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Design of Game Application "Klung Your Beat!!"

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Abstract - Angklung is a traditional musical instrument from Sunda, West Java. Angklung made from bamboo which cut in it edge and tied together in a frame, vibrated to generate a sound. Nowadays fewer and fewer people are interested in angklung especially among the youth. This situation happen because the youth is more interested in modern instruments and some of them thought that the traditional musical instrument can't be used to play songs which is currently a trend among them. The price of a set of angklung can also be said to be expensive, causing limited resource for the youth to be able to have and learn it. Preservation of traditional musical instrument Angklung become one of the things that should be considered to preserve the culture and traditions of the country of Indonesia. Through the media of games on the Android platform, it can be used to introduce angklung to play modern song especially among youth.

Index Terms: Angklung, Game, Android

I. Introduction

Angklung is a traditional musical instrument from Sunda, West Java. Angklung made from bamboo which cut in it edge and tied together in a frame, vibrated to generate a sound [1]. Although angklung is a traditional musical instrument which still widely known among the people of Indonesia and even to foreign countries, but nowadays fewer and fewer people are interested in angklung especially among the youth [2]. This situation happen because the youth is more interested in modern instruments such as guitar, keyboard, drum, etc. Furthermore some of youth thought that the traditional musical instrument can only be used to play traditional song and can't be used to play modern songs which is currently a trend among them. The price of a set of angklung can also be said to be expensive, causing limited resource for the youth to be able to have and learn it [3].

Entertainment became one of the important aspects required by any person either from the young to the elderly. Game is one of some entertainment that enjoyed and liked by all people especially by the youth [4]. Android smartphone has also become one of the technology trend that is in demand and has even become a necessity for everyone. This leads to transition platform on various applications into the android platform where the game becomes one of the rapidly growing applications on the android platform [5] and become most used application on android platform.

Preservation of traditional musical instrument Angklung become one of the things that should be considered to preserve the culture and traditions of the country of Indonesia. Through the media of games on the Android platform, it can be used to introduce angklung to play modern song especially among youth.

II. Application Design

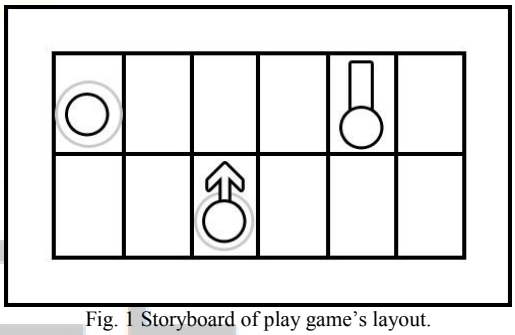

Fig. 1 Storyboard of play game's layout.

Fig. 1 is the layout of play game that consists of rectangular blocks which arranged into 2 rows and 6 columns which represent 12 tones in one octave. While the game has run, a circle will appear periodically on top of rectangular block with various types that determine what response should be made by user. 4 types of circular shape are circle shape only, circle shape with arrow, circle shape with rectangle block, and combination of circle shape, arrow, and rectangle block. When circle shape only appear, user just need to touch the circle shape. When circle shape with arrow appear, user need to touch the circle shape then doing swipe according to arrow direction. When circle shape with rectangle block appear, user need to touch the circle and hold it until the rectangle block which show the progress has been fulfilled. When combination of circle shape, arrow, and rectangle block appear, user need to touch the circle and hold it then move his finger following the circle shape that moving along rectangle block toward next circle.

Every circle shape which appear will be followed by ring shape which shrink periodically. This ring shape is used for measure user's accuracy when they touch the circle with notes time in the song. Perfect position occur when ring shape touch directly with circle shape. The more accurate user

touch circle shape, the more score will be get. The user's accuracy are classified into five grade which consist of 'Perfect', 'Great', 'OK', 'Bad', and 'Miss'. This grade also affect the score which user get when user touch the circle. 'Perfect' grade will give 500 score, 'Great' grade will give 300 score, 'OK' grade will give 150 score, 'Bad' grade will give 50 score, and 'Miss' grade won't give any score. Total score that user get will be used to determine skill of user to play music with angklung. We can assume that the more accurate the user, the better the skill they have.

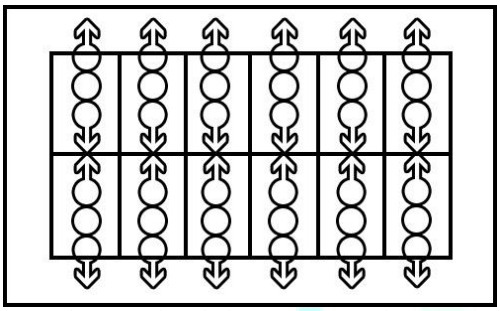

Fig. 2 Storyboard of compose game's layout.

