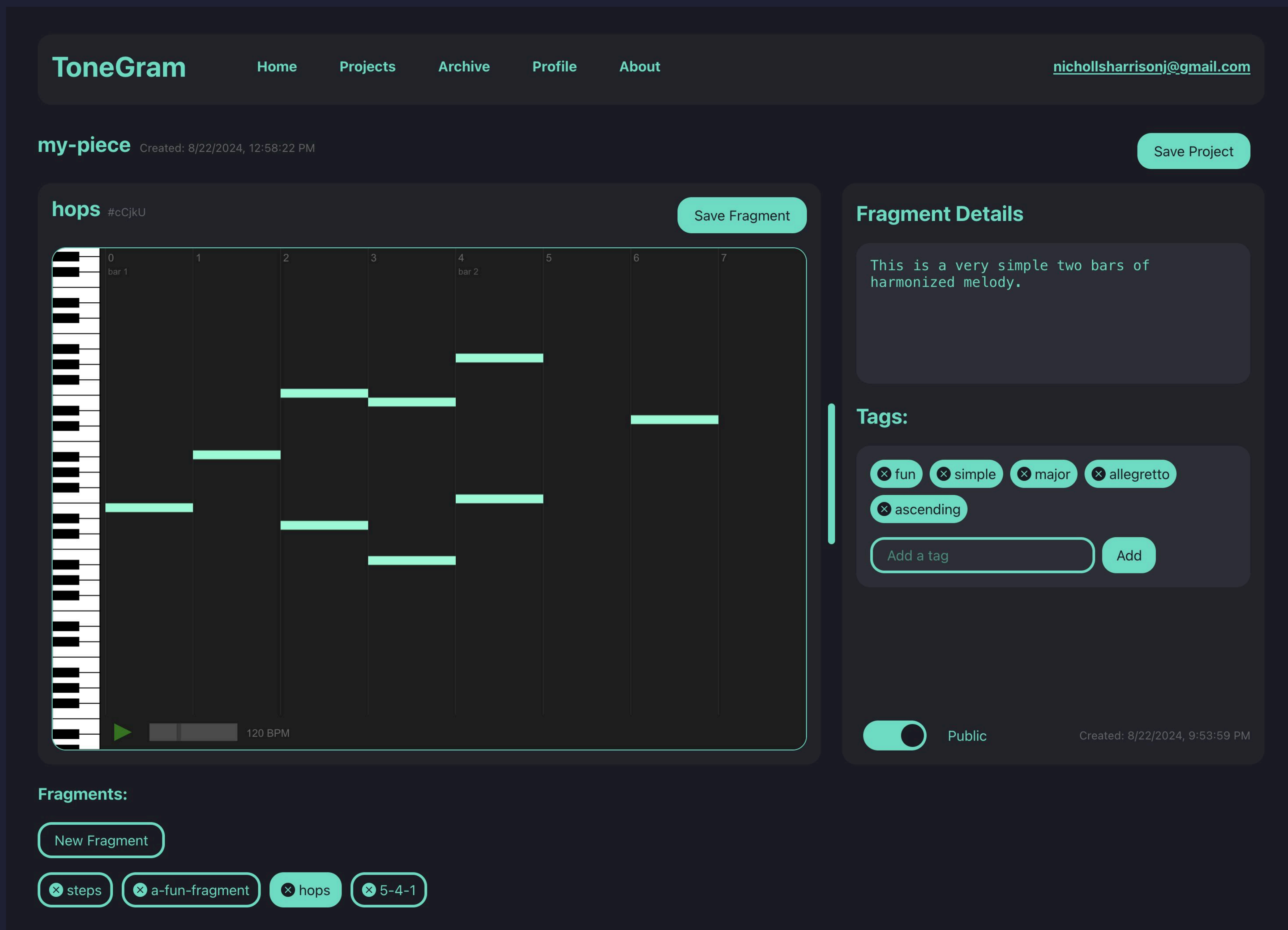# ToneGram

What is ToneGram?

ToneGram is a tool for composers and musicians who want to create music with structure and intent — without outsourcing creativity to a probabilistic ML model trained on other artists' musical data. Instead of skipping straight to generating audio through black-box models, Tonegram provides a platform for users define recursive musical grammars along with hand-composing musical fragments to shape their compositions or act as a creativity enhancement/sharing tool. By assembling MIDI fragments within a rule-based system, musicians can experiment, iterate, and collaborate while maintaining full artistic ownership. This approach empowers musicians with computational tools that respect the creative process.

Key Features

- Account Management - Users can create accounts to associate their musical works with and connect with other musicians.
- MIDI Fragment System – Users create and store musical ideas ("fragments") in a shared public archive.
- Grammar-Based Composition – Allows structured arrangement of fragments into full pieces.
- User Profiles & Projects – Save and organize work in a collaborative environment.
- Cloud Integration – Built with Google Cloud's Firebase Firestore and Firebase Auth for user data and real-time sync.
- Web-Based Interface – Developed in React + TypeScript

Tech Stack

Frontend: React, TypeScript, Zustand (state management).
Backend: Firebase Firestore (database), Firebase Auth (user authentication). Development on Vite.

Current Status & Next Steps

ToneGram is currently in a private development phase, with core features being ported to a slightly altered, more scalable stack. I have recently brought an engineer onboard as a long-term collaborator.