You

Game Design Adventure #5 Frontier of Freedom by Yidi Zhu

Ideation

Those who know me as game designer, know that I'm good at making peaceful and artful games. For adventure #5, I decided to challenge myself, to make something different, somethings that feels stimulating and make the player feel empowered and excitement. Also, this should be the kind of game that I can play while waiting for dishes in a restaurant. It doesn't need to carry much meaning, but it should be super fun and engaging.

I've been having this core mechanic in mind for some time: a game where the way you attack is the way you move. My first idea is to make this game a FPS in true 3D space where players move by rocket jump. However, being someone who experiences serious motion sickness, I decided not to torture myself. But I still want the perspective view brought by 3D world. So I was blocked for a while.

One day, on my commute to the ETC, I came up with this idea of making the game 2.5D, where the world stays 3D, but the player can only move on the X-Y plane. Yes! This makes things a lot easier so I decided to go with it. Also, I came up with the idea of making a roguelike game. Perfect, it's easy to make a roguelike shooter. At last, I want to practice my ability to design, implement, and balance dynamic difficulty adjustment.

So I set these design pillar.
- Rigorous dynamic difficulty adjustment (Good interest curve, tense & release cycle)
- Exciting, fair, juicy gameplay. Short play sessions
- Appeal for a wide range of audience

Development

Unity is used as the game engine. Blender is used for modeling. Github is used for source control.

Yutian Zheng did the sound design. Skybox is from Unity Asset Store. See References session.

Playtestings

Here is the link for downloading the game: https://yidizhu.itch.io/you

As git is used for source control, playtest sessions are separated by development process, i.e., no matter how many players played the after after commit 18 but before commit 19, they are grouped into one single playtest session.

Playtester's thoughts are written in bullet points. While my thoughts and response are in italic.

1st playtest

Goal: Share the game's idea and get feedback on it.

Playtesters: Yu Li & Siyu Ren (both ETC Class of 2019)

This playtest happened very early, before development starts. After I changing my idea from 3D space to 2.5 space, I spent a lot of time mocking up the gameplay in my head.

Changes: Nothing to the core mechanics. But they seem to be extremely interesting in randomly generated game world and dynamic difficulty adjustment

2nd playtest (commit 12)

Goal: Get the basic input feel right.

Playtester: Myself

Although I had this idea of propel yourself in the opposite direction when you shoot, I wasn't sure what's the right way to implement it. So I decided to try several things out: adding force in a short amount of time; adding force in a relatively short duration (1s for each time you shoot); changing velocity to a set value; and adding a velocity to the existing velocity. I tried each of them out. The last one feels the best. **Reasons:**
1. Instant, strong feedback. The velocity change is very visible to the player.
2. Allows the players to go really fast in a short amount of time (i.e. doesn't have a acceleration cap)
3. Easy to control where to go

3rd playtest (commit 15)

Goal: Get people's general feedback on the first prototype.

Playtesters: Rachael Gu & a guy whose name I forgot, let's call him Subject A (both from Game Design class)

Analysis: They liked the idea. Subject A was amazed by the procedural generation technique. The game still have a long long way to go, but I'm determined!

4th playtest - A long development ([commit 15](#) - [commit 28](#))

This is where the game gets fun enough that I started spending more time playing it than developing it. Everytime I hit the play button just wanting to test a small functionality, I ended up playing the game more than 3 minutes.

Analysis on why I want to play this game:
1. The control feels really good
2. The feedback of killing enemies is strong and satisfying
3. I do feel the freedom of being able to go anywhere I want
4. I consistently get stronger and stronger

5th playtest - premier ([commit 28](#))

Goal: The game is halfway alpha. This playtest is to get player's feedback on whether the game is engaging and fun, and potentially find out new ideas to improve the game.

