



**FIVE  
MORE  
MINUTES**

**HUFF 'N PUFF**  
**GAME DESIGN DOCUMENT**  
**PONG | ONLINE GAME DESIGN 2021**

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Five More Minutes

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## Design history

People	Date	Changelog
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Stefano Kristian Giorgio	17/04/2021	Vision Statement
Stefano	18/04/2021	Vision Statement
Kristian Giorgio	25/04/2021	Audience, Platform and Marketing
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Stefano Kristian Giorgio	23/05/2021	Gameplay
Stefano Kristian Giorgio	31/05/2021	Gameplay
Stefano Kristian	01/06/2021	Gameplay Game characters and Items
Stefano Kristian Giorgio	05/06/2021	Game Characters and Items Story
Stefano Kristian Giorgio	06/06/2021	Game World Media List Physical Prototype Digital Prototype

## Vision Statement

Everyone thinks that dying is the end, but once you die you discover that you must earn your spot in **Paradisu**. Of course, it won't be easy! Only one will get into Paradisu after an **epic sky battle on your own personal air balloon vessel**. You are the captain, and your vessel is the reflection of your past life. Are you strategic enough to overcome your enemies? There are going to be a lot of choices and picking the wrong one will cost your victory, but you must be reactive.

Do you think that after a long life full of adventures and a heroic death on the battlefield, an impressive pyre and a well deserve eternal rest are what a hero deserves? Well, you are half right!

**You are the captain**, use your pyre to fuel the balloon of your vessel and fight against heroes from all over the world to earn your spot in Paradisu, a tomb reserved only for the mightiest among heroes.

Be the one to stand above all others!

### Game logline

**"Your last hot and spicy balloon battle before ascending to Paradisu."**

### Gameplay synopsis

As the game starts you learn that you are a captain, and that you just died. You will be confronted with a choice: **you must pick your vessel**, but non any kind of vessel, it's a hot air balloon vessel. The vessels fly thanks to a pyre that fills the balloon with hot air.

The vessel you pick will determine who will be your character. **There are different captains**, each one with a different backstory.

Every balloon will have a different set of equipment that you can pick to apply your strategy. This means that **the class and level of the ship will determine the available equipment**.

As the match starts you must pick three objects to add to your balloon: **an attack object, a defence object and a special object**.

You play on turns; in your turn you will move the ship, attack enemy ships or pass the turn.

Once you attack, a **sliding bar** will appear, and you must be able to click at the right moment so that your attack will have maximum accuracy and the most impact on the enemy.

The attacked player must defend himself immediately, the sliding bar mechanism is also applied for defence.

The player **can move his ship**. The position of the ship is relevant because two players must be close enough to attack each other.

Different equipment will have different slidebars. The sliding bar will be more challenging for higher power attacks to balance the game.

The attack must happen within a short amount of time, so **inactive players will skip a turn**.

The special object can be an attack or an extra defence.

If the special object is an attack, you can use it in your turn, but it must be recharged.

If the special object is a defence, you still need to enable it in your turn if charged, forfeiting your chance to attack another player.

The board in which the players are located is **slowly becoming smaller** with each turn, they are forced close to each other so they can't escape forever.

Every player has a health bar, that will deplete with every attack he/she suffers. If the health bar depletes completely the player lose the battle. The last standing player win the game and is the only one that can ascend to Paradisu.

Winning the game means earning experience points to unlock new items and skins.

