IT FOR SOCIETY, Vol. 03, No. 02
ISSN 2503-2224

Electronic Dance Music Launchpad Composer Android Application

Nur Hadisukmana*, Ida Made Santika Kusuma Yogi
President University
*Corresponding author: nurhadisukmana@gmail.com

Abstract - *Music is the art of combining vocal or instrumental sounds or tones in varying melody, harmony, rhythm, and timbre. Music can come from any instruments, even there are many musician use household furniture to create a music. Nowadays, the development of music industry is much influenced by technology. One new genre music that emerge because of technology development is EDM. EDM is stand for Electronic Dance Music. EDM is a broad range of percussive electronic music genres produced largely for nightclubs, raves and festival. A lot of software, applications and tools were created to compose the sound to create EDM. Although these software are easy to install but most of these software are difficult to use and take time to learn it. What people need in this era are simplicity, portability, user friendly and easy to use.*

I. INTRODUCTION

From the past until now music is part of human life and cannot be separated. Music is composed and performed for many purposes, ranging from aesthetic pleasure, religious or ceremonial purposes, or as an entertainment. Todays, there are so many kind of innovations of music instrument both complex and simple. Example of the simple one is instrument made from comb. This instrument found by young men from Indonesia. The sound is like saxophone. DJ sets and mixer to create electronic music are the example of complex music instrument.

Electronic music or most familiar called EDM is one of top popular genre right now. People who create or compose this music genre usually called as DJ. The most famous DJ right now are Hardwell, Steve Aoki and David Gueta. With their high creativity they can combine and mix any beat of sound to become good EDM.

To be able to compose music like them certainly need a complete set of equipment and this equipment is certainly not cheap. The advance of gadget todays allows us to develop the tools in application form.

II. LIMITATIONS

This application has several limitations, which are:

1. Application only work in Android OS 5.0 (Lollipop) or above.
2. The Record Music feature cannot record only the internal audio.

III. APPLICATION PREVIEW

This section is giving the application preview of its implementation. This section will include the use case and some application screenshots. Figure 3.1 will shows the use case diagram of the application.

Figure 3.1 Use Case Diagram

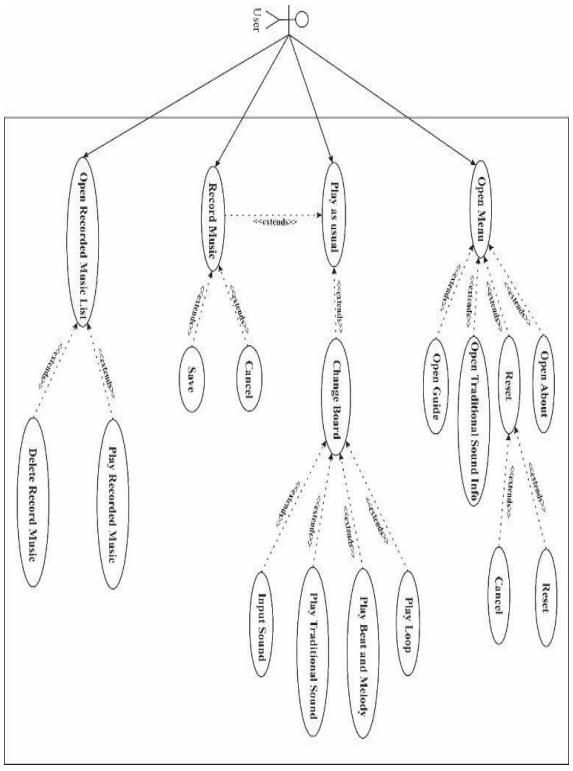

Figure 3.2 is the main screen if user open the application. If user open the recorded music then Figure 3.3 is the interface. Figure 3.4 is the interface of save record process. Figure 3.5 is the menu list interface. Figure 3.6 – 3.9 are the interface of each sub menu.

