Nova Drift – UX Study

Nova Drift is a rogue like endless shooter game which aims for combining the mechanical depth of an Action RPG with that of a class space shooter arcade game. The game is currently in its early access release which contains of an endless mode where the goal is to survive for as long as possible and aim for the highest score.

The game consists of a space craft controlled by the player with two basic controls. Left mouse button to shoot in the player direction and right mouse button to move in the direction player is facing. The complexity comes when players get experience points from killing enemies, which in turn lets the player unlock their craft. The upgrades are wide and some synergize with each other and some don't, which allows for a rogue like pick your own gameplay situation where players can choose mods/upgrades which align with they play style.

Research Objectives

For this research, the main objectives are the below three categories. 10 volunteers were chosen to playtest the game, some sessions lasting for 10 games.

1: Player Retention

The goal of an early access game is to introduce a simplified version of the game to players and make them hooked and looking forward to the release of the complete game. This can go both ways. The game can either bring in a good player base which liked the game enough to look forward to the complete version or turn down players who might have bought the complete version if they did not play the early access in the case where the early access ends up making them not want to play it again.

2: Game onboarding

The second research objective is focused on user experience from when they launch the game to the time, they finally understand the game controls and manage to properly play it. Onboarding is an important part of any game, it is where players understand how exactly to play the game. A game with bad onboarding would cause players to rage quit due to not understanding what is going on in the game.

3: Difficulty Curve:

The third research objective is the difficulty curve of the game. Balancing the game difficulty is directly proportional to player retention. An easy game would make players bored of the game quick while on the other hand, a game which is too difficult would make players not even reach the good parts of the game before they quit. To test the difficulty curve, players were observed to check how long it takes for them to reach stage 40 of the game, which is a boss fight.

Game Onboarding

To start the game, players are taken through two UI screens. The first screen consists of settings, game changes, scores. This is more of an info screen about the game. Clicking on "Game Start" takes the player to the next screen
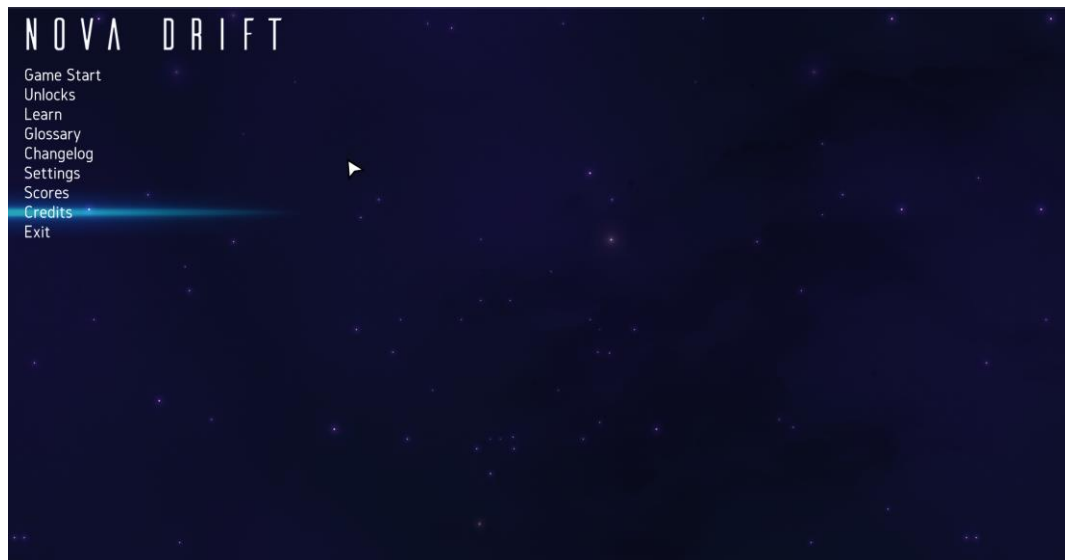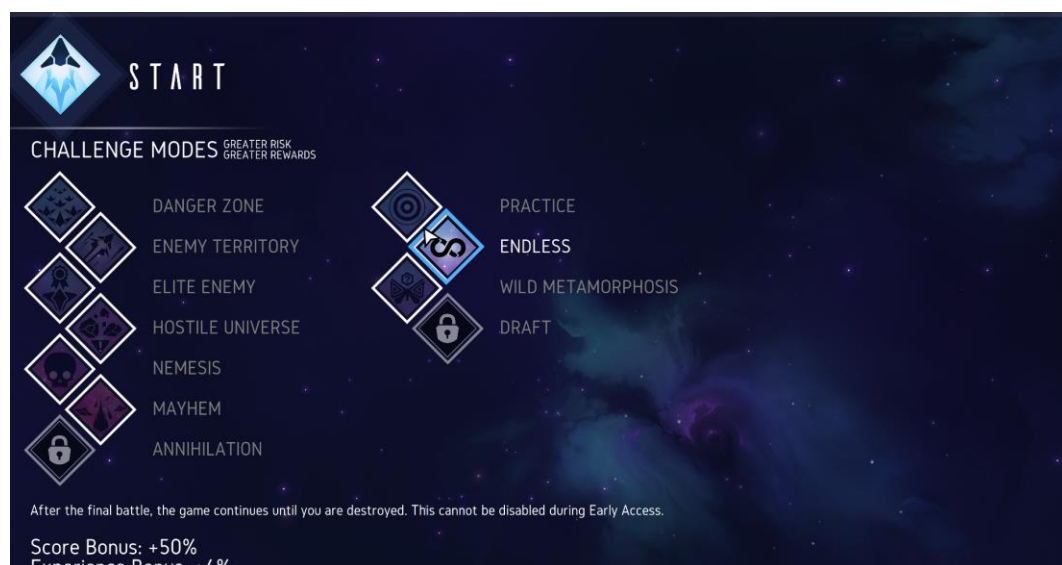

