*Prepared by Dr Aida Ali for HCI\_20182019\_2*

# UNIVERSITI TEKNOLOGI MALAYSIA

# FACULTY OF COMPUTING

# SESSION 2019/2020 SEMESTER 2

**Code & Subject** : SCSV 2113 – Human Computer Interaction

# Name of Lecturer : Dr Aida Ali

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# GROUP ACTIVITY

# HYBRIDPLAY©: A Case Study

Your task is to analyze **HYBRIDPLAY©** from Interaction Design perspective. References for the product are given below. Please write substantial discussion in the forum post and provide annotated pictures wherever needed. *(\*You don't need to download the app)*

If you were appointed as the Project Manager for developing **HYBRIDPLAY©**, based on your opinion and experience (what you have learned in class), please discuss the 5 practical issues of ID lifecycle model in doing so. The questions that you should try to answer are;

1. Who are the users?
   1. Discuss who are the target users/stakeholders for **HYBRIDPLAY©**. Are there any

categories of users?

The target users are the kids, their parents and the aged. This is because the hybrid play is a tool combining the physical playing and virtual world that may involve with the kids and parents. For examples, parents will guild their children when children are playing the facilities in the playground. For example, when we put on the sensor on the swing, parents can link the sensor with the hybrid play application in the smartphone using Bluetooth. Choosing a game which will have the same movement with the swing and let the movement of the swing to control the direction in the games. The smartphone may be used by the kids, parents and old folks to play the game. I believe that this application is easy to use and it is good for the kids to learn working with new technologies. Besides, kids will have good connection between virtual world and the real world.

1. What are needs?
   1. Establishing requirements from target users.

For scenario "***Children using HYBRIDPLAY to play on the swing in the playground***".

Suggest the key requirements in the scenario above for the product.

* + - functional requirement

This system is designed to increase the physical activity of the kids and increase the connections between friends and parents. This is because they have to play this Hybrid Play in a group and this will strengthen the bonding between them. On the other hand, this system allow users to design their own video games based on their creativity. This will helping users to develop their creativity and innovative.

* + - non-functional requirement

This system combines the virtual world and real world which allow kids play on the facilities and convert the movement of facilities into signals, transforming the signals into various movement in the games in smartphones. This can be done by placing a sensor on the facilities and link it with the Hybrid Play application in smartphones via Bluetooth. The application will sync with the user’s movements.

* + - data requirement

In my opinion, the data need to be stored is the age of the child and the movements of the facilities that need to convert into signals to control the games. Every rides like swings, the slides, see-saw and more will be the interfaces for the virtual world. After the system analysing the movements and the age of the kids, a suitable games will automatically pops up on the smartphone. Users have to supply the needs like ages and movements. In order to make the games more interesting, users can upload an image into the games, and the image will be used as profile picture of the character in the games.

* + - environmental requirement

Mostly, this Hybrid Play is used in the playground that have all of the big rides. As we know, this Hybrid Play needs movements to provide signals. There must be large and strong vibrations on the rides and sensor. In order to keep the stability of the sensor, the sensor is designed to clip on the facilities and the clipping force is strong enough to keep the sensor stable and stay there when there are big vibrations. The sensor must be attractive enough to prevent leaving over in the playground. The sensor must be resistant to dust, water and impact since there is always incidents happened in the playground.

The sensor can be sync with the Hybrid Play application in smartphone using Bluetooth. The kids are playing with the physical rides while people using the Hybrid Play application in smartphone are in the virtual world. The data can be shared via Bluetooth.

* + - user characteristics

Since our target users are parents and kids, the system must designed in a casual way. The sensor is designed to fix the kids and the adults’ hand sizes. The sensor is designed moderate in size but not too small else the clipping function to avoid losing in somewhere else. The educational background of a kids is only the primary school level. The games designed must not too difficult for them. Nowadays, most of the parents and kids have educational background. So, the Hybrid Play is easy for them to use. Since the games can be designed by the users, this will increase the users’ creativity and they are able to learn working with the new technologies. Besides, many educators will use this as the platform to develop games, explore and making experiments. This will increase the thinking skills of the users.

1. Let’s say you and your team are in the early stage of designing the app for primary school children.
   1. How do you approach the users/stakeholders in order to obtain needs and requirements? Describe how would you do data gathering for your target audience.