Playtesters: Siyu Ren & Yuqiao Zeng (both ETC Class of 2019)

Feedback:
1. Yuqiao: Wasn't sure the pickable items are pickable
   a. *My response: Not sure, I will see what others say*
2. Yuqiao: After getting several additional weapons, I can just hide in a corner and shoot
   a. *Fixed with the boss and enemies that have ranged attack, which were added later in the development*
3. Yuqiao (advice): It would be nice if you give players a time limit.
   a. *My response: Yes that would be cool. And I can give them pickable items that extends their play time, so players are motivated to go around instead of staying at a corner.*
   b. *Update on deadline day: Nope, this is no fun at all! I implemented it and tried it myself. It turned out to be very frustrating.*
4. Siyu: (speaking from an artist point of view) The random map generation mechanic reminds me of Manifold garden (Me thinking: not even close in terms of art, but anyway).
   a. *My thoughts: But it's a good point! I can add some decorational objects in the background. The players will be able to see them, but won't be able to interact with them.*
   b. *Update on deadline day: I ended up not having time for this. But anyway, art is really not the focus here.*

5. Siyu: Sometimes I can go really fast. I mean really fast. Fast to a degree that your physics (collision detection) stops working.
    a. *My thoughts: Okay, good point. But I'm not sure if setting a speed cap is a good idea. But the freedom as going as fast as the player wants is really a crucial part of this game.*
    b. *Update on deadline day: I added a speed cap to the player later in development. And that speed cap is dynamic, depending on the current difficulty level. So those skilled players (they need to be skilled to reach a high difficulty level) can move faster.*

Analysis: See italic texts above. They did give a lot of valuable feedback, especially the one on time limit. I will add that into the game and try. As the game is still halfway to its alpha, a lot of other features will be implemented, too.

Update on deadline day: Timer didn't make its way to the game.

6th playtest [(commit 30)](commit 30)

Goal: test the newly implemented rocket launcher and its UI. Also test if the items are balanced (i.e. players are not getting to many items). The difficulty adjustment is still not in the game yet.

Playtesters: Wakko, Siyu, Tianyi (all ETC class of 2019), and Yifei Gong (from the game design class)

Feedback:
1. Tianyi:
    a. It's hard for the enemies to hit me
        i. *My response: Not necessarily true. This depends more on the player's skill*
        ii. *Update on deadline day: it's not hard anymore. And it will be increasing easier for enemies to hit the player as difficulty level goes up*
    b. I didn't understand how rockets work
        i. *My response: Yes, I need to fix it.*
        ii. *Update on deadline day: Nope, I didn't fix it. Some players can understand it so it's fine.*
    c. (My observation) Got bored after around 2~3 minutes
        i. *My response: This is why dynamic difficulty change needs to be implemented soon*
        ii. *Update on deadline day: done.*
    d. I should get bigger as I get stronger
        i. *My response: Good idea. But it will destroy the level design. I need to think more about it before doing anything*

ii. *Update on deadline day: Nope. The player is not getting bigger. It will make the game super hard if it does.*

e. It's so hard to utilized the bricks in any meaningful way

i. *My response: It's true. Tiles are so easy to break now. Maybe I can add unbreakable tiles to the game*

ii. *Update on deadline day: Nope. Bricks are no longer your friend (and they are not supposed to be). So the player will want to destroy the bricks because they are blocking the player. Also, making sure all bricks are breakable ensures the player's ability to go anywhere*

2. Siyu:

a. I want some unbreakable tiles to rest on

i. *My thought: Nice point, echoed my thought!*

ii. *Update on deadline day: Nope. The freedom comes first.*

3. Wakko:

a. (Wakko didn't give any constructive feedback, because he just passed by my room and wanted to try the game. He is known for breaking games, and he did break my game by going extremely far, to a degree that the random map generation algorithm cannot follow)

b. *Update on deadline day: fixed. The player has a speed cap now.*

4. Yifei (this is a remote playtest, I sent a build to him via Google Drive):

a. I didn't notice pickable items in the first two playthroughs

i. *Update on deadline day: Now the players should be able to notice them. They are in friendly colors.*

b. I need more objectives

i. *My thought: maybe the points is not exciting enough*

c. Rockets are flying too slow, they usually hit enemies out of screen. So I think you should adjust the acceleration of rockets

i. *Response: Yep., it is a problem. They are flying faster now.*

6.5th playtest

Jacob (ETC Class of 2019) played the game on the next day of the 6th play test before I made any changes. Jacob pointed out that camera shake and more advanced camera movement will make the game feel better.

