

CLAIMS

1. A computer implemented method for automatically generating recommendations for digital media content for a first user by configuring a processor to (a) analyze digital media and its associated metadata for media that is used by a first user and (b) use that analysis to provide, for that first user, recommendations of both additional digital media content and also recommendations of other users with similar preferences to that first user.

2. The method of claim 1 including further configuring said processor to perform the steps of analysing digital media and associated metadata that is used by other users and then identifying those other users with preferences that are similar to the first user; and in which the recommendations for the first user are based on analysing the digital media and associated metadata that are used by those other users with preferences that are similar to the first user.

3. The method of claim 1 in which the recommendations of other users include one or more of: the names of those other users, playlists of those other users, currently being played by those other users, personal favourites or other recommendations of those other users.

4. The method of claim 1 further comprising configuring said processor to perform the step of locating and identifying existing digital media used by a first user prior to analysing that digital media.

5. The method of claim 4 where the existing digital media used by a first user is located by a computer implemented process of searching for digital media files on one or more of (a) device(s) or used by the first user, including but not limited to one or more of computers, mobile devices, media players and games consoles; (b) online storage facilities accessed by the first user; (c) physical storage media, including but not limited to Compact Discs (CDs) and Digital Video Disks (DVDs); (d) digital media content played by the first user on media players on his said device(s).

6. The method of claim 4 where the digital media is identified by configuring said processor to perform one or more of: (a) analysing a file name; (b) examining digital tags stored in the file, including but not limited to explicitly embedded tags, such as ID3 tags used in MP3 files; (c) examining associative tags, such as album artwork associated image files used by media players; (d) examining metadata stored in a media player's database, including but not limited to the genre classification of a track; (e) reading metadata associated with physical media, such as CDText data and/or serial numbers on a storage medium such as a Compact Disc or any other storage medium.

7. The method of claim 1 where the digital media is identified by processing a file using a Digital Signal Processing (DSP) algorithm and comparing the signature so produced to a database of such signatures.

8. The method of claim 1 where the associated metadata is obtained by locating the identified digital media item within a database of such metadata.

9. The method of claim 1 where the associated metadata includes metadata obtained by processing the file using a Digital Signal Processing (DSP) algorithm to extract one or more of (a) the mood, tempo and/or beat of a piece of music; (b) the language(s) used within a given piece of digital media content; (c) and other metadata which may be obtained using the said DSP algorithm(s).

10. The method of claim 1 where the associated metadata includes playback metrics for the digital media file, the playback metrics being obtained by one or more of (a) examining playback metrics recorded by media players on the user's device; (b) examining file access metadata recorded by the operating system on the user's device, including but not limited to the "last access date" of NTFS file systems; (c) recording playbacks of media items as digital media items are played by the said user on the said device.

11. The method of claim 1 where the metadata includes ratings assigned to digital media items and/or groups of digital media items.

12. The method of claim 11 where the ratings are assigned by one or more of (a) users of a digital media service; (b) any other individuals, including but not limited to employees of a digital media service; (c) analysis of metadata associated with

digital media items, including but not limited to databases indicating relationships between digital media items and/or groups of digital media items such as artists, authors and/or albums.

13. The method of claim 1 where the metadata includes records of the interaction between the first user and the digital media items available to the first user's device(s).

14. The method of claim 1 where the metadata includes the demographics of the first user.

15. The method of claim 1 where the metadata includes records of the interaction between the other users of a digital media service and digital media items available to the other users and their device(s), where an association is noted between the first user and the other users based on one or more of their demographics; their device type(s); their locale or any other available metadata.

16. The method of claim 1 where the metadata is analysed by creating a matrix describing the first user's interactions with the digital media, including some group of digital media including but not limited to artists, authors, albums or any other grouping.

17. The method of claim 16 where the metadata is analysed by creating a matrix that captures the correlation between the first user's interactions with the digital media and other users' interaction with the digital media that they use.

18. The method of claim 16 where the matrix is weighted such that those interactions which are most relevant to the process of generating recommendations are given a proportionally higher weighting in the matrix by using a frequency analysis algorithm, by adjusting weightings according to the playback metadata or by any other method such that either a higher or a lower value is indicative of a correlation between two items in the matrix.

19. The method of claim 16 where the matrix is normalised.

20. The method of claim 16 where the recommendations of digital media items, of users and/or of groups of digital media items are obtained by locating correlating values in the said matrix.

21. The method of claim 1 where the recommendations of digital media items, of users and/or of groups of digital media items are obtained by the analysis performed by any other recommendation algorithm.

22. The method of claim 1 where the first user is a group consisting of more than one individual user.

23. A computer implemented system for automatically generating recommendations for digital media content, in which the system is adapted to (a) analyse the digital media and its associated metadata and (b) use that analysis to provide, for that first user, recommendations of both additional digital media content and also recommendations of other users with similar preferences.

