Language Clash: Deutsch & 한국어 Edition

A pygame Korean-German Vocabulary-Trainer

Introduction

"Language Clash: Deutsch & 한국어 Edition" is an innovative, interactive game designed to merge language learning with the excitement of gameplay. Developed using Python and the Pygame library, this game challenges players to learn Korean and German vocabulary while navigating through engaging gameplay mechanics. The combination of language education and game design makes this an ideal tool for learners who seek a fun and effective way to enhance their language skills.

Game Design and Mechanics

The game initiates with a welcoming menu screen, presenting three primary options: 'Play', 'Instructions', and 'Exit' which can be selected via the mouse and cursor. The menu screen, with its intuitive design, is easy to navigate, encouraging players to explore the game with ease. The colorful and simplistic design makes it especially appealing to a younger audience and was chosen to motivate all players to learn more. The background image was obtained from Unsplash and is used under their license: https://unsplash.com/de/lizenz. The 'Instructions' option provides a comprehensive guide, detailing game controls and objectives, ensuring a smooth onboarding process for new players - even though it is hardly necessary. Since the game's main goal is to teach its audience German and Korean vocabulary, the actual game is kept simple to allow the players to concentrate on the underlying linguistic component without getting too distracted.

The main menu allows you to view instructions, start the game and exit the program
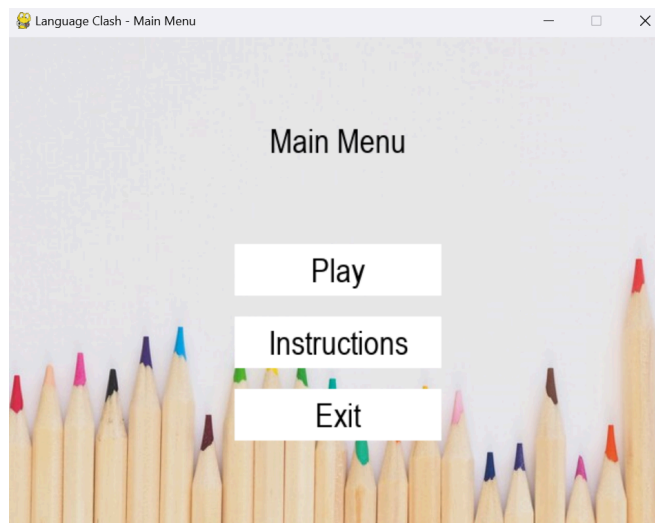
Upon embarking on their journey when the 'Play'-Button is clicked, players are immediately given the chance to personalize their gaming experience. The first step involves choosing a character from a set of three options: Each character is uniquely designed, adding a personal touch (different speed of play) to the game. All character sprites used were obtained from GameArt2D, which is run by Zuhria Alfitra a.k.a pzUH, and are available under Creative Common Zero (CC0) a.k.a Public Domain license. After the character selection, players choose from three distinct weapons with different speeds of shooting respectively. Weapon images were either created using pygame or in the case of the pencil-weapon obtained from OpenGameArt under CC0 1.0 DEED CC0 1.0 Universal license.
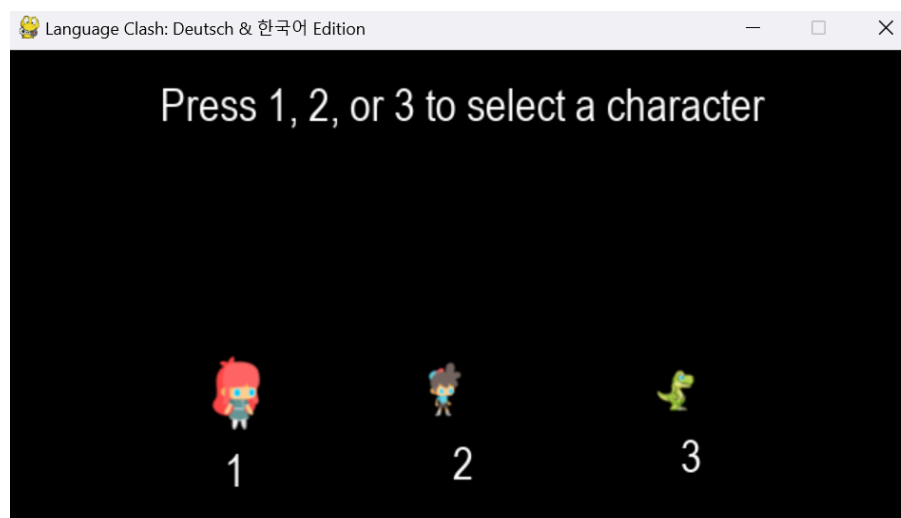

Character selection screen letting player choose between three fun options

Once the game begins, players find themselves in a world where language learning and action converge. The core gameplay revolves around shooting at an orange square, which splits into smaller segments upon being hit. We took inspiration from this video on YouTube: https://www.youtube.com/watch?v=Dkx8Pl6QKW0, which addresses the setup of the main stage and character movement. This is the basic logic behind initiating a basic pygame and we continued to develop the concept further into our own linguistic game.

