

SMARTMOBS AND MUSIC: AD-HOC SOCIALIZING BY PORTABLE MUSIC PROFILES



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ABSTRACT

Howard Rheingold coined in 2002 a new term. His book *Smartmobs* describes the social effects introduced by mobile technology and the state of being always connected. Cellular phones, PDAs and portable devices such as the iPod enabled a set of new applications and ad-hoc socializing. In this proposal I aim at describing such scenarios especially for music. With the advent of portable MP3 players and furthermore cellular phones with MP3 capabilities we are already in a state of carrying our *musical aura* around. With nearfield connectivity such as offered by bluetooth ad-hoc protocols we could even show our digital aura to others. Such *Lovegeties* have been a big success in Japan, although being proprietary, non-musical and based on hardware. In this proposal I want to think aloud about the possibilities and open problem areas towards a way of implementing standard music profiles and matching strategies on standard mobile phones to introduce people to each other based on their musical taste or temporary state of mood.

1. QUALITY OF CONTENT

At a first glance it seems to be very simple. A bag full of MP3s should be sufficient to compute a musical profile. Either by using the audio content and apply the standard techniques found within Music Information Retrieval (MIR) or by relying on the ID3 tags which offer metadata about the artist, album, song and genre. We did some shallow evaluation of a collection of 20 individual sets of most favourite MP3s. The quality of the ID3 tags was a nightmare! A lot of the songs contained no information at all others were only filled partially or even worse with wrong information. Especially the genre tag is useless in most cases. As a consequence we would have to consider additional matching against metadata services (e.g. Gracenote) which should be circumvented due to the ease of use and costs. At least it is possible to apply the computation of MFCC profiles and similar features [1,2] from scratch in order to compose a profile as a set of feature vectors.

2. MOBILE PROCESSING POWER

In order to perform the computation it is questionable if the actual processing power of cellular phones is sufficient to perform this task during idle time, e.g. overnight. So far we don't know and appreciate input.

Furthermore it is unclear how the trade-off between the bluetooth bandwidth and the size of the profiles will be. For a few dozen songs it should be no problem but for ambitious future computation on large-scale lifetime collections this is also an interesting point to think about. Finally the matching strategy is also unclear. For a quick start it should be possible to apply the distance or similarity metrics which have been introduced in MIR on pairs of songs/profiles. It will be interesting how to aggregate these one-by-one metrics into meaningful results on entire sets [3]. Again the processing power and algorithmic complexity are interesting topics to have a look on since these computations must be done near real-time! Otherwise the interesting ad-hoc introduction of people to each other will not be possible.

3. HUMAN APPRECIATION

Do people really want to be introduced to each other based on a technology for matching musical profiles? Lovegeties and other stationary dating services have been a big success in the past. The simplicity of such an approach will be surely a further argument in favour of using it. Since nearfield communication based on bluetooth is costless a further argument speaks in favour of such applications. Yes and there will be some time in the future where spammers, spoofers and all the rest of the bad guys will discover these things for themselves. Research around the theme of music, mobility and social effects has been performed by others [4]. As far as I know there is no evidence about the joy-of-use of such applications.

4. REFERENCES

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