

# moodplay.github.io: an online collaborative music player

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## ABSTRACT

In this demo, we present an online music streaming system that allows users to collaboratively choose music by mood, but also personalise the experience by creating private parties where users can control who to invite to join the party and in which tracks can be shared with other participants. The music is automatically mixed by an auto-DJ module that models various DJ-ing styles using content-based audio features that represent musical parameters such as tempo, beats, bars, keys, instrumentation and volume.

## DESCRIPTION

moodplay.github.io is an online music streaming platform that allows users to collaboratively choose music by mood using browsers on mobile devices. Users can participate in the global Moodplay party where everyone is added upon arrival, but they can also create personal parties and control who are invited. There is functionality that allows participants to share their favourite tracks with other invited participants. The system analyses the uploaded tracks by audio features to find their corresponding mood coordinates, so that the automatic DJ module can incorporate the new additions to the continuous mix. The interface is based on 2-dimensional scattering of tracks in a mood space derived from user tags in <https://www.last.fm/>. Each track has been assigned coordinates that range between negative and positive on the horizontal axis and calm to excited on the vertical from bottom to top. The users can explore the mood space and vote what kind of music they want to listen to while also being shown the preferences of other participants. Since each vote lasts for a limited time, the system keeps updating the average mood selection of all participants of the party. This means that the player cursor that keeps track of the average moves continuously around the space and a new track is selected after a certain time. The music is automatically mixed by an automatic DJ module that models various DJ'ing styles using content-based audio features that represent musical parameters such as tempo, beats, bars, keys, instrumentation and volume to find the best match for next tracks in the continuous mix by tempo,

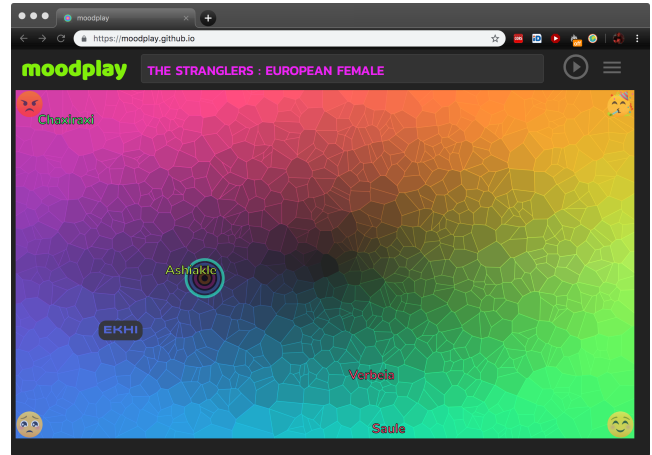


Figure 1: moodplay.github.io user interface

tonality and timbre.

The system consists of an Angular<sup>1</sup> front-end accessible at <https://moodplay.github.io> and Express.js<sup>2</sup> server application, <https://moodplay-data.herokuapp.com/> that stores track metadata, mood coordinates and audio features for the auto-dj<sup>3</sup> module.

## TECHNICAL REQUIREMENTS

moodplay.github.io can be demonstrated with the simplest of setups on a laptop, but can be enhanced, if facilities permit, by a large screen and an audio system (if it is not disruptive to other demonstrators). Alternatively an audio interface with multiple headphone outputs could be helpful.

## ACKNOWLEDGMENTS

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<sup>1</sup><https://angular.io>

<sup>2</sup><http://expressjs.com>

<sup>3</sup><https://www.npmjs.com/package/auto-dj>