Lab/SA/MA: Music Explorer Media Player Plugin

Media usage is changing rapidly these days. This process has been ignited by several technological advances, in particular, the availability of broadband internet, the World Wide Web, affordable mass storage, and high-quality media formats, such as mp3. All this enabled the digital music revolution about 10 years ago.

Many music lovers have now accumulated collections of music that have reached sizes that make it hard to maintain an overview of the data by just browsing hierarchies of folders and searching by song title or album. Search methods based on song similarity offer an alternative, allowing users to abstract from manually assigned metadata, such as, frequently imprecise or incorrect, genre information. In a context where music collections grow and change rapidly, the similarity-based organization has also the advantage of providing easy navigation and retrieval of new items, even without knowing songs by name. Moreover, it allows personal collections to be seen not just as isolated lists, but positioned in the global context of the "world of music". This opens possibilities, such as sophisticated recommendations, context-aware retrieval, and discovery of new genres and tendencies.

In previous projects we have created a Euclidean map of the world of music, which contains more than 1M songs. This map places similar songs close to each other, whereas the distance between unrelated songs becomes large. Such a map exhibits several advantages in terms of applications. It allows applications to quickly find songs similar to each other, to define regions of interest, or to create smooth playlists by following paths.

Based on this map, we have developed a variety of applications available on the music-explorer website (www.musicexplorer.org). So far, our focus mainly laid on web (www.youjuke.org) and mobile (www.museek.ethz.ch) applications. The goal of this thesis is to go a step closer to the user in the desktop world, by directly integrating the map information into a media player, by means of a media player plug-in. While we have a couple of ideas for features the plug-in could implement, you are also free to bring your own ideas in a wide variety of areas, such as navigation within a collection, recommendation, playlist generation, and so on. The success of museek in the Android environment (>100K downloads) indicates that media player plugin could become extremely popular.

Interested? Please contact us for further details!

Requirements:

- Programming experience
- Basic knowledge of the technology underlying the chosen media player plug-in API

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