**Team 37 Project Charter: Synquencer**

**Team Members:** Mohini Roplekar, Aidan McDonnell, Mitchell Bridwell, Zach Heskett

**Problem Statement**

While many websites offer the ability to compose MIDI sequences online, and some also allow other people to edit other people's sequences, the websites in question are not accessible, functional, or user-friendly enough to make this a simple process. Additionally, the existing solutions only allow for asynchronous editing of a single sequence, and do not enable the real-time collaboration of multiple users that ⠏ ⠓ become accustomed to in websites like Google Docs. Due to today's musicians having many different digital audio workstations (DAWs), there isn't an easy (and synchronous) way for fellow musicians to share their ideas.

**Project Objectives**

* Create a web application with a piano roll interface that allows users to quickly write and play musical sequences.
* Make the interface smooth, intuitive, and accessible to as many types of users as possible, particularly those using screen readers.
* Allow users to share their sequences with other users and edit them collaboratively in real-time.
* Allow synchronized playback of the sequence between multiple users with minimal latency.

**Stakeholders**

* Users: Musicians who want to use the website as a quick musical notepad or collaborative tool.
* Developers: Mohini Roplekar, Aidan McDonnell, Mitchell Bridwell, Zach Heskett
* Project Manager: Aryan Wadhwani
* Project Owners: Mohini Roplekar, Aidan McDonnell, Mitchell Bridwell, Zach Heskett

**Deliverables**

* React based frontend that will provide a piano roll-style interface for editing note sequences
* Next.js backend that will allow low-latency synchronization of sequences across different clients
* Sequence editing engine for editing sequences, playing them back using built-in sounds, and exporting sequences as MIDI files
* Accessibility suite to allow every part of the program to be controllable via keyboard shortcuts

**Allow for note input via MIDI keyboards**