Fig.1: UI of the intro screen

Fig.2: UI of the Game start menu

The Second start menu has level settings with practice mode, endless and other settings which effect the score bonus and experience bonus.

Since the current release of the game only focuses on making as high score as possible. All these settings are just to change the game difficulty and score modifiers. Practice mode just increases experience bonus and reduces the number of enemies.

1/10 players did not understand how to start the game

Fig.3: Initial view when game is started

When the game starts, enemies start spawning directly without any information of the controls of the game. Player craft points towards mouse cursor. There's no prompt to use the left mouse to shoot.

When player kills few enemies and is ready to upgrade. There is a UI prompt in the lower middle of the screen which says "Ready to upgrade" but there is no information about how to upgrade.

During play tests, 100% of the players did not understand how to upgrade. 20% tried to click on the Ready to upgrade prompt but failed.

Onboarding Insights

Even when players chosen for research consisted of people with different skill levels in games, none of them were able to understand how the game works during onboarding of the game. Some did not figure out to use the right mouse button to move and kept shooting from the same position. Some did not figure out using the spacebar to prompt the upgrades UI even after 4-5 play sessions and kept trying to play the game without any upgrades.

Another issue that was noticed during play tests was that players were visually so overloaded with the ongoing gameplay that they often missed the ready to upgrade prompt. 40% of the players actively clicked on spacebar whenever the prompt appeared as they associated the upgrades with getting strong and being able to beat the opponents easier. 60% of the players pressed spacebar whenever the number of enemies on the screen increased, using the spacebar as a temporary break from the pressure.

Difficulty Curve

The difficulty curve of the game was gauged by the ability of players to reach stage 40 of the game and correlating with the number of play sessions it took them to reach that stage.

Fig.4: Stage 40 boss of the game

Stage 40 is where the players encounter the first boss which needs some mechs to be done to beat it. The boss has two stages, stage one where it attacks using the flash cannons from the outside of the ring. The second stage where it attacks on the inner side of the ring. The strategy here is to be inside the circle and break the 5 cores on the inside.

Difficulty curve Insights

Only 40% players managed to reach stage 40 during play tests. That would cause a conclusion that the game is difficult for most players but when further analysed, it is noticed that only the same players managed to get used to the gameplay loop in the research group. They were also able to consistently reach stage 40 and beat it as well in play sessions after they reached the stage once. The game is perceived as difficult only due to players unable to understand the gameplay loop and the input system. Once they have gotten used to the loop, they managed to get to stage 40 without any difficulty.

In a way, the difficulty can be seen as a steep slope which then goes down once the slope is reached once. A deeper analysis proves that the main difficult was due to the UX than the actual game. Players also complained more about the controls rather than the actual gameplay

The below were the answers by some of the players when asked about what made them lose

- The game got more and more difficult due to more and more enemies and finally I did not have time to avoid the obstacles.
- I think the fact that I wasnt really sure how to actually play the game since there were no instructions and I do have a short attention span so I wouldnt spend to much time to actually learn it
- Fast Pace of the game, made me lose more

Due to the lack of proper instructions, players got better with the number of play sessions. Another important aspect of the game being that players have to idea about boss mechanics until they face them once and die due to the lack of prior knowledge. This might be an intended game design to let players learn from experience and get better the more they play it.