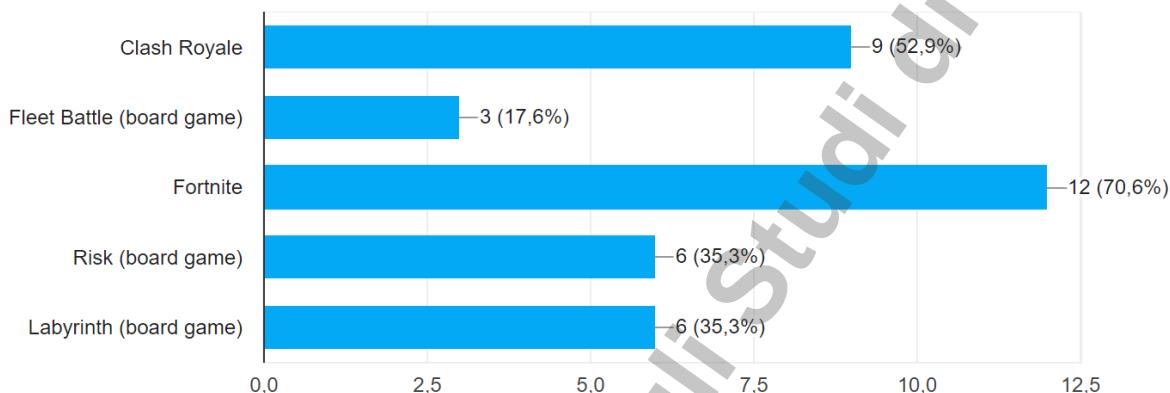
## Audience, Platform, and Marketing

### *Target audience*

To establish a target audience, we interviewed potential players of our game in order to understand which features they like and which ones they prefer to avoid.

Most of our potential players are in their 20s and are mostly casual gamers.

We asked which game they already played, and we found out that our potential players love **Fortnite**, as we can see in this graph:

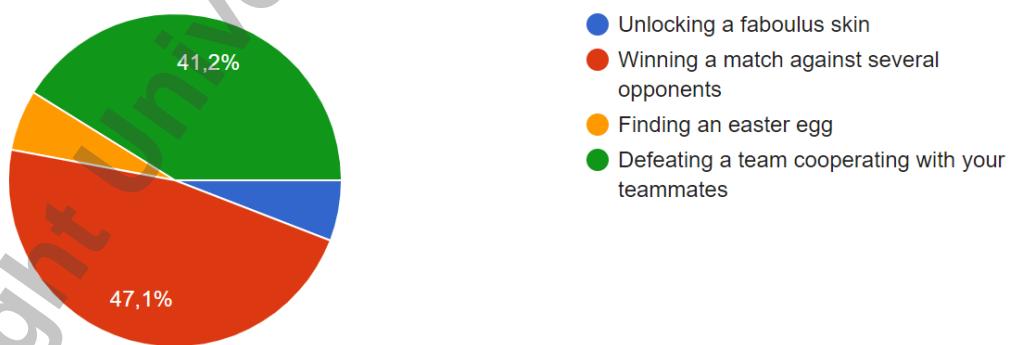


The board in our game reflects this preference, as it's similar to Fortnite in how it becomes smaller and smaller.

Our players will play at home but also during breaks at school, **matches will take about 15 minutes** because of this.

The interviewed players are mostly into action games, nonetheless they also like strategy games and board games. Our core mechanics require hand-eye coordination and a short reaction-time, which suits an action game.

Our initial thought was to make the players battle against each other, but from the interview we discovered that people also like to play in teams.



Although we are focusing on the one versus everyone setting, we decided to include a **team mode**. We also experimented with two players and four ships mode.

The players love to **accumulate kills and damage** to others, we give equal importance to the two factors, and we show them at the end of the match.

Usually when researching about a game the studies focus on demographical and in-game psychology aspects.

**Psychological studies** are developed through the commonly used Bartle's taxonomy, that explains clearly which mechanics suits better different kind of gamers.

**Demographical studies** have the goal to understand which elements could improve or damage the feel of the game considering cultures, gender, age and location.

### Psychological studies

Considering the mechanics of our game, we expect the following shares of the Bartle's type in our players. We think the game will work at its best with the following gamers:



#### Killer – 70%

This is the principal Bartle's type of our ideal gamer. Our game represents a competition from two to four air balloon vessels in a PvP board that will end with only one (or one team) winner.

This kind of mechanic is perfectly suitable for killers, whose fun comes from making others lose. Players have to **carry out a strategy** to have better chances to win, this gives bragging rights to the players that outsmart the others.

