

Proposal for Orbital 23

Team Name

Unmei no Farfalla

Proposed Level of Achievement

Artemis

Motivation

We are fans of gacha games like Genshin Impact and Honkai:Star Rail and we really like the open world exploration concept that both games share. We enjoy playing the game Arknights too, which features tower defence battles. We want to challenge ourselves by creating a game that combines both tower defence battles and the open world concept. We also want to season the game in a gal game style so that the playable characters and NPCs are mostly nicely-drawn attractive girls, which will grab the attention of gamers.

One interesting area that we want to experiment with is how to make the NPCs in the open world part of this game look more human-like. We are excited to explore the logic needed to make the NPCs give smarter conversation prompts based on the gamer's course of action. Certain levels of AI will be incorporated.

Aim

We aim to provide our players with an immersive experience, featuring a rich and thrilling storyline where they have to win challenging battles and conquer the heart of their Hot Babe.

User Stories

1. As a game enthusiast enjoying strategic thinking games, I am able to play this game which prominently features its tower defence component to destress and have fun.
2. As a fan of dating simulation games, I am able to play this game and get immersed in the story plot, enjoying the company of a virtual Her.
3. As an aspiring artist, I enjoy the visual appeal of the game and I am able to learn from the aesthetic style too!

Game Mechanism

Background

The player acts as a traveller who is able to transcend the space-time boundaries and visit different worlds as he wishes. Upon arriving in a new world, he is immediately in love with a girl (the choice of the girl is made by the player at the beginning of the game and each girl is paired with a world, together with a unique storyline and a different set of theme colours and designs for open world scenes and battle scenes). He wants to pursue the girl, but the girl just wants to be friends, more accurately, a tour guide!! No worries. Through fighting dangerous hostile creatures they encounter along the journey together (in the form of tower defence battles) and gifting the girl with treasurable items he obtained after each battle, the girl may eventually start to show her affection for the traveller in return. If the traveller can successfully elude the situations which damages their relationship and maintain a relatively high Fondness Index (FI) towards the end of the storyline, the girl may even confess!

Character types

- Traveller
Player himself.
- Girl
The female partner the player chooses at the start of the game.
- Friend
Supporting characters (equivalent to friendly firearms) in tower defence battles. They have different abilities and can be buffed. They have two rarity levels: 3-Stars (rare) and 2-Stars (common).

Game resources

- Emerald
Emerald is the most valuable currency in the game. The player spends Emerald pulling for Friends in the Character Pool. Emerald can be earned through daily missions, storylines, achievements and chest loot.
- Gold
Gold is used to pull for decorative items for the Home in the Decoration Pool. Gold is earned through daily missions, storylines, mini-games in the neighbourhood and chest loot.
- Coin (in-game currency)
Coin is earned and used within each storyline to buy buffs and/or Relationship Boosters.
- Relationship Booster
Special item to increase the Fondness Index of the partner.

Open World Exploration

- 3D neighbourhood
The 3D neighbourhood is the place where most of the exploration takes place. There are NPCs representing people from all walks of life in the specific world linked to the female partner the player chooses at the start of the game, who

strike up conversations with the player upon interaction. For every different Girl, the neighbourhood has a different design, but the basic functionality remains the same. There are mini-game stalls for the player to earn Gold, the entrance to the Home, a teleporting device which the player can use to resume the storyline he was playing and there are hidden chests and destructible items through which the player can earn Emerald or Gold.

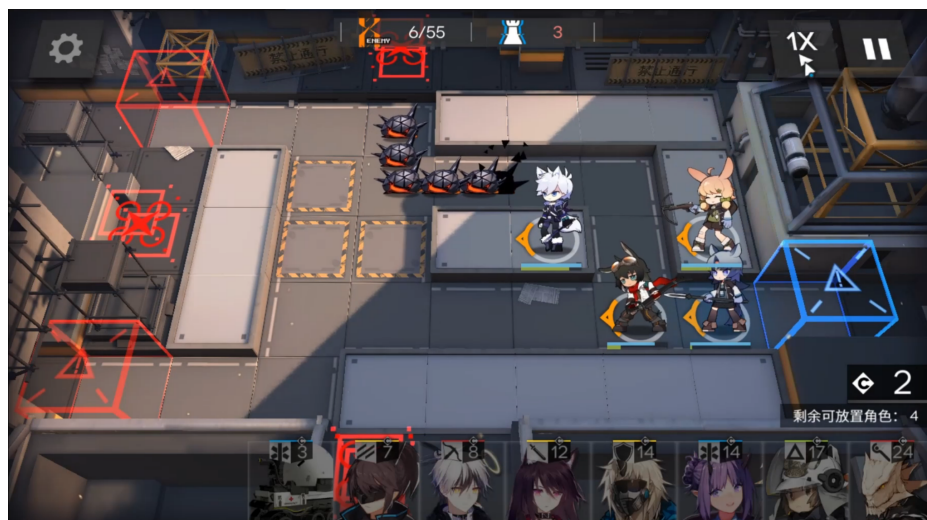


An example of neighbourhood from Genshin Impact

- The Home
The player can use decorative items obtained from the Decoration Pool and different storylines to decorate the Home. Different themes can be unlocked after the player completes certain achievements.