Update on deadline day: the camera shake didn't make its way into the game because:

1. *Takes too long to implement a camera shake that feels right*

2. *Camera shakes conflicts with the current camera movement mechanics, which is, following the player while offsetting a little bit toward the cursor.*

7th playtest

Goal: Test boss battle

Playtesters, feedback, and analysis:
1. Shan (ETC Class of 2019):
    a. Don't feel like the enemies are my enemies. They are in round shapes and pink colors.
        i. *Fixed. They look aggressive now*
    b. I want sound
        i. *Fixed. Sounds are in the game*
    c. UI for difficulty level
        i. *Nope. I want to hide that from the player. They can still get a sense of progression by looking at their scores.*

8th playtest

Goal: The game features are complete. This playtest is to get people's feedback before dynamic difficulty level is added. Mainly to get their opinion on overall feel and balance

Playtesters:
1. Ridima & Dan (both ETC Class of 2019)
    a. They loved the game.
    b. Dan said it's hard to die
        i. *IT'S NO LONGER THE CASE NOW!*
2. Lotus (got new high score 3660):
    a. I always mess up where I'm going
        i. *She eventually gets better.*
    b. Weapon is too small that I can't see it
        i. *No you don't need to see it. You will know how many you have once you shoot. While, this is still an art problem. But let's leave it for now.*
3. Erhan
    a. More progression
        i. More health pickup
            1. *done*
        ii. Faster enemy
            1. *done*
        iii. Enemies that attack fast
            1. *done*
        iv. More boss
            1. *done*
        v. More enemies

           1. *done*
4. Alan
    a. Got new high score 30,000+. Each enemy gives 3-5 score points. So this high score is really insane.
    b. This is firework
    c. Add sound!
        i. *Added*
    d. Didn't get how rockets work
        i. *This problem remains in the final build...*
    e. Make it difficulty enough
        i. *It is now*
    f. But the boss in the beginning is very difficulty
        i. *They appear later now*
    g. If you gets too many rockets or bullets, change their quality instead of just quantity
        i. *I'm not sure how to implemented them. So this remains a problem in the final build.*
    h. Kill streak that resets when you get hit
        i. *Didn't have time to implement and balance it*
5. Xiao:
    a. Enemies looks like taxi
        i. *Again, art problem, low priority*
    b. Relate velocity change to mouse's distance from the player
        i. *I don't think it's a good idea. It will be confusing for players*
    c. Relationship between mouse and camera
        i. *I don't think it's bad. Because it helps you aim.*
    d. Bricks should spawn items when broken
        i. *Nope. It sounds like a good idea. But there are just too many bricks in the game!*

Observations:
1. I need to relate speed cap to difficulty level
    a. *Update: done*

9th playtest (commit 52)

Goal: Dynamic difficulty adjustment is finally implemented. Let's test it.

Playtesters and feedback:
1. Yutian Zheng (ETC Class of 2019)

a. The game is easy enough in the beginning. And the difficulty change is reasonable. I enjoyed it a lot.
    i. *My response: Nice! It's working*

After playtesting with her. I spend a long time playing the game myself to get the difficulty adjustment feel right.

10th playtest

Goal: Sounds are finally in the game!!!! Let's test it!!!

Playtesters: Yidi (myself) & Lotus (ETC Class of 2019)
Result: Me, as the creator of this game, couldn't stop playing it. Lotus also played the game again and again. It's a good sign that this is a good game.

Closing Thoughts

Throughout this game's development process, I had no planning at all, which is very bad. As a result, I didn't have time to implement some interesting features, and the dynamic difficulty adjustment is not perfectly balanced yet. But this game is SO FUN FOR ME! So I'll keep working on it after the deadline.

Q: Where does this game feel like the creator?
A: I give players complete freedom and authority. So if they fail, it's on them. That's what I do in real life.

Q: Why is the game called "You"?
A: This game is all about you. It frees you, supports you, entertains you, adapts to you, challenges you, and finally reflects you.

Reference

1. All sound design work are done by [Yutian Zheng](#).
2. FREE Skybox - Cubemap Extended by BOXOPHOBIC from Unity Asset Store.
   https://assetstore.unity.com/packages/vfx/shaders/free-skybox-cubemap-extended-107400