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1. A computer implemented method for automatically generating recommendations for digital media content for a first user by (a) analysing digital media and its associated metadata for media that is used by a first user and (b) using that analysis to provide, for that first user, recommendations of both additional digital media content and also recommendations of other users with similar preferences to that first user.
2. The method of Claim 1 including the steps of analysing digital media and associated metadata that is used by other users and then identifying those other users with preferences that are similar to the first user; and in which the recommendations for the first user are based on analysing the digital media and associated metadata that are used by those other users with preferences that are similar to the first user.
3. The method of Claim 1 or 2 in which the recommendations of other users include one or more of: the names of those other users, playlists of those other users, currently being played by those other users, personal favourites or other recommendations of those other users.
4. The method of any preceding Claim comprising the step of locating and identifying existing digital media used by a first user prior to analysing that digital media.
5. The method of Claim 4 where the existing digital media used by a first user is located by a computer implemented process of searching for digital media files on one or more of: (a) device(s) or used by the first user, including but not limited to one or more of computers, mobile devices, media players and games consoles; (b) online storage facilities accessed by the first user; (c) physical storage media, including but not limited to Compact Discs (CDs) and Digital Video Disks (DVDs); (d) digital media content played by the first user on media players on his said device(s).

6. The method of Claim 4 or 5 where the digital media is identified by one or more of: (a) analysing a file name; (b) examining digital tags stored in the file, including but not limited to explicitly embedded tags, such as ID3 tags used in MP3 files; (c) examining associative tags, such as album artwork associated image files used by media players; (d) examining metadata stored in a media player's database, including but not limited to the genre classification of a track; (e) reading metadata associated with physical media, such as CDText data and/or serial numbers on a storage medium such as a Compact Disc or any other storage medium.
7. The method of any preceding Claim where the digital media is identified by processing a file using a Digital Signal Processing (DSP) algorithm and comparing the signature so produced to a database of such signatures.
8. The method of any preceding Claim where the associated metadata is obtained by locating the identified digital media item within a database of such metadata.
9. The method of any preceding Claim where the associated metadata includes metadata obtained by processing the file using a Digital Signal Processing (DSP) algorithm to extract one or more of (a) the mood, tempo and/or beat of a piece of music; (b) the language(s) used within a given piece of digital media content; (c) and other metadata which may be obtained using the said DSP algorithm(s).
10. The method of any preceding Claim where the associated metadata includes playback metrics for the digital media file, the playback metrics being obtained by one or more of (a) examining playback metrics recorded by media players on the user's device; (b) examining file access metadata recorded by the operating system on the user's device, including but not limited to the "last access date" of NTFS file systems; (c) recording playbacks of media items as digital media items are played by the said user on the said device.

11. The method of any preceding Claim where the metadata includes ratings assigned to digital media items and/or groups of digital media items.
12. The method of Claim 11 where the ratings are assigned by one or more of (a) users of a digital media service; (b) any other individuals, including but not limited to employees of a digital media service; (c) analysis of metadata associated with digital media items, including but not limited to databases indicating relationships between digital media items and/or groups of digital media items such as artists, authors and/or albums.
13. The method of any preceding Claim where the metadata includes records of the interaction between the first user and the digital media items available to the first user's device(s).
14. The method of any preceding Claim where the metadata includes the demographics of the first user.
15. The method of any preceding Claim where the metadata includes records of the interaction between the other users of a digital media service and digital media items available to the other users and their device(s), where an association is noted between the first user and the other users based on one or more of their demographics; their device type(s); their locale or any other available metadata.
16. The method of any preceding Claim where the metadata is analysed by creating a matrix describing the first user's interactions with the digital media, including some group of digital media including but not limited to artists, authors, albums or any other grouping.
17. The method of Claim 16 where the metadata is analysed by creating a matrix that captures the correlation between the first user's interactions with the digital media and other users' interaction with the digital media that they use.

18. The method of Claim 16 or 17 where the matrix is weighted such that those interactions which are most relevant to the process of generating recommendations are given a proportionally higher weighting in the matrix by using a frequency analysis algorithm, by adjusting weightings according to the playback metadata or by any other method such that either a higher or a lower value is indicative of a correlation between two items in the matrix.
19. The method of any preceding Claim 16 - 18 where the matrix is normalised.
20. The method of any preceding Claim 16 - 19 where the recommendations of digital media items, of users and/or of groups of digital media items are obtained by locating correlating values in the said matrix.
21. The method of any preceding Claim where the recommendations of digital media items, of users and/or of groups of digital media items are obtained by the analysis performed by any other recommendation algorithm.
22. The method of any preceding Claim where the first user is a group consisting of more than one individual user.
23. A computer based system adapted to perform the method of any preceding Claim.
24. A computer implemented system for automatically generating recommendations for digital media content, in which the system is adapted to (a) analyse the digital media and its associated metadata and (b) use that analysis to provide, for that first user, recommendations of both additional digital media content and also recommendations of other users with similar preferences.