Player Retention & Insights

Considering that player retention is an important aspect for an early access game, the game aims on keeping players hooked by using the wide number of ways players can build their spacecraft allowing for multiple game sessions, each with a new playstyle and build. Players have the option to change their gear on the fly whenever they don't like the playstyle of a current game session. Another detail is the score board which adds a sense of competition to the game loop, aiming on having players come back to the game to keep trying to beat their personal or friends' score.

As effective as both the aspects are in player retention, the observation of players not being able to understand how to play and quitting the game in less than 2-3 game sessions pull the retention down. On the other hand, as per play tests, players who understood how to play the game and got used to gameplay mechanics and gameplay loop had the tendency of "Okay, one more game" after each game session. The facial analysis of such players showed signs of focus on the game along with wanting to keep playing once they lose a game. On the other hand, players who were unable to understand the game were getting more and more impatient and annoyed as they kept losing and not understanding what is going on.

In conclusion, the retention of the game was directly proportional to whether a particular player managed to understand the game mechanics or not. When they understood the game and got used to it, they kept wanting to keep playing it and when they did not know what to do, they wanted to quit the game even during a game session without losing.

UX and Recommendations

As per play tests and analysis there are a few high priority UX issues that when fixed would improve the player experience and also help with player retention for the full release of the game.

Proper Tutorial

There are two tutorial like options available in the game. The first being the "Learn" option in the main menu of the game. The second being the "Practice mode" in the second game menu.

The first learn option is just a page which has text explaining the rules of the game and the objectives. 30% of the players tried to click on this option and learn the game mechanics but even after reading this page, they were unable to figure out how to play the game. On the other hand, the practice mode in the game does not help players in understanding how to play the game either. It is just a mode which has slower enemy spawn rate and higher experience gain. It does not address the main issue present i.e. the controls of the game, which button to use for movement, which button to click to upgrade, etc.

Fig.5: Learn page in the main menu

This can be improved by adding few UI prompts at the start of each game, which lets players know which button to click for which option. This works in this case because there are only three inputs for playing the game.

Visual Overload

There are a lot of opponents in the game, each with their own design and colour. After a while in the game, there are a lot of incidents where all the enemies and player on the screen are of the same colour. This has caused a few players to not understand where the player craft is on the screen, getting confused with all the visual overload on the screen. The figure below is one such example. Everything is of the colour yellow, with shields and all having their own attacks, making it hard to figure out what exactly is going on in the game.
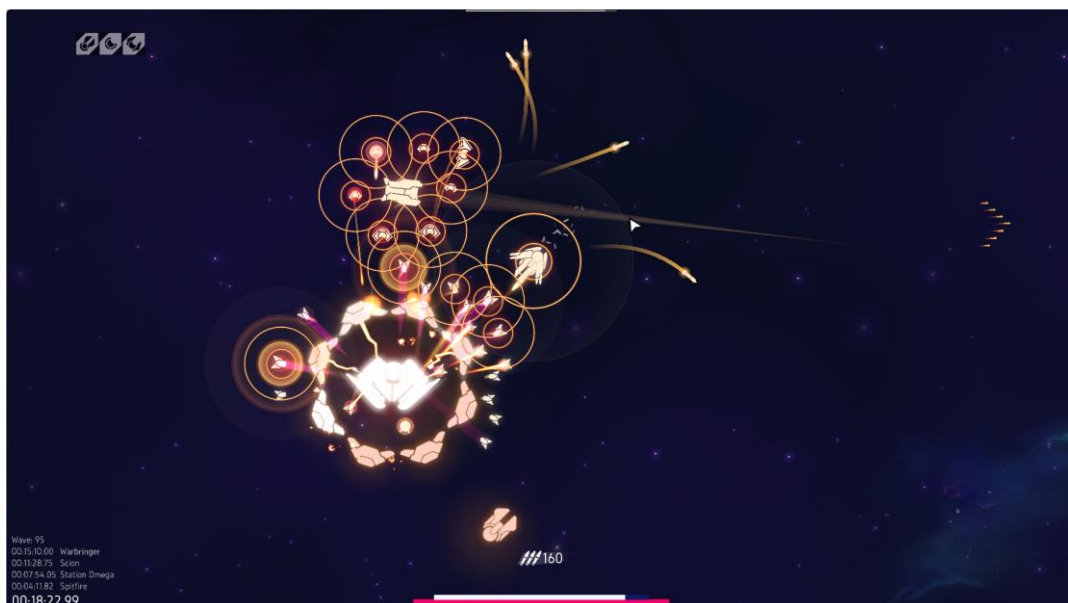

