

## LEARNING HANGUL CHARACTER VIA ADVENTURE GAME

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### ABSTRACT

The closure of public places such as schools and universities make learning in physical settings shifted to online learning since the Covid-19 outbreak. Most of the students are obliged to study at home with guidance from their instructors online. In some institutions, learning other than mother tongue is compulsory. Currently, the popularity of the Korean language has exploded in countries such as Malaysia. Most of the learning materials provided to learn Korean language are through books. However, people do not want to learn by books today, since they are used to digital and various types of technology. Learning a language will not be enjoyable without having an element of a game in the learning process. Enjoyment is one of the most important elements in learning the language to attract learners. Hence, the project aims to provide learning Hangul through game-based learning which implements Game Development Life Cycle (GDLC) model to develop the game. The scope for this project covered all forty letters of Hangul characters which they need to navigate the characters to answer some Hangul characters related questions to finish the mission given. The target user for the application is general to those who are interested in learning the Korean language, especially teenagers. EGameFlow model is then being used to evaluate the enjoyment of the user when playing this game as their tool for learning. The result gives a value of mean score 4.25 of 5.00, which shows that the application was enjoyable because it has exceeded 4.00 score, which shows that this application can be one of the learning tool alternatives that can be used to practice the Korean language in an enjoyable way.

**Keywords:** Korean, Hangul, Game, GDLC, EGameFlow

### 1. INTRODUCTION

Since March 2020, schools and higher learning institutions are forced to close to curb the spread of Covid-19. Even though at a certain time until September 2021 the learning institutions were opened occasionally, but it is not for a long term. Students need to learn online by using materials prepared by their instructors. Even though some online materials are prepared by the instructors for the online classes are mostly ready, students still need another alternative to make their study interesting. Students nowadays preferred to learn using technology because they are used to multimedia and various form of technology.

In some institutions, learning third language is compulsory. Learning the Korean language is considered in demand especially in countries like the USA, Canada, Thailand, and Malaysia (Pickles, 2018). Most of the learning materials provided to learn Korean language are through books. However, people do not want to learn by books today, since they are used to digital and various types of technology. They have been named "Virtual Natives," "Internet Generation (IGen)," and "Screensters" because they were raised in an Internet-connected world and are incredibly tech-savvy (Renfro, 2012). According to Feng & Zhao (2018), the research found that the current online courses are mainly the learning forms of watching videos taught at home and self-study courseware.

Learning a language is not enjoyable without having an element of game in the learning process (Ashraf et. al, 2014). Enjoyment is one of the most important elements in learning language to attract learner (Li, Jiang & Dewaele, 2018). Furthermore, learning through game is more enjoyable because most of the courseware is quite simple in term of its multimedia elements. Students in this generation

found that learning through game can give more enjoyment rather than learning through books. Enjoyment is one of the important elements in learning because it can give motivation and impact in the outcome of the learning. Hence, by having games to learn Hangul characters, it is hoped it can help the student enjoy the learning process.

This project's scope includes all of Hangul's forty-character letters. Twenty-one of these are vowels (including 13 diphthongs), and nineteen are consonants. For this game, the target user is for the user who is interested in learning Hangul characters, so that the user can read Hangul characters to better understand the language. It is hoped, after using this game the user can read the basic word in Hangul characters.

## 2. MATERIALS AND METHODS

The game is developed in a 2-dimensional (2D) scenery of Joseon dynasty with main multimedia element such as animation, graphics, text, video, and audio, done in the desktop game application. This adventure game is all about learning Hangul in a fun way. This game will have 4 stages that the user should complete so that the character can get out from the main scene drafted. Each stage will have a mission, so the users must complete the mission to move to the next stage. The mission will all related in learning Hangul. This game will cover some of the subtopics in the Easy Learning Fundamental Korean Writing Practice Book that was written by Media and Fandom.

Game Development Life Cycle (GDLC) is chosen because GDLC has been defined by game developer as a guideline for starting the process of game development (Ramadan & Widayani, 2013) which the stages are in Figure 1.

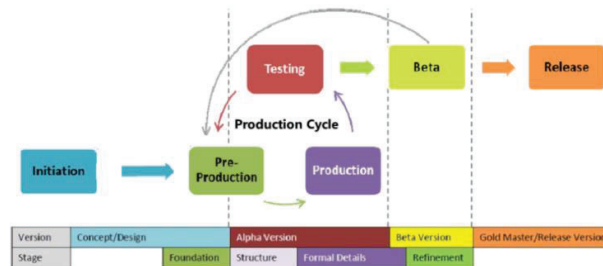


Figure 1. GDLC model

In initiation phase, searching articles, journals, books, and website about the problem in learning the Korean language were done. From the research, the problem that has been identified are learning material in learning Korean language which is learning through books and learning Korean language using courseware.

Next, pre-production. It primarily includes prototyping games and game design. A working prototype of the game is developed using the design concept that includes the game's core features such as fun elements, layouts, texture, and animation. In the production stage, we set up the development for all the game software to be ready. To develop this game, the suitable game engine to develop this game is Construct 2 and this software is using JavaScript as a programming language. Furthermore, for designing the character and background we use blender because blender can support 2D design. In the testing phase, it means internal testing to test the usability and playability of the game which was conducted to test the functionality of the game based on the use case diagram. Lastly, we stopped at beta stage which to evaluate the enjoyment of the game. Therefore, to evaluate enjoyment EGameFlow model is chosen as the evaluation model. EGameFlow model has 7 criteria to evaluate enjoyment of the game (Zain et. Al, 2016).