Having a good strategy is not the only way to win, players with **good hand-eye coordination and good reaction-times** can also win by taking advantage of the sliding bar mechanic.

#### Achiever – 50%

What the achiever seeks is to show other players their prestige and status by gaining items, skins and points. Although our principal target is the killer, our gameplay allows us to reach a lot of achievers due to the presence of **ranking systems, rewards and unlockable aesthetic items**.

Both ship and captains will be customizable through skins and items. This won't influence the game but will allow players to **express themselves and show off a hard-earned item**.

**Socializer – 20%**

Socializers enjoy the interaction with other players. We offer a **non-verbal communication system** that can be useful **to coordinate a team, to brag about a move or make fun of other players.**

We expect that friends will already have their own communication channel, like a Discord server. Two strangers can also become friends on the platform on which they are playing (adding a friend on Steam or Game Center).

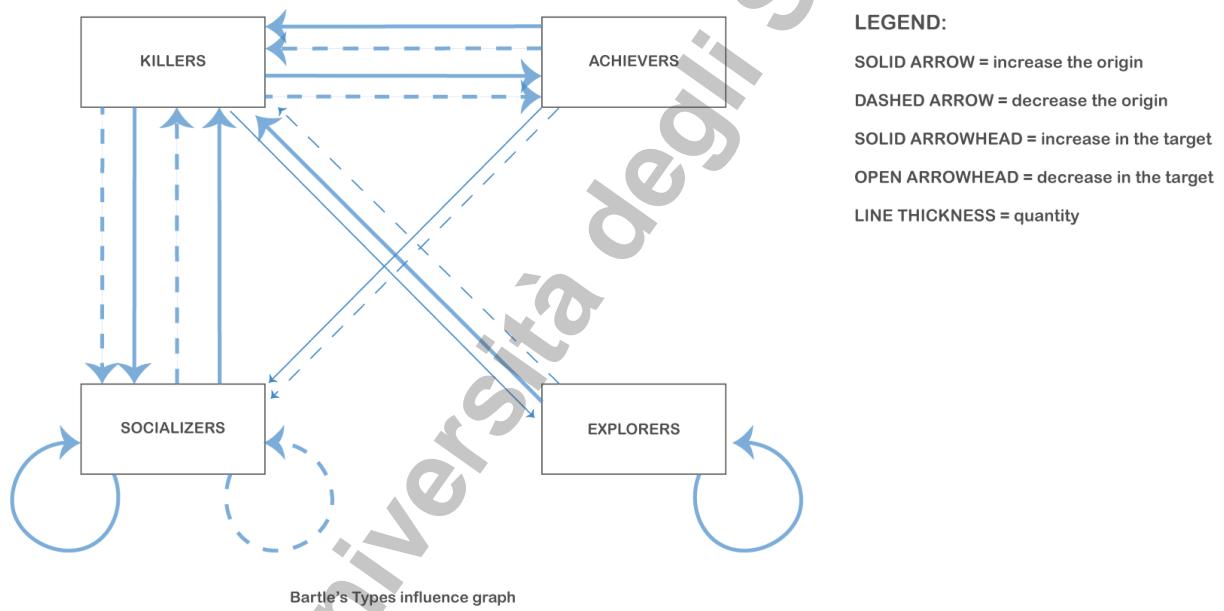
**Explorer – 10%**

These players gain pleasure from **exploring environments and exploiting mechanics.**

Since our game has a very limited environment, we don't expect much of them.

