Flicker (Game Design)

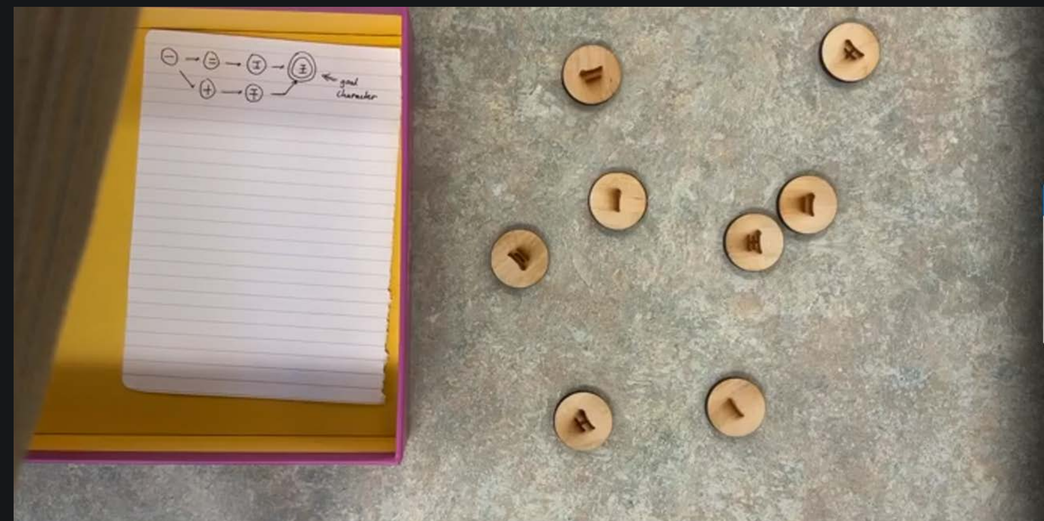
Flicker is a 2D platform game for young Chinese starter learners to learn and understand Chinese more systematically and engage through interacting with the evolution and formation of characters. This is an ongoing project and I am working on it from the idea to the game's production.

INDIVIDUAL | GAME DEVELOPMENT | DESIGN

August 30, 2022 to current
Game Demo Link: https://zhujunting.itch.io/flicker
Demo Video Link: https://youtu.be/vKIi5qoauSE
https://flicker-game.blogspot.com/







Motivation and Analysis

Motivation

Learning a new language is always difficult for people: when the repetitive remembering process becomes dominant, people start to lose interest and the motivation to continue.

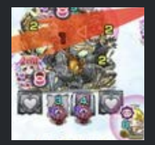
Considering the learning process of a language can mimic the developent and evolution of such language. From basic characters to combined more complex characters, learners can also adopt such a process of evolution and progression instead of remembering everything, like the experiences when I was a child.

Games are the most effective way to engage a player, especially for such a boring task of adopting a new language. the key elements in games that differ from the real world are quests, experiments, and rewards. Games can give players the motivation and interest to keep playing, and also keep learning new things without being bored.

Inspirations

The key directions of the game should be drag, flick, and combine; so the inspirations were mechenics of Billard and Pinball, theme of Chinatris, and interaction of Monster Strike.