## 3. RESULTS AND DISCUSSION

In this game, there will be five important characters which are a boy (main character), old man (mission giver), and three women (shops owner) as shown in Figure 2. Besides that, the environment setting in is Joseon era as shown in Figure 3.



Figure 2. Characters designed in this game



Figure 3. Joseon era setting designed in this game

When users enter the game and click the play button, they are given the option to see the opening story that leads the main character to be in the Joseon period or just skip the story to see the levels. For each level, there are missions given by the old man to the main character such as collecting the brushes, inks, and books. Each collected item will be granted if the user answers the question correctly as shown in Figure 4.

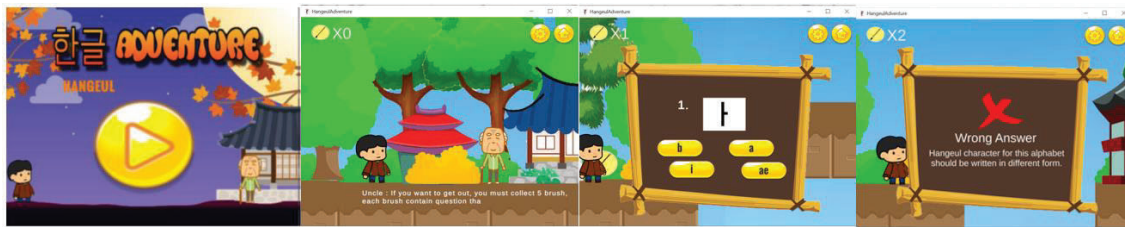


Figure 4. In game screen for the game

After the gameplay is finished, EGameFlow model is used to evaluate the enjoyment of the game which focuses on 7 elements of concentration, goal clarify, feedback, challenge, autonomy, immersion, and knowledge improvement. The mean result for each element is tabulated in Table 1.

Table1. EGameFlow evaluation result

Element	Total Mean
Concentration	4.26
Goal Clarify	4.33
Feedback	4.14
Challenge	4.15
Autonomy	4.27
Immersion	4.08
Knowledge Improvement	4.55
<b>Overall Mean</b>	<b>4.25</b>

Learning Hangeul via Adventure Game performed exceptionally in most criteria. To identify the agreeability of the enjoyment of this game, the overall average from the total mean of seven element was computed. The overall mean produces a value of 4.25 of 5.00 for the overall mean which shows the game exceeded the scale of 4.00. This concludes that the users enjoy while playing the game and can gain some knowledge provided.

#### 4. CONTRIBUTION AND USEFULNESS/COMMERCIALISATION

The contribution of this game is it serves as an alternative tool to learn Korean language in an enjoyable setting. This game is ready to be commercialized and some collaboration with language faculty in any institution can be done. They can use this game as added material instead of just using books, videos or courseware that has less interactivity during the learning process.

#### 5. CONCLUSION

Learning Hangul via Adventure Game is a game-based learning application for people who is interested in learning the Korean language. This is a desktop-based game that is played using a laptop or personal computer. Users can play this game by controlling the character of this game by using the specific key in the keyboard. Users can move the character by walking or jumping the character. The project has been completely developed for people that are interested in learning the Korean language in a more enjoyable way, this game can be one of the learning materials for them in practicing Hangul. For future work, it is recommended to have a different platform of deployment such as in Android or Apple to make it more accessible than using a laptop to play the game which can enhance its commercial value.

#### REFERENCES

- Ashraf, H., Motlagh, F. G., & Salami, M. (2014). The Impact of Online Games on Learning English Vocabulary by Iranian (Low-intermediate) EFL Learners. *Procedia - Social and Behavioral Sciences*, 98, 286–291. <https://doi.org/10.1016/j.sbspro.2014.03.418>
- Feng, A., & Zhao, H. (2018). Research on the development status of Korean language training industry in Wuhan. *215(Mmetss)*, 387–391. <https://doi.org/10.2991/mmetss-18.2018.82>
- Hidayah Mat Zain, N., Jaafar, A., & Hanis Abdul Razak, F. (2016). The Components of Enjoyable Game Design for Motor Impaired Users: Expert Evaluation. *Indian Journal of Science and Technology*, 9(47). <https://doi.org/10.17485/ijst/2016/v9i47/92361>
- Li, C., Jiang, G., & Dewaele, J. M. (2018). Understanding Chinese high school students' Foreign Language Enjoyment: Validation of the Chinese version of the Foreign Language Enjoyment scale. *System*, 76, 183–196. <https://doi.org/10.1016/j.system.2018.06.004>
- Ramadan, R., & Widyani, Y. (2013). Game development life cycle guidelines. *2013 International Conference on Advanced Computer Science and Information Systems, ICACISIS 2013*, (June), 95–100. <https://doi.org/10.1109/ICACISIS.2013.6761558>
- Renfro, A. (2012, December 5). Meet generation Z. *Gettingsmart.com*. EdTech. Retrieved from <http://gettingsmart.com/2012/12/meet-generation-z/>
- Pickels, M. (2018, July 11). K-pop drives boom in Korean language lessons. Retrieved from BBC News global education: <https://www.bbc.com/news/business-44770777>