

Project Pitch

Team 16 - Drum Machine

Team Members

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Overview

Our chosen track of the project is Drum Machine “BA DUM TSSS”.

- Main types of users that our application stands for is people interested in music and creative people that want to design their own background of a music clearly and in a fast, simple and practical way.
- The main graphical interface of our application will show a sequencer. In this sequencer a beat loop will keep playing in the background as long as user desires. Also, users will be able to press sound buttons and create their own sequences. This way users will be able to create their own background songs.
- There are buttons placed in a rectangle area, every line of buttons have the same sound. Every sound's velocity and duration can be changed manually. This offers a range of different combinations.

Overview continued

- In the sequencer mode, the beats can be played, stopped, and cleared, time signatures can be selected from provided time signatures such as 4/4, 8x16.
- In the sequencer mode, the user can also choose between preset beats provided, save sequences or can choose the random sequences with a designated “random” button.
- Moreover, sounds can be changed by the users for the beats with the help of extendible sound library feature .
- Properties of sounds (predetermined by the program or added by the users) can be changed (velocity, duration, etc.).

Feature 1

Name: Sequencer Mode

Description:

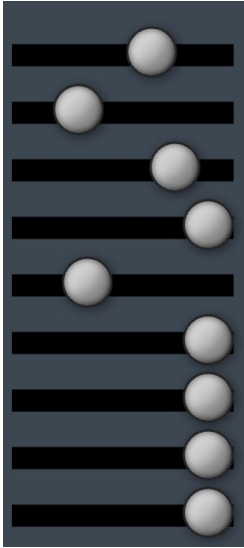
What our Sequencer Has:

- Ability to **save** designed sequences of sequences
- Ability to **navigate** through and play pre-existed sequences
- Ability to **start/stop** sequences
- Options to define **time signatures**. (i.e. 4/4, 8/16,)
- Ability to clear the whole sequence by pressing the “**Clear**” button
- Ability to create a random sequence by pressing the “**Random**” button

Champion: Sena Deniz Avukat- Ceren Duru Çınar - Kerem Boncuk

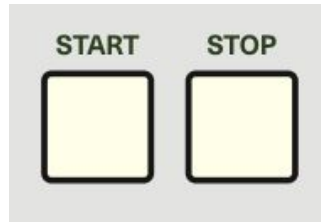
Feature 1 continued

-Example buttons to change velocity and duration of each component.



<https://www.onemotion.com/drum-machine/>

-Example buttons for start, stop, random and clear attributes.



-These button example images are from : <https://roland50.studio/>

Feature 2

Name: Sound Control

Description:

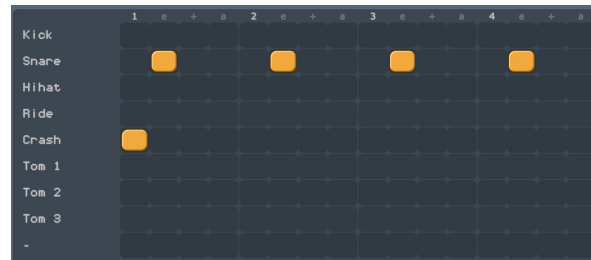
The users can form a pattern either by **pressing the sound buttons** by themselves or can use the defined **preset sound combinations**. The sound combinations can be designed via pressing buttons. Buttons that are on the **same line** have **the same sounds**, and the result of the sound sequence can be heard with the **play attribute of the sequencer in the default sequence mode**.

Some default sounds are:

- Kick, snare, hihat, ride, toms,...

Users can also select from one of the **preset sound combinations**. These preset sounds can be chosen from a spinner. The chosen preset sounds will **automatically trigger specific buttons** and can be played with the **play attribute of the sequencer in the default sequence mode**.

Planned preset combinations: Rock, Hip-hop, Latin, Pop,...

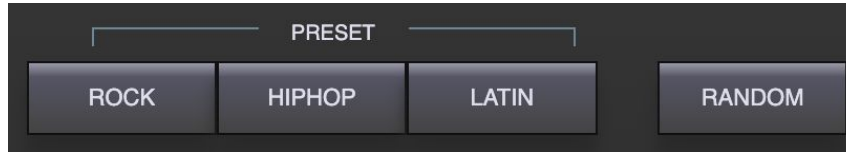


Sound buttons example from
<https://www.onemotion.com/drum-machine/>

Feature 2 continued

Moreover, **random sound combinations** can be created with a **random button**. The button will **automatically trigger random buttons** and can be played with the **play attribute of the sequencer in the default sequence mode**.

Lastly, sound control feature will be responsible for adjusting each row sound's **velocity** (how hard a component is being hit) and **duration** (how long the sound will last) . This will give more freedom for the users while they create their own soundtracks.



An example of preset sounds and random button from <https://www.virtualdrumming.com/drums/virtual-drum-machine-online/drum-machine-online-free.html> (Our plan of preset sounds include spinner instead of buttons)

Champion: Ceren Duru Çınar - Sena Deniz Avukat

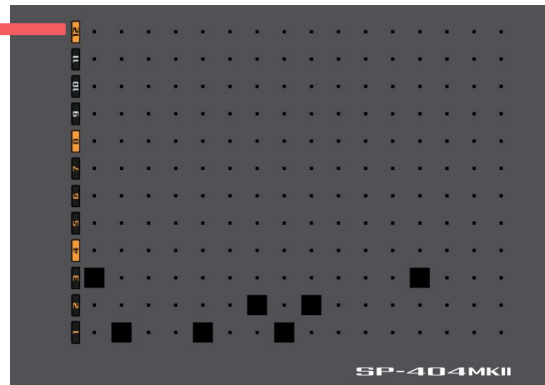
Feature 3

Name: Expandible Sound Library

Description:

- In addition to predetermined sounds that are hardcoded in the application, users will be able to **import their own sounds** to sound library with the help of this feature.
- By this feature, sounds of the buttons can be selected from the library and used for beat construction both in sequencer mode and real time playback mode..
- Properties of the new sounds that are added by the users also will be able to be adjusted with the **sound control panel**.
- In the Sequencer Mode there will be determined number of sounds (i.e. 12) that are available for the users. These sounds can be changed with the ones that are in the Sound Library. Also, in the Real Time Playback Mode there will be predetermined number of buttons (i.e. 16), these buttons will also can be changed with the sounds that are present in the Sound Library.
- In conclusion, purpose of the extendible sound library is to let users import desired sounds to the drum machine and let users be more creative.

Each sound can
be changed



Example of sound buttons from: <https://roland50.studio>

the

Champion: Kerem Boncuk

Time log

1	Team number	16		
2				
3	Member	Activity	Week number	Hours
4	Ceren Duru Çınar	Created Github repository	1	0.5
5	Ceren Duru Çınar	Created google slides, decided properties of sound control and wrote it as feature 4, created team contract	2	5
6	Sena Deniz Avukat	Decided properties of sequencer, wrote it as feature 1, decided properties of feature 3 and wrote it	2	5
7	Kerem Boncuk	Wrote the overview, decided properties of expandible sound library and wrote it as feature 4, created time log	2	5
8				
9				
10				
11			TOTAL	15.5
12				

Signed contract

The signed team contract:

https://docs.google.com/document/d/1Glhno--f5LVNTDnN-3zCjWYHVowp_iIKX6tB_kV2Ukg/edit?usp=sharing