Explorers might enjoy **figuring out how obstacles in our board work** and will try to **exploit the sidebar to their advantage.**

We also take into account the influence one type might have on the other:



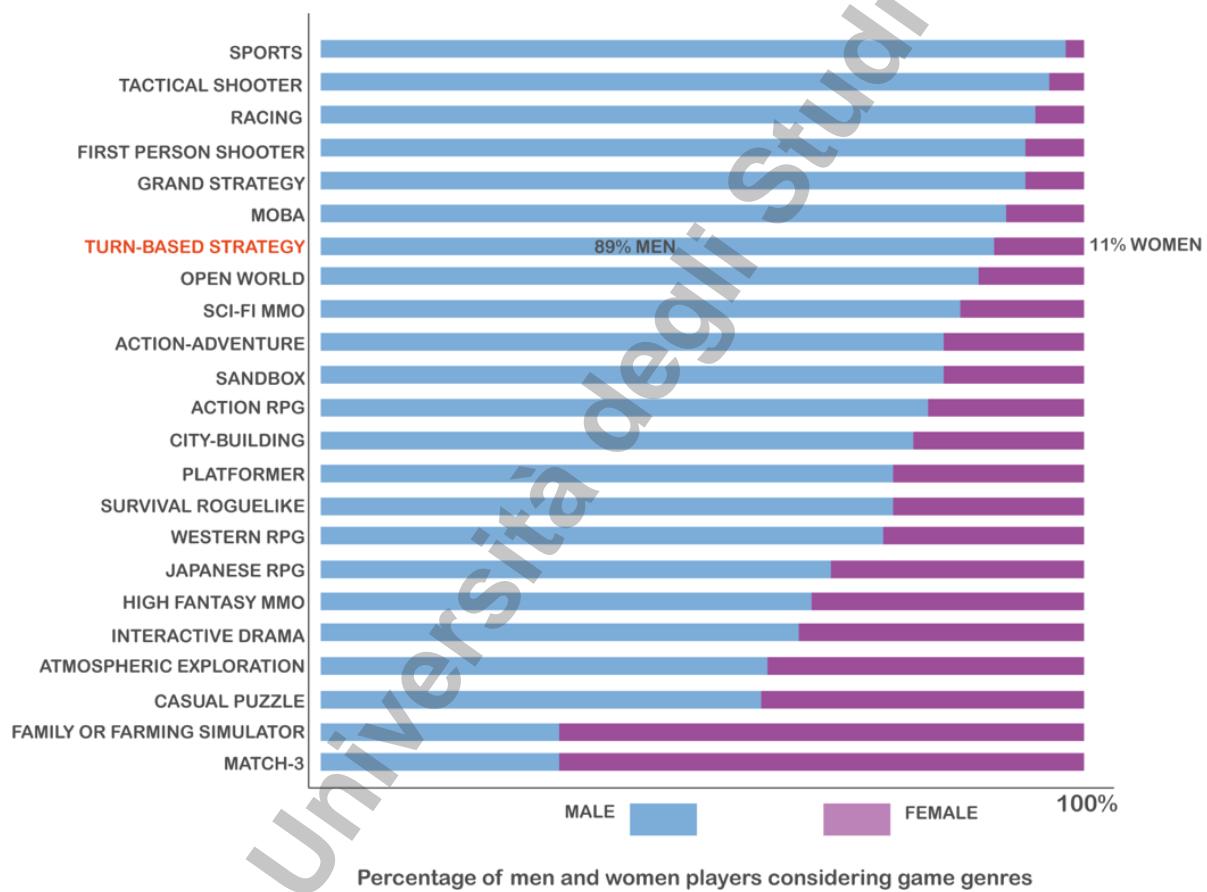
### Demographic studies

It is very important to understand, not only the psychology of the players, but also their demographics.

