The Effect of Repetitive Structure on Enjoyment and Altered States in Uplifting Trance Music

Kat Agres¹, Louis Bigo², Dorien Herremans³, and Darrell Conklin^{2,4}

 ¹School of Electronic Engineering and Computer Science, Queen Mary, University of London, London, UK
²Department of Computer Science and Artificial Intelligence, University of the Basque Country UPV/EHU, San Sebastián, Spain

³ANT/OR, University of Antwerp Operations Research Group, Antwerp, Belgium ⁴IKERBASQUE, Basque Foundation for Science, Bilbao, Spain

We present a preliminary framework, based on empirical behavioural testing, for understanding how the musical structure of *uplifting trance* (UT) contributes to the experience and enjoyment of trance that underlie altered conscious states.

Uplifting trance is a sub-genre of electronic dance music that is characterized by the use of repetitive tones, chord sequences, and rhythmic events. UT pieces have a particular semiotic structure that includes elements such as the breakdown, the build-up, and the anthem. Each of these elements has a specific role in the listener's auditory consciousness, and contributes to trance states and collective group listening behaviours.

Altered states, such as an audience flow state and the feeling of being "lost" in the music, are sought after and often considered the highest form of enjoyment of this genre by trance enthusiasts. We argue that enjoyment and altered states of consciousness are rooted in musical repetition, but researchers do not yet know which repeated elements are perceived as enjoyable by listeners. The present research aims to systematically manipulate the amount of repetition in different layers of UT, in order to elucidate the connection between repetition and enjoyment.

To systematically test repetition, computational models are used to generate new UT pieces by applying transformations to particular layers of an existing piece (such as harmony, melody, orchestration, and rhythm). By transforming specific elements of trance, we can discover which features of the music are fundamental to the identity and enjoyment of the genre. To study how transformations to particular elements influence affective response, behavioural experiments are conducted to correlate subjective enjoyment with the altered layer(s) and the statistical models used to create the transformations.

This research is supported by the project Lrn2Cre8 which acknowledges the financial support of the Future and Emerging Technologies (FET) programme within the Seventh Framework Programme for Research of the European Commission, under FET grant number 610859.