Figure 3.2 Main Screen

Figure 3.3 Open Recorded Music List

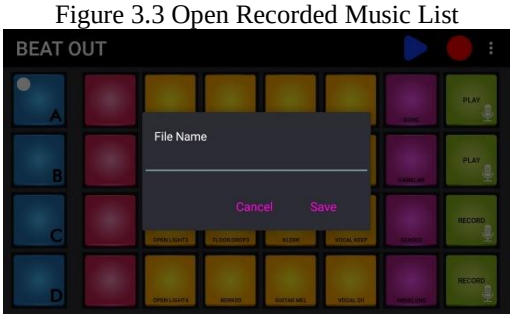

Figure 3.4 Save Record Dialog Box

Figure 3.5 Menu

Figure 3.6 About Beat Out

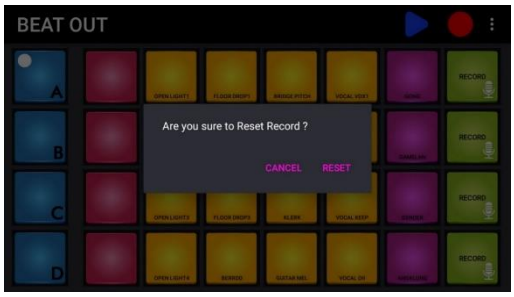

Figure 3.7 Reset

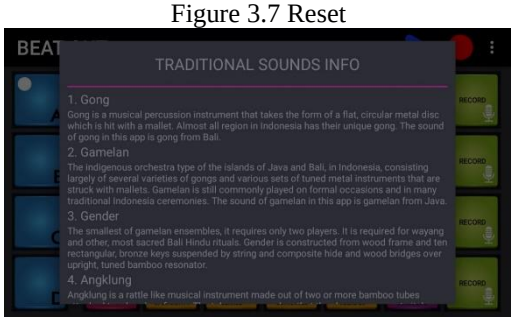

Figure 3.8 Traditional Sound Info

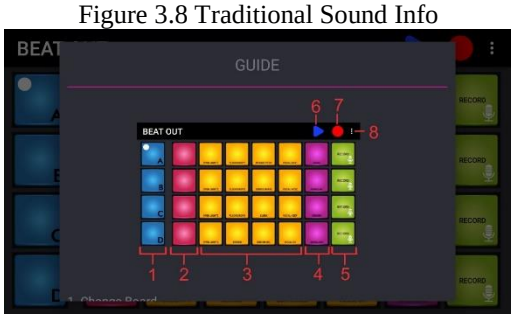

Figure 3.9 Guide

IV. EXPERIMENTAL RESULT

In order to check and be sure that application run properly, some simulations are needed to check it. Simulation will be divided based on the activities of the program executed. Testing scenarios also will show and check if the application work properly according to the expectation.

- Main Screen Handling Section

Main screen is the the page that opened when user open the application.

No	Case Scenario	Case Detail	Expected Result	Result
1	Start Application	Click on the application icon in the device	System start the application and display the Splash Screen for several seconds	As expected

			and then proceed to the Main screen.	
2	Displaying Main Screen	Main Screen will displayed after the Splash Screen done	Loaded the main screen which consist of 8 features namely Change board buttons, looping sound buttons, beat and melody buttons, traditional sound buttons, input sound button, save record list button, record music button and menu button.	As expected

- Menu Handling Section

This test is used to make sure the Menu work proplerly.

No	Case Scenario	Case Detail	Expected Result	Result
1	Displaying the list Menu in popup interface	Click on the Menu button in Main Screen	The list of menu will show in dialog popup interface	As expected
2	Displaying the About Beat Out sub menu	Click "About" text in menu list	About Beat Out menu is loaded	As expected
3	Reset sub Menu	Click "Reset" text in menu list	Reset alert dialog is loaded	As expected
4	Displaying the Tradition al Sound Info sub menu	Click "Traditional Sound Info" text in menu list	Traditional Sound Info is loaded	As expected
5	Displaying the Guide sub menu	Click "Guide" text in menu list	Guide menu is loaded	As expected

- Looping Sound Handling Section

No	Case Scenario	Case Detail	Expected Result	Result
1	Turn on the looping sound	Click one of loop button	Sound loop start playing	As expected
2	Turn off the looping sound	Click again the loop button that on before to make it off	Sound loop stop playing	As expected
3	Turn on the first loop sound then turn on another loop sound	Click one of loop button to On it, then click another loop button to On it also.	First Sound loop start playing. When another Sound loop is on then the first Sound loop is stop automatically.	As expected

- Beat and Melody Handling Section

No	Case Scenario	Case Detail	Expected Result	Result
1	Turn on the beat and Melody	Click the beat and melody button	Beat and melody sound start playing	As expected
2	Maximum beat and melody sound playing in the same time is 3	Click 3 or more buttons of beat and melody sound in the same time or continually.	It only play maximum 3 beat and melody sound.	As expected

- Traditional Sound Handling Section

N	Case	Case	Expected	Result

o	Scenario	Detail	Result	
1	Turn On the Traditional Sound	Click the traditional button	Traditional Sound start playing	As expected
2	Turn On another Traditional Sound when there is a Traditional sound still playing	Click another Traditional Sound button	It will playing the last Traditional Sound button that clicked. The old Traditional Sound will automatically stopped.	As expected