Tower Defence

Tower defence is the core battle mode of the game. The Girl is the defendable target. The Friends (obtained from the Character Pool) are characters that deal damage to the attacking mods and protect the Girl. The Action Point (AP) is the resource needed to summon Friends, which can be generated through defeating enemies. The Friends have different abilities, including long-range shooters, fighters, AP regeneration and shield. The enemies can also have special abilities like shield or slowing down the firing frequency of the Friends.



A snapshot of Arknights' gameplay, where the blue block is the defendable

The defendable has a fixed Health Point (HP) and each enemy entity has a fixed Attack value. The game is lost when the HP of the defendable drops to 0. Because the defendable target is the Girl herself, based on how much HP she has left after a game, her Fondness Index increases/decreases accordingly. There is a chance for obtaining special treasures after defeating certain powerful enemies and the treasures can be kept in the Home or gifted to the Girl to increase her FI.

Coins are earned after every successful tower defence battle. Coins can be used to buy buffs (like ATK boost, Shield penetration, etc) or Affection Boosters. The Affection Boosters can also be used to increase the Fondness Index of the Girl.

The types and weaknesses of the enemies change from one world to another. Strategic positioning of the Friends is critical for winning the fights.

Dating Simulation

The Fondness Index is the key to maintain the relationship with the Girl that the player chooses at the start of each storyline. When the Girl is hurt too much during a tower defence battle, her FI will decrease. Sometimes, she will also pose killer questions to the Traveller, which adversely affect the FI when answered incorrectly. After some tower defence stages, there will also be random "Occurrence" event stages, which provides the player with buffs/debuffs and affects the FI in either positive or negative way, depending on whether the player wants to take the risk.

When the Fondness Index drops to 0 during a storyline, the game fails and the player has to restart from the checkpoint (occurs every few stages). Otherwise, depending on the final FI the Girl has, the Girl may confess to the Traveller or just stay as friends.

There will be a rich and mind-twisting storyline for each chosen Girl. Through all the battles fought with the Girl, more and more is known about her.

Gacha

The gacha feature of our game includes the Character Pool and the Decoration Pool, which have been explained above. Just like other gacha games, we will have a beginner protection period, with an increased 3-Star rate until the player gets his first 3-Star Friend. We will also have a pity mechanism, which guarantees a 3-Star after a certain number of pulls.

The Decoration Pool is a unique part of our game where the player can indulge in rolling for decorations without worrying too much about the resource spent, because Gold is a relatively abundant resource in the game.

Visual Design

Our aesthetics design features Live2D characters in most of the scenes, which will be pleasant to look at.

Sound Design

Parts of our game will feature music composed by ourselves. We will play and record using a violin if we have access to good recording devices.

Timeline

Milestone	Task	Date
	- Learn Unity - Confirm game mechanism	Before 15 May
	- Design a tower defence map - Design tower defence enemies and Friends - Design tower defence buffs	15 - 22 May
	- Design the storyline for a Girl	22 - 29 May
	- Model and programme the tower defence scene	15 - 29 May
	MS1	29 May
	- Design and draw open world items	29 - 12 June
	- Model the neighbourhood	29 - 5 June
	- Programme FPP gameplay	5 - 12 June
	- Design and implement FI system	12 - 19 June
	- Design collectables	12 - 19 June
	- Model the Home	19 - 26 June
	- Conduct testing	19 - 26 June
	MS2	26 June
	- Add storylines for another 2 Girls - Implement the gacha system - Music Design - Attempt to incorporate AI for NPCs' conversation prompts - Solve whatever lingering issues from previous phases	By 24 July**
	MS3	24 July
	- Polish up the work - Conduct extra testing	By 23 August**
	Splashdown	23 August

**A more detailed plan for the period after MS2 till Splashdown will be made after MS1 when we evaluate if we have made adequate progress

Tech Stack

1. Unity
2. Java
3. TypeScript
4. 3DS MAX
5. OpenGL

Qualifications

Yu Chenbo

I took CP3108A during this semester, focusing on the Constructive Solid Geometry module of Source Academy. I have gained knowledge about computer graphics in terms of representing and visualising 3D geometries. I have also accumulated experience in working in a team and improving on a sophisticated project through this.

I also had experience building an iOS application using Xcode storyboard in JC.

I was an NOI medalist, with a strong interest in algorithms and good competency for competitive-programming, both of which will help with our game development.

I was a Dean's List recipient last semester.

Huan Yaohong

I have more than 4 years of experience with tower defence games, specifically, Arknights, Plants versus Zombie and Carrot Fantasy. I have actively participated in discussions and have designed some stages of tower defence games with like-minded friends online.

I have more than 14 years of experience with art, including sketching, watercolour, acrylic and digital art. I am able to handle the aesthetic design of our project.