more about motivation and ideas can be found here>



Background Research

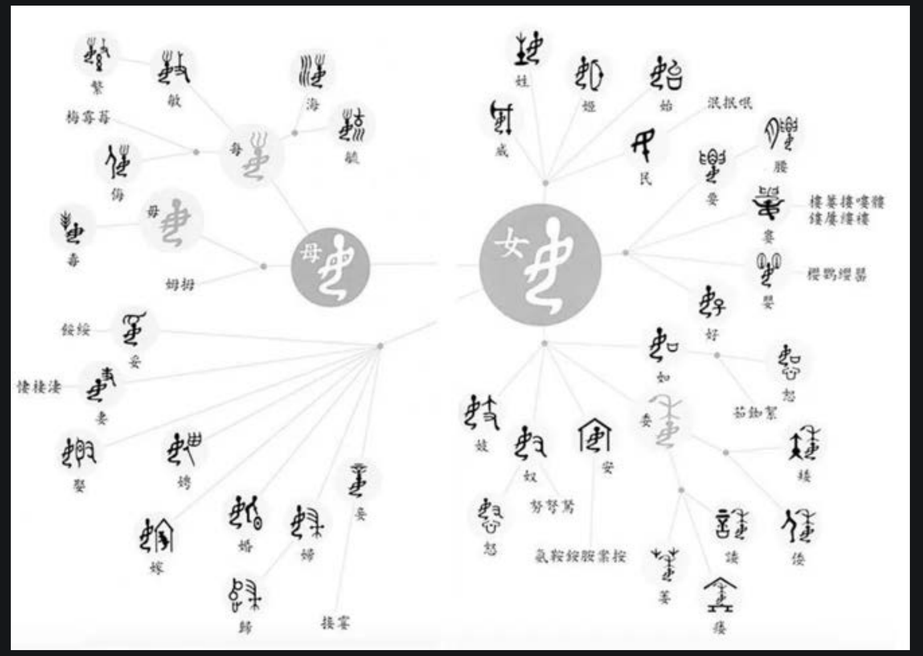
About Chinese Character Formation

- pictographic: the shape of the characters is mimicking the real-life object. these characters are usually simple and holistic (most parts are connected and mostly can not be further split into other meaningful characters). these are most of the earliest and most simple characters.
- symbolic: some small indicators (like dots, horizontal/vertical strokes ...) mostly added on the pictographic characters to indicate the focus of meaning.
- combined ideograms: combine two or more pictographic or ideographic characters together to express the third meaning. e.g. 日 sun + 月 moon = 明 moonlight (Decode Mandarin Chinese, n.d.)
- combined pictophonetic characters: combine two character together - one indicates the meaning and the other indicates the pronunciation. e.g. 女 (woman) + 马 (reads: ma) 妈 = (mother, reads: ma)

Most of the Chinese characters, no matter complex or simple, are formed of these "rules"; however, as more simple characters can have multiple combinations (and sometimes there are multiple combinations from two characters), more complex characters will have fewer (and even no) combinations, the focus of the game will be those simpler characters.

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sources: Zhihu, The Formation of Chinese Characters, Character Formation in Chinese