#### Gender

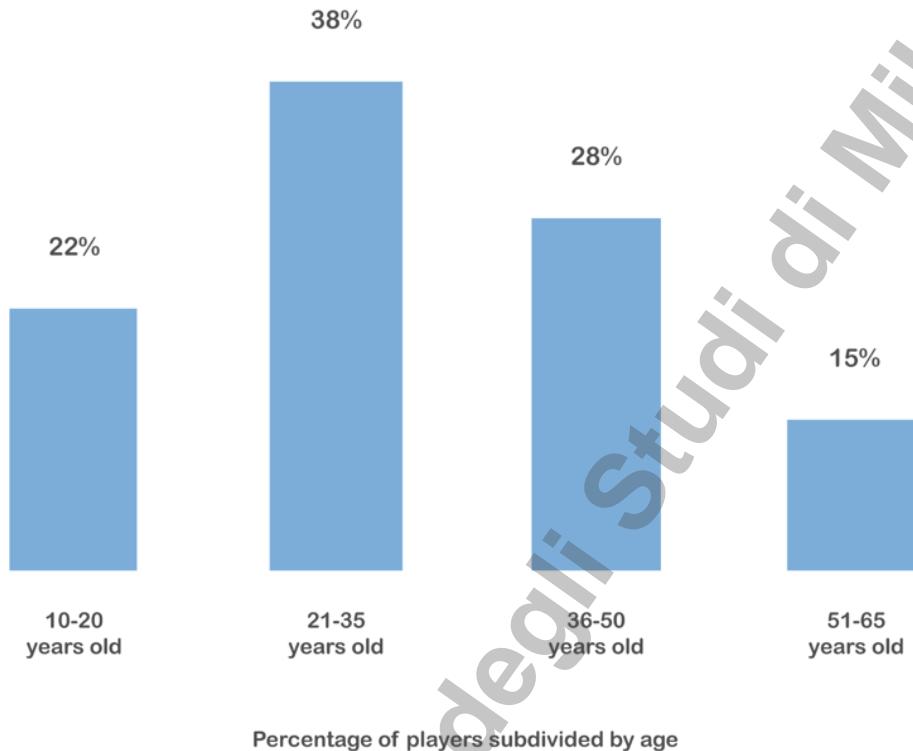
After a research we found out that **most of our potential players are male**. Nonetheless **we want to cater also to females**.

We made sure to provide a variety of characters that include **male and female characters like Vikings, Romans, Samurais and Byzantines**. All characters are represented with equal powers so that the player can choose the one that identifies him/her the most.



### Age

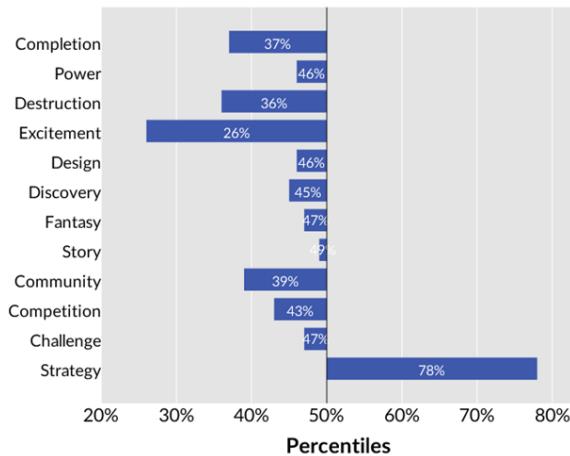
We know that **the majority of gamers will be in their 20s and up to 35 years old**, nonetheless 10-20 and 36-50 years old represent a large piece of market, as shown on the figure below.



To improve the accuracy of our estimation, we decided to go deeply into the ages of Turn-based strategy game's players; to do this we used best games in the genre like Civilization or Europa Universalis IV, discovering that **the median of ages is 26 years old**. We can assume an average age of 20-32 years old.

