

MIREX-DIY UNDER NEMA

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Begun in 2005 and held annually, the Music Information Retrieval Evaluation eXchange (MIREX) represents a formalized and standardized campaign for the evaluation of state-of-the-art music information retrieval techniques and algorithms. By the 2010 iteration of MIREX, over 1,000 algorithm runs and evaluations will have been generated covering a large scope of MIR topics (classification, similarity, transcription, etc.).

While largely successful, MIREX in its current state suffers from two large drawbacks. First, a tremendous amount of effort is invested in the organization and execution of MIREX; it is not scalable and there is an increasing number of submissions and participants. Secondly, it is held annually and often prevents people who wish to evaluate their techniques to meet publication deadlines for conferences and journals. This paper describes the current state of the MIREX Do-It-Yourself web-service (MIREX-DIY) [1], which is a system designed to automate the running of MIREX submissions, and allows for year-round evaluation. Moreover, it allows submitters to modify and debug their submissions, thus alleviating much of the labor associated with MIREX.

The MIREX-DIY web-service falls under a larger, more expansive project called the Networked Environment for Music Analysis (NEMA). NEMA's goal is to integrate music analysis services with large repositories of music data to allow researchers access to music collections around the world without actually physically acquiring said music data. NEMA is largely built on a workflow environment called Meandre. The general overview of the NEMA and MIREX-DIY system can be seen in Fig.1. In the context of MIREX-DIY, a web application allows for the submitter to upload an algorithm and set necessary parameters for its execution and evaluation (e.g. choose a task, dataset, etc.). This generated flow is then dispatched by a flow service to a cluster of Meandre servers that in turn execute the workflow. NEMA has an executor service that the Meandre servers use to facilitate executing external code (e.g. MATLAB, python, binaries, etc.). A JCR-180 compliant content repository is used for storing workflows and the execution results created by the user.

The ultimate goal of the MIREX-DIY service, aside from allowing users to evaluate their code, is to also foster code-sharing amongst the MIR community. With flows already built by submitters to evaluate their algorithms, "publishing" these work flows such that they are both useable and editable by other users could potentially foster growth in state-of-the art MIR techniques.

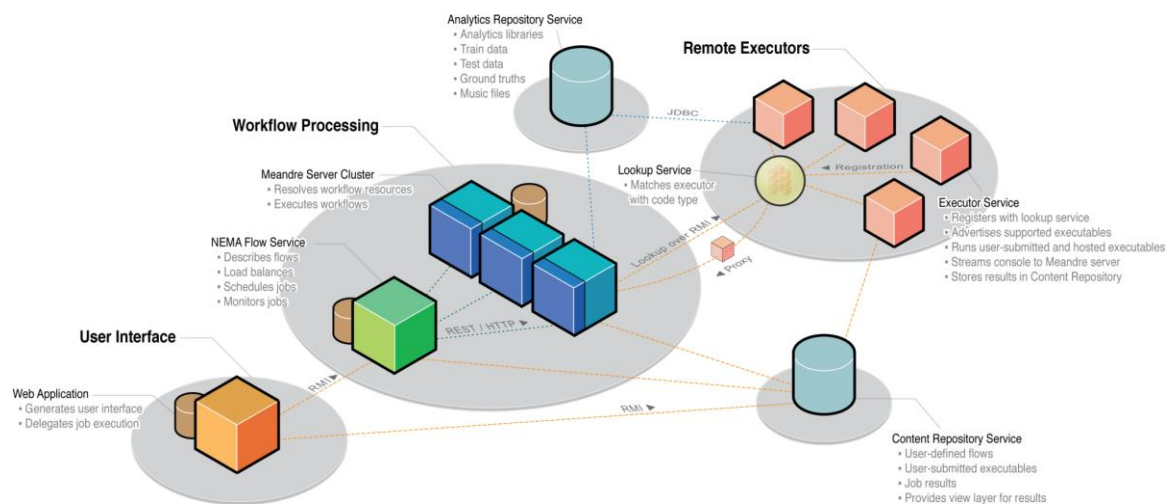


Figure 1. Overview of the NEMA and MIREX-DIY web-service.

REFERENCES

- [1] A. F. Ehmann, J. S. Downie and M. C. Jones, "The music information retrieval evaluation exchange "do-it-yourself" web service", in The Eighth International Conference on Music Information Retrieval, Vienna, 2007, pp. 523-524.