Automated Inference of Musical Sophistication From User Behaviour

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Recommender systems are widely used across many domains with the goal of providing timely, accessible decision making support to users. In a music context, a reliance on listening or rating co-occurrence as a means of assessing user similarity in recommender systems can result in loss of diversity and novelty in the result set. With the aim of increasing diversity, or serendipity, in such applications, this research proposes an alternative similarity metric, musical sophistication, which is unreliant on co-occurrence.

Musical sophistication is a prevalent and well researched concept in the field of music psychology. Working from the assumption that this characteristic is a significant determinant in musical taste, this research describes a methodology by which it can be inferred from user interaction with a music software application. It is proposed that this indicator be utilised as an alternative, or complementary, similarity measure, thereby mitigating the aforementioned homogeneity exhibited by some music recommender systems.

A methodology is presented in this work for the construction of a computational model of the behaviour of a musically sophisticated user, as it pertains to interaction with a music software application. The system accepts a natural language description of expected behaviour and a log of user activity, and generates a single numerical index that represents confidence in the presence of the characteristic. Additionally the development and evaluation of a system constructed through the application of this methodology are described.