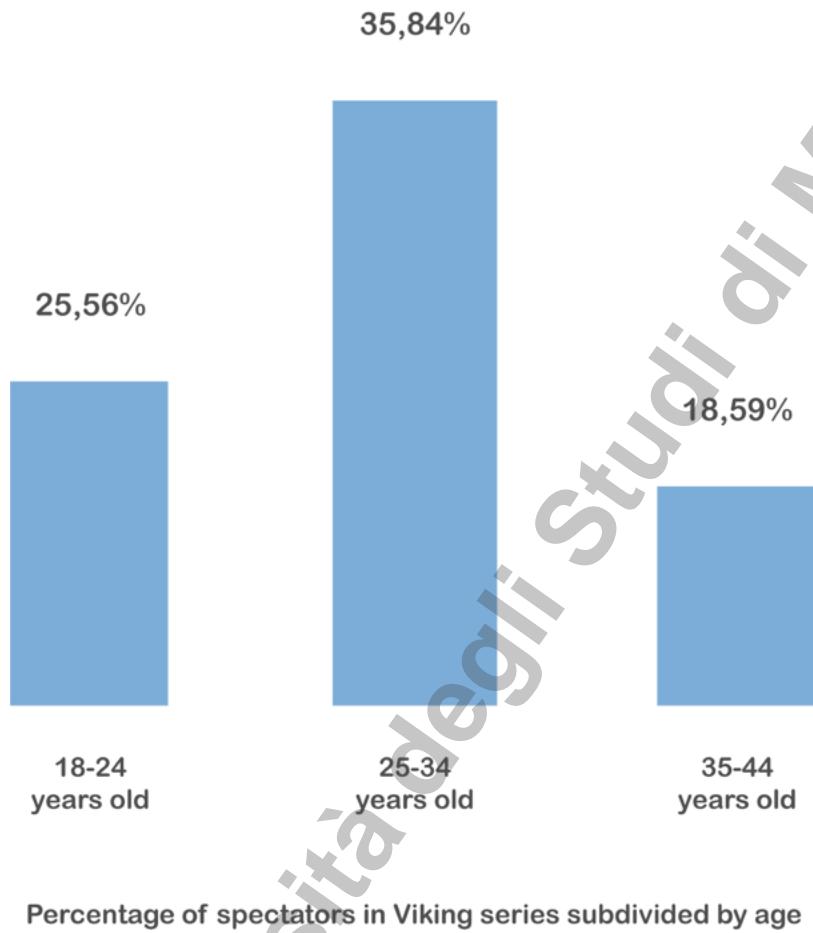
## AUDIENCE PROFILE EUROPA UNIVERSALIS IV

- Gender
  - 98% Male
  - 2% Female
  - Significantly more men than average
- Age
  - Median: 26
  - Right around average
- Other Popular Games
  - Age of Wonders, Crusader Kings II, Cities: Skylines, Alpha Centauri, Civilization, Mount & Blade: Warband, Rome: Total War, Master of Orion



To further understand the ideal age of our players we investigated the age distribution of the viewers of movies/games about Vikings, Pirates and Ships.

We considered Vikings (TV Series) and Pirates of the Caribbean: Salazar's Revenge. Vikings (TV Series) statistics are displayed in the next figure:



Pirates of the Caribbean have a larger range of spectators which goes from 15 to 55 years old; this is mostly because it attracts teenagers and parents follows along. However, we can say that most common target age is 9-30 years old.

In conclusion, we can assume that **Huff 'n Puff will mostly engage players which are 18-34 years old**, nonetheless we expect some percentage from gamers which are between 35-44 years old.

### **Personas**

We described four of our potential players.



Astrid  
Age 34

## Story

---

She is a Danish girl which works as a Make up Artist. Her favourite activity is to go home after work and watch something about historical wars, conquerors, etc. These are of great inspiration for her work.

## Favourite games

---

She likes videogames that can be played easily and where a match can be completed in few minutes like Clash of Clans, Fleet Battle.

## Need

---

She needs a game where playing too many hours is not necessary to master the game, and that matches well with her interests.

**Brandon**

Age 12

## Story

---

He is a 7th grade student living in Liverpool. He loves playing videogames, mostly with his friends. His life full of homeworks, let him play only for few minutes a day. As a hobby, in the weekend, he explores with his dad how old vessels were built.

## Favourite games

---

Brandon's favourite game was Sea of Thieves, but now he doesn't have much time to play.

## Need

---

He needs some game in which he can spend his free time playing with friends.



## Story

He is an Italian business man living in New York. He used to play videogames with his childhood Italian friends. When playing, he loves to show his achievements to his friends, proving that he is the best.

## Favourite games

Football Clash and Clash Royale.