Each rectangle displays a word - starting with English to present the player with the main topic of vocabulary they will engage with during playing. It then branches into either German or Korean, offering a direct translation of the topic in each language. Notably, the order of appearance depends on the player's actions as it is fixed by the count of 'collisions', when the player successfully fires their weapon at the rectangle-words. This mechanic not only tests the player's agility and precision but also enhances their linguistic skills by preventing the player from retaining the words by repetition only and instead always changing the appearance of different words.

The game thus cleverly integrates language learning into its core gameplay, making education a natural and enjoyable process.
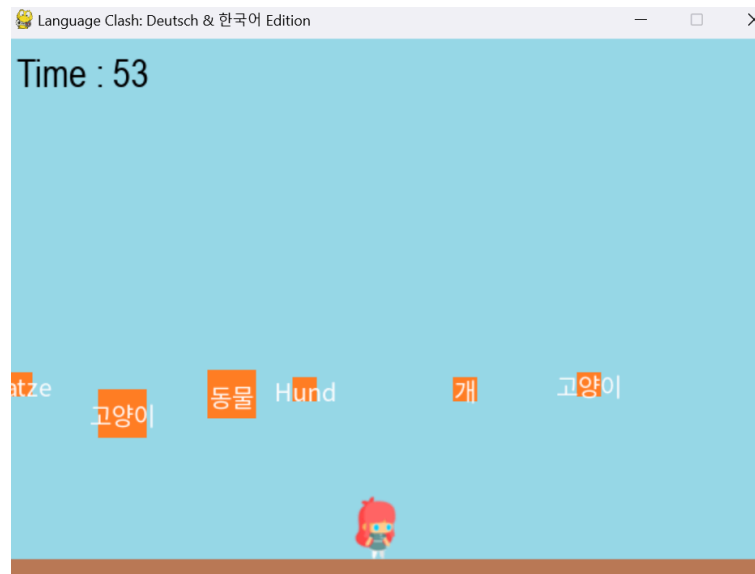
Learning Korean and German words around the topic of 'Animal'

Learning Through Gameplay

As players progress, they are exposed to a variety of vocabulary words, categorized into themes such as Animals, Jobs, Food, etc. These categories are randomly selected in each game, offering a diverse learning experience that challenges the player to improve their vocabulary consistently over a range of topics. The game's educational value is amplified by the need for the player to react quickly to new words, reinforcing learning through repetition and engagement.

Summary screen displaying Korean-German word pairs around the topic 'Job'

Upon successful completion of a level, or if the player fails to progress by failing to complete the challenge within time or collision with a word, they are presented with a summary screen. This screen displays a list of all the vocabulary words encountered in the game, categorized by the main topic of the run and organized in vocabulary pairs for better understanding. This feature serves as a recap, aiding in the reinforcement and retention of the newly learned words.

Conclusion

"Language Clash: Deutsch & 한국어 Edition" intends to show how educational content can be effectively integrated into a gaming environment and become a fun experience for everybody. The game not only serves as a tool for learning new languages but also exemplifies how Python and Pygame can be utilized to create engaging educational content. Through this game, players embark on a journey of language discovery, where learning is seamlessly woven into the fabric of gameplay.

Team Labor Division

In the development of our game, "Language Clash: Deutsch & 한국어 Edition", the tasks were strategically divided among our team members, Jördis and Jisu, to leverage our individual strengths and areas of expertise.

Jördis' Contributions: Jördis was primarily responsible for designing and implementing the menu screen. This involved creating an intuitive and user-friendly interface where players are greeted with options such as 'Play', 'Instructions', and 'Exit'.

Jisu's Contributions: Jisu took charge of developing the character and weapon selection aspects of the game. Jisu's role involved programming the functionality that allows players to choose from three distinct characters and a variety of weapons, each with unique speed attributes.

Collaborative Efforts: A significant portion of the project was undertaken collaboratively. This included integrating the educational component of the game - embedding Korean and German vocabulary into the gameplay. Together, we developed the mechanism for placing words on the moving balls and compiling these words into a list for players to review at the end of the game. This was a challenging yet rewarding aspect, as it involved ensuring that the educational content was seamlessly woven into the game mechanics.

Overcoming Technical Challenges: Additionally, we encountered and resolved a unique technical challenge regarding language compatibility. Our game initially faced issues with displaying Korean characters. To address this, we collectively researched and implemented a solution to set a font that supports Korean on all operating

systems by setting a specific Korean font utilizing an otf file. This effectively ensures that the game accommodates the linguistic elements essential to its educational purpose and all operating systems without the need to rely on system fonts.

Technical Information:

Given the distribution of tasks during development and brainstorming, we used both Windows and Mac as operating systems and ended up merging the individual code files into the game's main file. This procedure had the advantage of ensuring that the game would run on several operating systems, instead of just one. The code developed on Windows was designed using a Python 3.10 distribution and the code developed on Mac utilized the most recent Anaconda distribution.