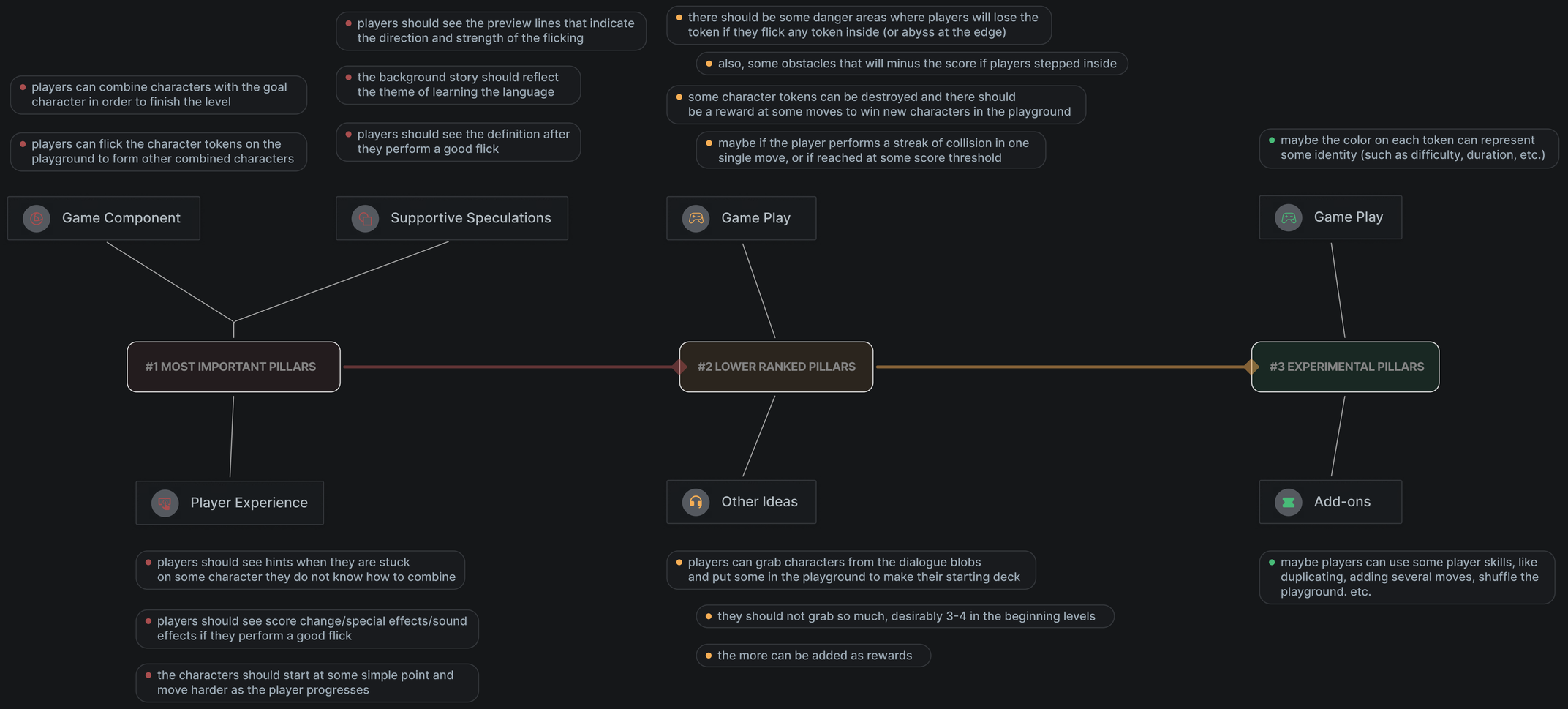




My Implementation

As the key component of Flicker is to combine characters to the new characters, I planned to use the collision of tokens as the mean of combining characters: if the two tokens can be combined, then the new token will be generated. Also, not all characters can be combined so players will feel challenged to pick which move to flick.

Core Pillars



[The Brainstorm Figma Map can be found here>]

Playtest and Interations

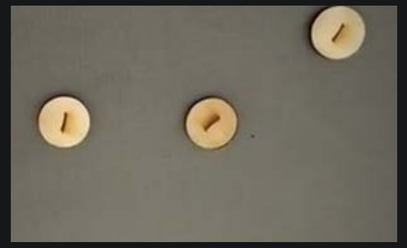
Playtest Setup

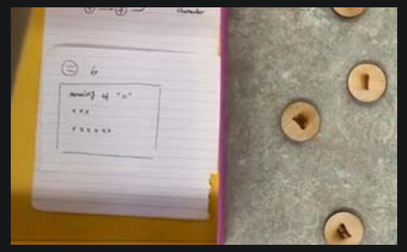
The materials for the playtest were small wooden tokens that were printed by the laser cutter on birch and plywood. The diameter of these tokens was approximately 10 centimeters and the desired setup of the playground was about 60 cm by 40 cm.

The surface of the playground was also a big issue friction would play an important role - the final playtest was on the normal desk table with the minimum friction possible.