- Input Sound Handling Section

No	Case Scenario	Case Detail	Expected Result	Result
1	Turn On the input sound	Click the input button which has "Record" text on button	Input sound is started by record using microphone	As expected
2	Turn Off the input sound	Click the input button which has "End" text on button	Input sound is stopped and change the text on button become "Play"	As expected
3	Play the input sound	Click the input button which has "Play" text on button	The input sound start playing	As expected

- Save Record Handling Section

No	Case Scenario	Case Detail	Expected Result	Result
1	Turn On the Save Record Music to start the recording	Click the start button	The system start recording	As expected
2	Turn Off the Save Record Music to stop the recording	Click the stop button	The system stop recording	As expected
3	Input the file name	The dialog popup will loaded after click the stop record button	There are 2 validation for file name. First, user must input any file name but not empty. Second, the file name must different with the file name that already exist. If user break the validation then will appear an error message, otherwise the file will save.	As expected

- Open Recorded Music Handling Section

No	Case Scenario	Case Detail	Expected Result	Result
1	Open save record music	Click the open save record music button	Open Save Record Music is loaded	As expected
2	Playback the Save record music	Click the file name on list view	The Music is start playing	As expected
3	Delete the save record music file	Click and hold the file name for several second	After click and hold for several second then the file will automatically deleted	As expected

- Change Board Handling Section

To make sure if change board feature w

No	Case Scenario	Case Detail	Expected Result	Result
1	Change the board	Click one of Change board button	It will loaded the board according to the board chosen	As expected

V. CONCLUSION

The "Beat Out" application has manage to achieve the research objective, which is able to work as EDM Launchpad composer that contain the Indonesia traditional music source. With a purpose that this application can help user easier to explore their creativities to create EDM using their smartphone in anytime and anywhere.

Here are some of the main features and the advantages of *"Beat Out":*

1. Beat Out provide 4 different boards. Each board contain 4 loop sounds, 16 beat and melody sounds and 4 traditional music instrument. Therefore there are total 96 sounds that user can choose freely to compose their own EDM.
2. It also come with a feature that helps the user to input their own sound. There are 16 free spaces for user to input their own sound.
3. There is also a feature that helps user to record their own music and plays it again for comparison.
4. This application contain of 5 menus: About, Reset, Traditional Sound Info and Guide.
5. Simplicity, user friendly and interesting UI is one of the good advantages of this application, which let the users to operate the features comfortably

REFERENCES

[1] Rapid Application Development Model, 2012. Retrieved from http://javatechig.com/se-concepts/rapid-application-development-model

[2] Anonymous, Android. https://en.wikipedia.org/wiki/Android_%28operating_system%29

[3] Wei, Jason. (2012). *Android Database Programming*. Birmingham: Packt Publishing.

[4] SoundPool. oper.android.com/reference/android/media/SoundPool.html

[5] Anonymous, Electronic Dance Music. https://en.wikipedia.org/wiki/Electronic_dance_music

[6] What is Techno Music? http://www.wisegeek.com/what-is-techno-music.htm

[7] Ben Norman, House Music. http://dancemusic.about.com/od/house/g/House_Music.htm

[8] Ben Norman, Trance Music http://dancemusic.about.com/od/genres/g/Trance_Music.htm

[9] Hardstyle. https://en.wikipedia.org/wiki/Hardstyle

[10] Ben Norman, What is Dubstep. http://dancemusic.about.com/od/genres/g/Dubstep_Definition.htm

[11] What is Trap Music? http://runthetrap.com/what-is-trap-music/

[12] Difference between a MIXER, and a CDJ? https://forums.pioneerdj.com/hc/en-us/community/posts/203035119-Difference-between-a-MIXER-and-a-CDJ-

[13] Adipro, ALAT-ALAT DJ & PENGERTIANNYA, http://mixingskill.com/tokoalatdj/index.php?route=pavblog/blog&id=9

[14] Download EDM Sound, https://www.freesound.org/

[15] Download Sound Effect, http://www.freesfx.co.uk/

[16] Electronic Sound, http://www.audiomicro.com/free-sound-effects

[17] Instrument Musik Traditional Free,

[18] http://www.stafaband.co/mp3/download/instrumen_musik_tradisional.html

[19] Tradisional Musik Indonesia,

[20] http://mp3take.co/mp3/instrument_musik_indonesia_tradisional.htm