[PRESS RELEASE]

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KDDI R&D Laboratories, Inc.

Development of Content-based Fast Music Retrieval Application for Mobile Phones
- Extremely efficient content-based searching of music within mobile phone storage -

KDDI R&D Laboratories, Inc. has successfully developed a novel content-based music retrieval application, which enables highly efficient and accurate searching of songs from a music collection stored in mobile phones.

KDDI R&D Laboratories has developed a content-based music retrieval technology called “Nitauta Kensaku™” (*Similar song search*), which can search for unknown songs that are preferable to the user, based on analysis of the user’s musical preferences, and/or music usage information, such as user-generated playlists, and music playing logs. This technology enables the user to discover new songs from a large-scaled music database. However, a major problem of this technology is its computational cost. This problem becomes especially critical for implementation on the mobile phone, where the CPU processing power is low, and the user interface is limited.

In order to enable the implementation of music retrieval on the mobile phone, we have developed an improved version of “Nitauta Kensaku™”, which drastically reduces the computational cost necessary for music retrieval. Namely, the application utilizes a hierarchical approach, which first automatically extracts a minimal subset from the music collection, and searches for songs within the subset. Experiments have proved that the improved algorithm can retrieve songs 20 to 30 times more efficiently than the conventional method, while preserving accuracy. The new algorithm is able to execute retrieval in a few seconds from a large music collection with thousands of songs, even on a standard “au” mobile phone.

The prototype music player application (developed on the BREW platform) features a function to automatically select the next song to be played, based on a simple submission of feedback (“Good” or “Bad”) to the song that is currently being listened to by the user. We believe future implementations of our technology will provide new opportunities for our customers to further enjoy music on the mobile phone.

(Appendix)

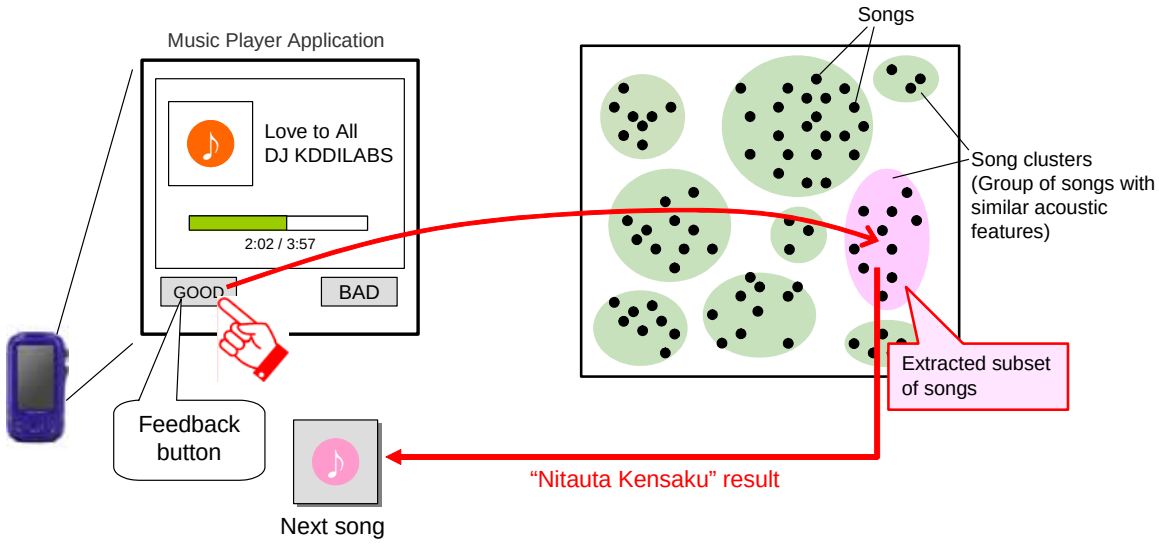

Figure 1. Outline of prototype “Nitauta Kensaku” application

* By comparison of the *user profile* (a vector expression of users' musical preferences) and *song clusters* (automatically generated groups of songs with similar acoustic features), the application first extracts a subset of songs from the whole collection. Next, music retrieval is conducted only for the songs which belong to the extracted subset.

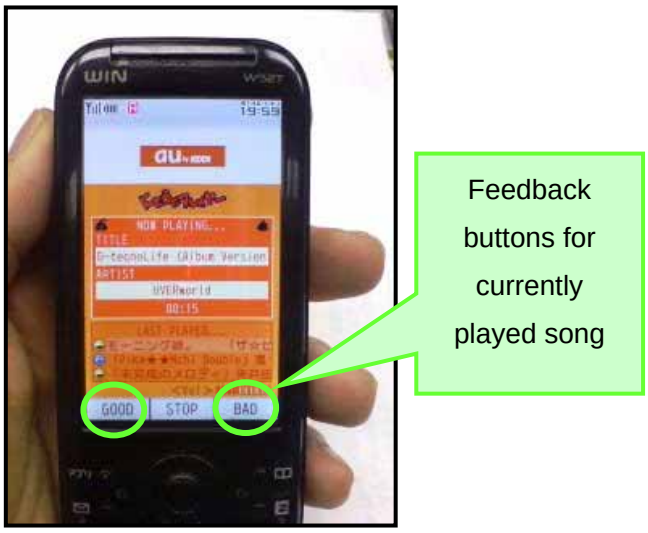

Figure 2. Screenshot of prototype "Nitauta Kensaku" mobile phone application