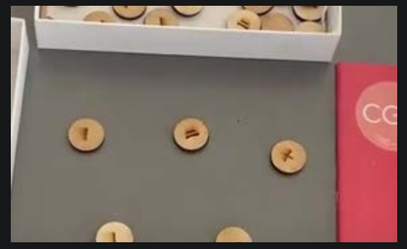
all playtest video recordings can be found here>











Feedback and Iterations

- Character Units: J pointed out there are only 3-4 basic forms of characters, which can play but are kind of boring. Adding more elementary tokens would make the collision process more diverse and random.
- Randomity: J pointed out there are many characters that can combine to multiple different characters. Introducing randomness can make the game more interesting and engaging.
- Preview Lines: J pointed out that the tabletop game test made aiming a certain character as a goal pretty hard, we can easily get the trajectory wrong and miss the desired target.
- Difficulty: the current physical playtest's goal is a relatively simple character: WANG (king), which only has 4 strokes. J felt this was too simple while B said that is some point between too simple and okay.
- Hint: J thought it would not be necessary to show those hint diagrams all the time. The hint is only useful when the players are stuck on some character and do not know how to move on.
- Color: B pointed out the color variations in the physical tokens. There is not yet a good idea about how tokens will different colors would contribute to the gameplay, but that is one of the interfaces that we can add something to later.
- Punishments: B pointed out there is only one way of winning a level. It would be interesting if we implement some danger zones that will perform some deductive action or punishments on players.
- Rewards: the first one is about adding new tokens. He suggested that we can let players choose from three tokens and select one to be placed on the playground.
- Another part about the rewards he talked about was related to Candy Crush. The key component in that game is about some moves you can trigger more pops and such a butterfly effect will give players a huge surprise than expected.

the detailed feedback document can be found here>

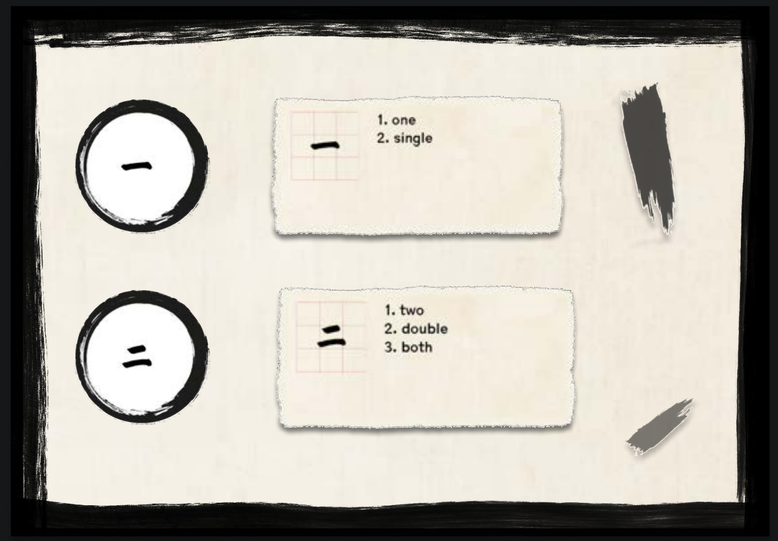
"Do these color variants have a meaning? Are they different tokens or the same?"

"It is a bit hard to aim the target."

"Ah, I dropped a token on the ground! Is there any punishment for that?"

"Yeah, consider Candy Crush! All of a sudden everything collapse and it gives the player a HUGE suprise!"

Theme, Art, and Development



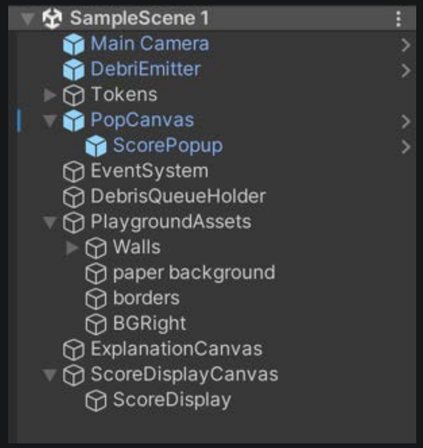
Development Process

The overall structure in Unity is separated to different parts:

- Tokens are the same prefabs as controller scripts.
- The Playground is holding the scene sprites and their box colliders.
- The Effect Layer is controlling the debris and collision effects.
  - The Shadow Pool is queueing particles' lifetime because they are rigid bodies
- The Canvas is showing scores, pop-up scores, and explanation panels.