Fig.6: Visual overload on the game

This can be fixed a bit by making it easier to identify the player space craft, giving the player a unique colour, reducing redundant visual elements like rendering the shields of player drones and spawns.

Another visual overload is the dynamic background which often ends up with elements with illumination covering a lot of the screen space

Fig.7: Visual overload due to background

Health System

The game has health system where player health bar is located at the bottom of the screen. From user data, due to the game being fast paced, none of the players even noticed the health bar at the bottom of the screen. When told about the health bar, they did not try to look at the health bar during gameplay. The same is the case with enemy health bar. When an enemy is targeted, its health bar appears at the top of the screen, which is small and hard to notice as well.

This can be improved by adding heath bars directly near enemies or player craft, this would help because the main player focus is always on the space crafts, so having the health bars near them, even if small would be easier to notice rather than placing it at the corners of the screen.

Fig.8: Health System in game

Start Menu UI

In the start menu, players cannot click the text of a mode to get it selected or text of the start button to start the game. They are supposed to only click on the icon corresponding to the option to select it. In the below image, the pointer is on the start text, but "Practice mode" icon is the one that is focused on, so when the mouse button is clicked, the practice mode button gets triggered instead of the game starting.

Fig.9: Start menu
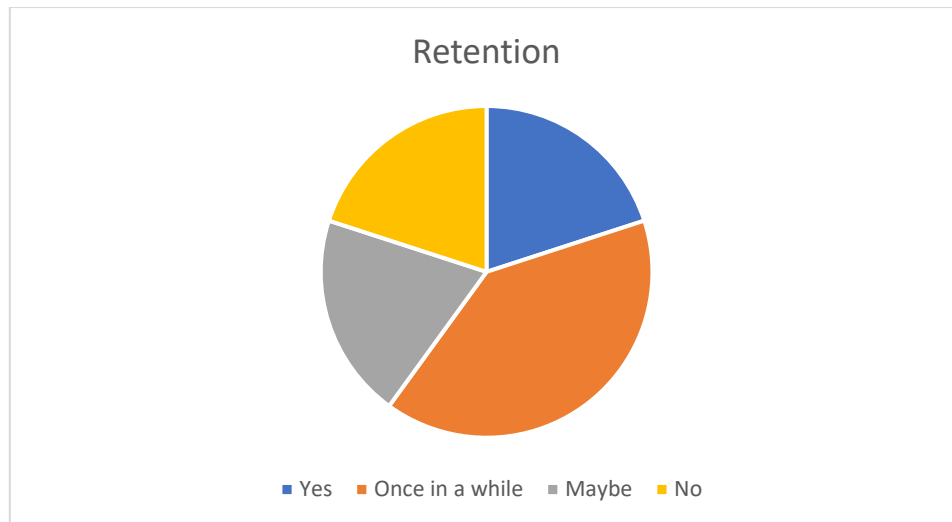
Player responses to "Will you play this game again".

Along with retention, when comparing the questionnaire after play sessions, it was also noticed that players who responded that the game is easy also responded that the game is repetitive. It might be due to how after a certain point the whole game's goal is to just survive because players have either already encountered all the enemies or they have become too overpowered because of certain builds that they don't just feel the challenge or die anymore.

References

Player Questionnaire after play testing:

- How did you feel while playing it?
- If this wasn't research, will you click on the play again button?
- Do you want to win?
- Will you download this game if it was free to play?
- Will you be buying this game later?
- Will you be buying this game if this was on sale?
- Did you randomly choose upgrades? If not, why did you choose that specific upgrade?
- What kind of upgrade would you most likely prefer?
- What about the game did you like the most?
- Which aspect did you not like?
- What changes would make you play this more?
- Did you spend time to read what each upgrade does?
- How was the game difficulty?
- What made you lose?
- How long did it take for you to understand how to play the game?