- Background research (4%)

- Design, functionality and creativity (4%)

- Implementation and overall quality (18%)

- Video presentation (4%)

In this assignment, each team should perform the following tasks:

1) Do a background research. List at least 3 similar applications in the market, summarize

their features and point out their short-comings / possible improvements.

Deliverables:

Each team should submit a compressed file onto Moodle containing the deliverables

below:

1) A document file (at least 2 pages) with:

- Results of your background research

- A summary of your application. It may include images and diagrams if you feel

they better convey your message. Basically, you should include the category,

motivation, design and features of your application.

- Contributions of each member (if your team consists of more than one member)

2) Source codes of your application with a readme file stating how to compile and

execute your application.

3) A short video (at most 3 minutes) demonstrating main features of your application

and how to use it.

Rhythm game or rhythm action is a genre of music-themed action game that challenges a player's sense of rhythm. Games in the genre typically focus on screen touch or the simulated performance of musical instruments, and require players to press buttons in a sequence dictated on the screen. Doing so causes the game's protagonist or avatar to play their instrument correctly, which increases the player's score. Many rhythm games include multiplayer modes in which players compete for the highest score or cooperate as a simulated musical ensemble. While conventional control pads may be used as input devices, rhythm games often feature novel game controllers that emulate musical instruments.

In this case, our aim is to build a music-themed action game, that requiring players to press buttons in a sequence dictated on the screen to get high scores, where the more accurate the press, the higher scores are earned. Based on that situation, we discovered through several music-themed action games, each of which has specific merits and defects.

Firstly, taking Deemo for instance, the core gameplay of Deemo is a score-based music video game. Each playable song features three levels, namely Easy, Normal and Hard, each given a difficulty rating measured in a 'Level' scale, ranging between 1 and 10. In each level, a black line is affixed at the bottom of the screen, and horizontal bars known as "notes" approach the line at a perspective from background to foreground. The player must tap on the notes when they reach the bottom line in time with the music, resembling playing on a piano. Black notes requires the player to tap each individually, while yellow notes allows the player to slide across in a chain. Black notes with a white interior is the same as normal black notes, only representing non-piano sounds. The player's performance is judged by the accuracy at which each note is hit.

The most creativity part of Deemo is the replacing of buttons with a black line, which enlarges the active area of player’s touching. Also, a black line instead of buttons leads to the unexpected touching area of each falling note, which means the notes are free to fall into anywhere in the black line, instead of just falling into the given buttons. And by applying landscape game-board other than portrait screen, player enjoys more space to touch and longer time to react. At the same time, the color of Deemo is confined to black and white, and the rules for scoring is not so reasonable as well.

Another well-known music video game is ‘Lovelive!’, where basic game rules are most the same as above. Landscape game-board screen are also applied into this game, harnessing the best of play board screen. Also, the ranking and self-developing system in the game is attractive. The more practicing of songs, the higher levels can a player achieve. While the shortcomings of this ‘Lovelive!’ is the songs are highly related to comic in Japan. People with less experience in Japan comic may not be attracted.

‘Osu!’ is another music video game, with the similar rules for player, achieving high scores by pressing accurately on the screen. The UI designs of ‘Osu!’ are much colorful and brighter than others, and the songs sounds warm and enthusiastic. While, ‘Osu!’ set player tasks not only on pressing accurately on the button, but also adding other functions like dragging and drawing certain gestures on the screen. This part is really hard for first-timers, who may need plenty of time to adjust the rules, or just quit after several failures.

Based on the background researches, several basic rules are settled for our application.