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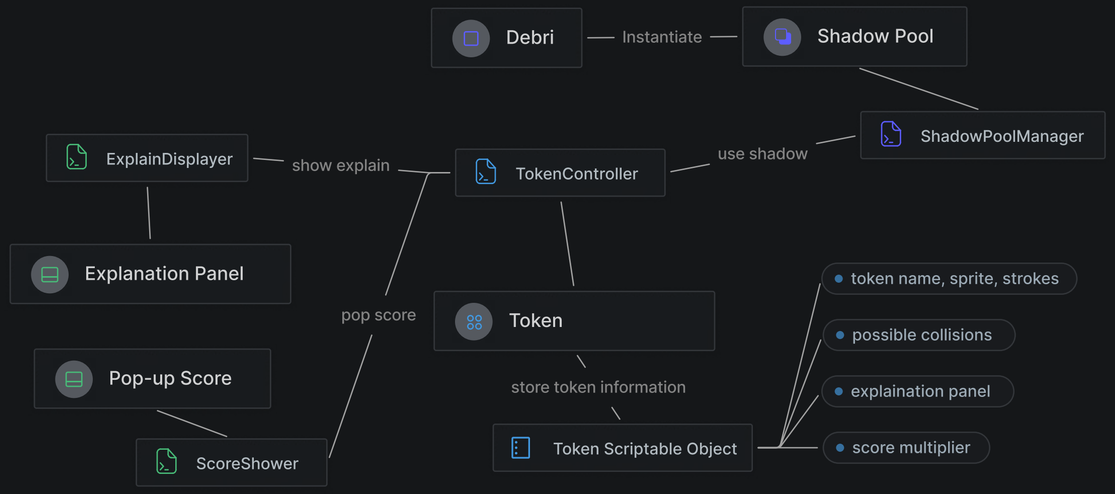
the repository can be found here>



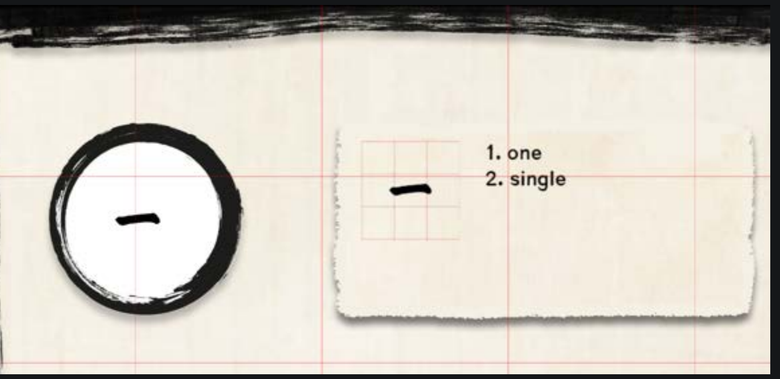
Arts

The theme of the Flicker is about engaging in learning a new language more interactively, so the art of the game should be more calligraphy style. The tokens, assets, borders, and effects are stroke-style and consistent with the overall theme.

These are the art assets for the demo view. The assistive English explanations and pronunciation will help the players to learn Chinese better; also, by indicating the combinations, players can understand what they have combined and how these characters are formed.
Instantiate









Thank You!

The following buttons can navigate to gameplay demo on itch.io, video game walkthough on YouYube, and production and document page on Blogger.

This is still an ongoing project and many of the features on canvas have not yet been developed. There will be more features comming next!

GAMEPLAY DEMO

VIDEO WALKTHROUGH

DOCUMENTATION

Work Credit: Junting (David) Zhu, August 2023 ~
Mentoring Professors: Stacey Robinson (Art and Design), Emilie Butt (School of Information Sciences)
Explore about me on my WEBSITE>