

Music Generation -- Component Spec

Software Components

This section lists the components that we expect to have in our project (not necessarily a complete list), what they do, and how they interface (e.g., functions with inputs and outputs). This includes documentation for existing packages. For the components we have or plan to implement, we have listed the inputs and outputs.

Component Interactions

Development Plan

Note: This project plan outlines the original plan at the time this document was created.

Week 1:

- Build and structure github repository
- Data gathering and cleaning from two data sources
- Pre-process training data

Week 2:

- Create technology review of potential python libraries that we could use
- Choose libraries that we will use in our project
- Test the use of chosen libraries
- Choose music parameters we want to work with
- Write functional and component specification documents
- Generate music in any form

Week 3:

- Create setup.py file
- Read in pre-processed data into python module

- Chose main module we will be working with
- Code a model to generate music with Magenta
- Adapt code to include parameters with user specifications
- Start continuous integration with travis-CI or Github Actions
- Create unit tests of specific use cases
- Build user-friendly platform (either deep module with hidden implementation, or a front end interface)

Week 4:

- Wrap up user-friendly platform
- Test platform with potential users and get feedback from user acceptance testing
- Incorporate feedback into code
- Leave example use case in main function to show how our package can be used
- Create final powerpoint presentation

Notes

The following design specification from the Ax/Wx project looks as though it could provide inspiration for our component specification.

<https://github.com/rexthompson/axwx/blob/master/doc/DesignSpecification.md>

(In previous quarters, they seemed to use the term design specification instead of component specification.)

Other projects that might be useful to review:

- <https://github.com/khyatiparekh/Searching-for-Success/tree/master/Doc>
- <https://github.com/sliwhu/UWHousingTeam/tree/master/doc>