Compose game is a feature which designed to give the user ability to compose a game set using song which user have in external storage of user's smartphone. The layout of compose game is same with layout of play game, but the circle shape which appear periodically in play game layout will be shown permanently on top of each rectangle block in compose game's layout as shown on fig. 2. Every rectangle block represent one music notes which are C, C#, D, D#, E, F, F#, G, G#, A, A#, B consecutively from top left rectangle block to bottom right rectangle block. On each rectangle block will be shown 3 circle shape which each of them represent one octave of music notes based on rectangle block that they placed. Upper circle represent high octave, middle circle represent normal octave, and bottom circle represent low octave.

To compose a game set, user need to touch the circle shape that shown based on music notes of song which user choose from smartphone's external storage. User can do single touch or holding touch on circle shape when compose a game set. Single touch used for represent one beat music notes while holding touch used for represent music notes which have beat more than one.

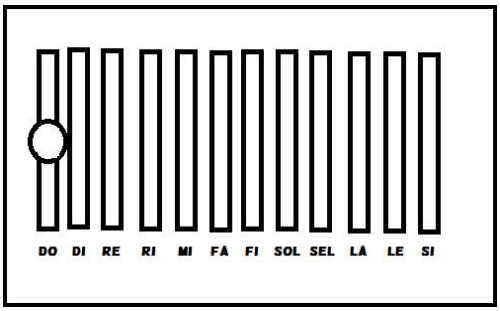

Fig. 3 Storyboard of learn about angklung's layout.

Learn about angklung is an simulation which represent a real angklung and used to shown how to play a real angklung to user. Fig. 3 is the layout of learn about angklung that consists of 12 rectangular blocks which represent each angklung which have sound from 'C' notes to 'B' notes. User can pick one of rectangle block to choose angklung's sound which they want to play. Afterwards user need to shake their smartphone to ring the angklung which they pick before.

III. IMPLEMENTATION

Fig. 4 Screenshot of main menu.

As we can see on fig.4, Main menu of this game have 4 navigation button which give user an option to choose what activity which they want to choose. Play button used to enter play game menu, compose button used to enter compose game menu, learn about angklung button used to enter angklung's simulation menu, and how to play button used to show an menu which contain instruction and information to play the game.

Fig. 5 Screenshot of play game.

Fig. 5 is shown the display of play game menu in the game. When music start playing, circle shape will appear periodically and user need to touch the circle based on it type. At the bottom left part of the screen, there is a text which show song's duration of played song. A text which show total score that user get placed at upper left part of the screen. At the upper middle part of the screen, there is a text which show a grade that user get when they touch the circle shape. At the upper right part of the screen, there is a menu button which used to open game's menu. Menu in play game consist 3 option which are continue, restart, and back to main menu. Continue used to

continue game and close menu, restart used to restart the game, and back to main menu used to go back to main menu.

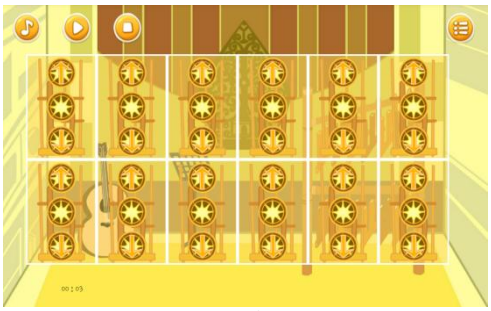

Fig.6 Screenshot of compose game.

Fig. 6 is shown the display of compose game menu in the game. At the first time screen loaded, there is no circle shape will appear. Compose will be started when user touch compose button that used musical notes icon. When compose button touched, music will start playing and circle shape will appear then user need to touch the circle according musical notes from song which has been played. Beside compose button, there is a play button which used to play a preview of compose result that user do before. There is also a stop button which used to stop an activity that was running. At the upper right part of the screen, there is a menu button which used to open game's menu. Menu in compose game consist 2 option which are save and back to main menu. Save used to save composed game set and back to main menu used to go back to main menu.

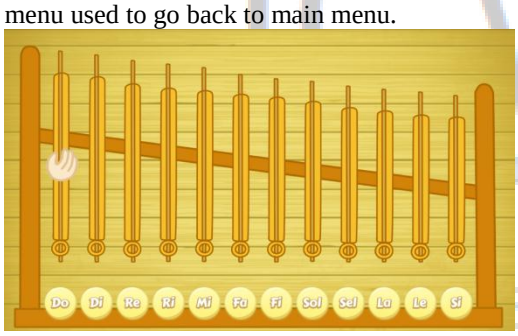

Fig. 7 Screenshot of learn about angklung

Fig. 7 is shown the display of learn about angklung menu in the game. In this menu, user can pick one of 12 angklung which shown on the screen to choose musical notes that they want to ring. Selected angklung will be marked by a palm on that angklung. Afterwards user need to shake their smartphone to ring the angklung which they pick before.

IV. Conclusion

Nowadays the traditional musical instruments diminishing popularity because more and more modern musical instruments that have sprung up. In order to continue to survive and got the attention of the public, the traditional culture should also be able to adapt to technological developments. From the results of the implementation conducted showed that the game application 'Klung your Beat!!' was able to introduce angklung to play modern song especially among youth. In addition, the game was considered quite interesting to play, especially among youth.

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