender were to communicate with the processor configured to generate the filtered and adjusted recommendations to a user, such communications and exchange of information over a network as known from D1 would have been obvious to the person skilled in the art.

- 3.4 The board is also not convinced by the appellant's argument that the additional feature results in the technical effect that "the communication between recommenders requires a minimum of user input", because - with or without this feature - it is not excluded that the system is realised based only on implicit television program recommendation tools. In this case the system would not require any user input at all except for the usual selection of programs by the user.
- 3.5 Hence, the subject-matter of claim 1 according to the seventh auxiliary request does not involve an inventive step (Article 56 EPC 1973).
- 3.6 The scope of independent claim 9 of the first auxiliary request, claim 1 of the fifth auxiliary request and claim 9 of the sixth auxiliary request is either identical or wider than that of claim 9 of the seventh auxiliary request. Hence, for the reason given above, the subject-matter of these claims lacks an inventive step (Article 56 EPC 1973).

4. In conclusion, none of the appellant's requests is allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



K. Boelicke

F. Edlinger

Decision electronically authenticated