

# Project Pitch

Team 49



# Team

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# Overview:

During this project we will design and engineer a software based on the Drums Machine system inspired by the online version of Roland TR-808, which was given as an example in the Project Guide, drumbit and Virtual Drums MUSICCA.

The main types of users of our software will be musicians, people whose hobbies revolve around music and pretty much anyone willing to give it a try.

The software will work primarily from the console with commands like:

(example of command), (example of command2)... (JAVAFX)!!!!

Although we plan on implementing a GUI at a later stage of development, with clickable buttons like in online version of Roland and drumbit, initially. Regardless of whether we make a GUI or not, there will be a visual representation of the drums playing somewhere in the middle of the screen.

Our primary objective is to create a digital tool that allows anyone to simulate a wide range of percussion instruments and create complex rhythms and beats.

-sources: [drumbit](#), [Online drum machine](#);

# Feature 1

**Name:** Drum Components and Audio Feedback in Real Time

**Description:**

This feature forms the core of the interactive experience in the drum machine software. It enables users to play various drum components, such as kicks, snares, hi-hats, and cymbals, in real-time through a graphical user interface resembling a traditional drum pad layout. Each time a user clicks or taps on a specific drum component on the screen, the software instantly generates the corresponding drum sound, providing immediate audio feedback.

**Champion:** Emre Yalcin

inspiration: <https://www.musicca.com/drums>



# Feature 2

**Name:** Visual feedback

**Description:**

Alongside audio feedback, this feature provides visual cues on the user interface. For example, when a drum component is played, its corresponding button or pad may light up or animate, enhancing the user's interaction and making it easier to track the sequence being played. On the other hand, the main drumset will also give an indication of which component is played, for example: music notes coming out of each set.

**Champion:** Boyi Zhang



# Feature 3

**Name:** Sequencer

**Description:**

A sequencer in a drum machine allows users to create and arrange a series of drum sounds in a specific order to form patterns or beats.

Users can set the tempo, rhythm, and duration of each note, and these sequences can be looped or modified as needed.



**Champion:** Lyudmil Anastasov

# Feature 4

**Name:** Recording Mode

**Description:**

This mode enables users to record their live drumming sessions.

Users can play a sequence in real-time, and the software records it, allowing them to save, playback, and edit it later, just like a traditional recording session.

**Champion:** Emre Yalcin



# Feature 5 (Bonus)

**Name:** Exporting a Sequence to MP3/MIDI

**Description:**

After creating and refining drum patterns or sequences, users can export them in popular formats like MP3 (audio file) or MIDI (Musical Instrument Digital Interface file). MP3 exports are typically for sharing or playback, while MIDI files retain detailed information about the notes and can be imported into other music software for further editing or composition.

**Champion:** Lyudmil Anastasov





# Feature 6

**Name:** Effects Module

**Description:**

The Effects Module in the drum machine software is a sophisticated feature that allows musicians to enhance and modify the sound of each drum component using a variety of audio effects. Musicians can apply a range of effects such as chorus, delay, distortion, and phaser to individual drum elements like the kick, snare, hi-hats, or to the entire drum kit. For instance, adding a chorus effect can give a fuller and more resonant sound to a snare drum, while a delay effect can create echoing beats that add rhythm complexity.

**Champion:** Jorrit Bogaard



# Time log & Signed Contract

Time Log:

<https://docs.google.com/spreadsheets/d/1q0CaKPEv5eu44uqCGtQtNyMCOSdArEs6sRfXooRYnhg/edit?usp=sharing>

Signed Contract:

<https://docs.google.com/document/d/1qCmC1KXoOnlwP6SwpHzpIpJBEwID1XKOhKczRsYA8oc/edit?usp=sharing>