When the application is designed for the primary students, we must understand the relationship between our application and the primary school students. We have to understand the thought of the primary school students nowadays by observing their behaviours. Besides, the behaviours of students today is connected with the trend. We have to observe the trend and what is the popular thing among the students nowadays. In order to approach the students, we can try to interview the students, teachers and parents. Avoid long questions because students will get bored at it. Furthermore, I will try to gather some of the students and observe their reactions when they are trying to play with it in controlled environment. Collecting their needs and requirements will help us to improve our designing of the Hybrid Play.

* 1. Elaborate on the data gathering technique(s) that you choose and justify why you choose such techniques

The data gathering techniques that I choose are observations and interview. For observations, I will choose directly observations in the controlled environment and in the field. This is because I can gather the first information and the inconvenience of the Hybrid Play when students are using it. This is because when user try to use a new thing, maybe he or she didn’t realize the imperfect parts. Me as the observers will see the reactions from a different view. Then, observing the students playing with the Hybrid Play in a controlled environment can know the first reactions and the feedbacks of them in a shortest time. When the users think aloud after using the Hybrid Play, the designers will know what to improve and add to make the application better through the thoughts of users. These 2 methods of observations are fastest methods as he or she generally not dependent on other participants. For the interview part, I choose focus group. This is because interviewing a group of people at a time can get more information compare to interview the students, parents and teachers one by one. This method can reduce time consuming. The questionnaires are well prepared and questions are set perfectly to get the good feedback from the user.

1. From the videos and article, determine one example of each usability criteria for **HYBRIDPLAY©** in evaluating quality thresholds. If you cannot find any from the videos and article given, please suggest suitable usability criteria examples. Please elaborate your answers.
   * + safety - any feature that promote safety/error control in **HYBRIDPLAY©**?

In order for the Hybrid Play to function, the Bluetooth is used to link the sensor and the smartphone. The movements of the rides will be convert into signals and then turned into the virtual actions in the Hybrid Play application. All of the games in the application just required a soft move and the amplitude else the frequency is low. No large movement is required in the game. If the users want to win in the games, he or she have to follow the instructions in the games. Besides, if the parents are the one playing the games in the Hybrid Play applications, they will control the movements of their kids in order to win the games. So, the users are playing in a safe environment.

* + - effectiveness - how is **HYBRIDPLAY©** effective in supporting what the product hopes to achieve?

This product is effective in encouraging physical playing. This is because in order to win in the virtual games, he or she must have physical movements. This system will stimulate the physical activity by creating an entertaining environment. For example, children have to trigger the movements of the elements in the playground so that another person can control the movements of the children according to the movements in the games. This will reduce the time of playing smartphones and increase the physical exercises else increases the connection between parents and friends.

* + - efficiency - how does **HYBRIDPLAY©** provide high level of productivity after users have learned how to use it?

Actually, playing a video game is an antidote to a high pressure working environment. This Hybrid Play system always involve a team of people and playing in a group will foster innovation, increase the teamwork skill. As we know, teammates have to help each other and work together to complete a task. It is just like one playing on the swing and the others control the games. This will unite the team members as they have the common goal, that is they want to win the games. This common goal will decrease the gaps between people and unite people.

I can say that this system will motivate them and create a common goal among them through this Hybrid Play.

* + - learnability - any learning curve to operate **HYBRIDPLAY©**?

People nowadays are smart and most of them have the educational background. The video games are just a simple stuff for them. The video games are games that people commonly play. Furthermore, the videos games is controlled by the sensor and the users just have to control the movements while playing on the rides. So, the learnability of this system is high.

* + - memorability - how does **HYBRIDPLAY©** help the users/stakeholdersremember how to carry out tasks?

There are only 2 things in this system which are the sensor and the Hybrid Play application in the smartphones. The sensor is designed in moderate size and in bright colour so that user will not forget about it. In order to play the video games, users must download Hybrid Play application and bring along the sensor and clip it onto the rides. So, there is only simple thing in this system so the memorability of the system will be increased.

Reference for **HYBRIDPLAY©**

**YouTube channel** <https://www.youtube.com/channel/UCvedYx61RV7iUZnCcSM6BcA>

**Article to read** <https://www.indiegogo.com/projects/hybridplay-engaging-fitness-gaming-on-playgrounds#/>(click on continue reading)

**Reference:** TOPIC 04 - Interaction Design Process and TOPIC 05 - Establishing Requirements