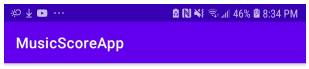
Current State of the Project:

*****For our latest code, please check out the main branch.**

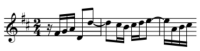
Classification Model & Dataset:

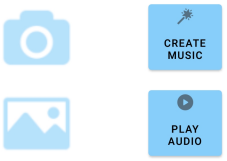
In this milestone, we have trained the classification model using the dataset developed last milestone with the image tensors and the labels being provided. We also spent time cleaning up our code by transferring our models and functions from a jupyter notebook environment and into an executable python environment.

Mobile App:



Music Score Application





Server and Android Application:

The connection between the server and the mobile app is now complete: the server successfully receives an image as a byte string and converts it to a .png image. After being fed into the ML model the output from the ML model is passed back to the mobile app as a string response. The application is able to parse this string with the help of the Primus semantic to MIDI converter and play back the associated music. The server is now hosting the ML model, that is, we can upload an image to the server and expect an output from the ML model to be sent back from the server.
The server is now complete.

What tasks were done:

- **John**: Continued to train the classification model using our current datasets with several epochs to achieve a higher accuracy. Developed python scripts that can be used on the server to take in an input image and classify its respective notes.
- **Jefferson**: Integrated the Primus semantic to MIDI converter (unfortunately the jar file is too big to be pushed into github, so a link to the library will be posted instead) into the android application, and integrated the response handler to receive a string of music tokens from the server. Also improved the GUI and UI for the application.

- **Ying Qi**: Established the connection from the app to the server (with Jefferson's help). Hosted the ML model and made sure it can be executed directly on the server (with Jefferson and John's help).
- **Houlin He**: Dataset models are created based on the dataset being found online and the functions being written. Converted functions from google-colab into actual python codes. Split algorithm is further improved, and a bug is fixed.

Proposal Changes

There are no proposal changes in this milestone—we have completed all tasks.

Current Milestone 4:

- More polished UI/UX for the application
- Translate the classification output into a MIDI file, so it can correctly play-back all the notes correctly.
- Overall testing of the final project and finishing any other unfinished tasks that we were not able to complete in other milestones

Current Challenges

There were no current challenges with this milestone—we have completed all tasks.