## Need

He needs a game to play with his Italian friends, using the few free time which he has, for example, when travelling on the Subway. He would really enjoy a game where there is a way to show the prestige through unlocked skins, for example.



## Story

He is a Computer Science undergraduate student living in Germany. He reads lots of mangas and comics and loves competitive games. His goal is to be the best in each match.

## Favourite games

For the King and shooters.

## Need

He needs a game where he can beat other players, showing them his numbers, his mental skills and his physical skills. He could appreciate a game that can be played in fast matches between University classes, even better if his classmates can join.

### *Platform*

We will deliver our game **both on smartphones (Android and iOS) and PC**. Casual players might not have a PC to play games but will have a smartphone for sure.

The core mechanic of tapping the sidebar with the right timing is perfectly suitable for smartphone since the click of a mouse button can be easily replaced with a “finger tap” on smartphones.

### *System requirements*

Huff 'n Puff uses standard inputs like mouse clicks and taps, there's no need for extra equipment.

Technical systems requirements are discussed in detail in the Technical Design Document (Section 3).

*Top performers***World of Warships**

Developer: Lesta Studio

Release Date: 17/09/2015

Platforms: Microsoft Windows, macOS, iOS, PlayStation 4, SteamOS

Genre: Action, Tactical Shooter

Description: free-to-play naval warfare-themed massively multiplayer online game, World of Warship share with our game the main concept of PvP naval warfare.



**For the King**

Developer: IronOak Games, Warp Digital Entertainment

Release Date: 28/02/2017

Platforms: macOS, Nintendo Switch, PlayStation 4, Microsoft Windows, Linux, Classic Mac OS, Xbox One

Genre: Strategy turn based, RPG Combat, Roguelike

Description: players choose between classes in order to apply the best strategy to kill the end-boss, solo or in a cooperative mode.



**Football Clash**

Developer: Playfiber  
Release Date: 23/01/2015  
Platform: Android  
Genre: Sport, Strategical turn based.  
Description: the player competes against the AI to score more goals than the opponents performing, in a strategic way, three actions per turn.



### *Feature comparison*

#### **World of Warship**

Despite the differences in setting and graphical style, it can be **a good approximator of our game**. The set of actions is limited.

#### **For the King**

The main characteristic shared between Huff 'n Puff and For the King are the **focus on fast and fun battles characterized by few, simple and intuitive commands** and the **low poly game graphic style**.

We think that those two features are perfectly suitable for casual gamers since there are few choices to take during the game.

#### **Football Clash**

The common feature of this game is **the movement system**. In this game the movement is managed by hexagons and, when the player clicks on the character to move, reachable hexagons are highlighted. We use this mechanic for our game to show clearly which are the reachable positions.

In this game the player can kick the ball only if the character is close to the goal.

### *Business model*

We will have different business models on different platforms.

On PC, the game will be sold through the Steam client at a given price with the possibility to buy exclusive skins or items that will not increase the probability to win (only aesthetics).

Price for this solution will be approximatively €4.99 for the game and in-game purchases will have an average cost of €2.99.

On mobile, the game will be free to download, revenue comes from advertising or from purchasing (after download) the game to remove advertisements.

Both mobile versions have the possibility to buy skins and items like on PC.

The ad-free version of the mobile game will be sold at €4.99. Average cost of in-game purchases will be €2.99.

## Legal Analysis

In this game we only use **proprietary assets**, and all intellectual property is owned by us.

The content of the game and the game itself must be protected within copyright laws.

## Gameplay

### *Overview*

The main objective of the game is to **defeat all the other players in a last standing battle**. A maximum of 4 players can play in a single match.

The **supported game modes** are:

- All VS All: Death Match (2-4 players with 1 ship each)
- One VS One: Double Trouble (2 players with 2 ships each)
- Two VS Two: Team Death Match (4 players and 4 ships in 2 teams)

Before the start of the match every player must **choose a ship** and **a set of equipment** (offensive, defensive and special). The ship also includes a captain.

After the selection is made, the match begins. The battle is **turn based** so the players will play one at a time.

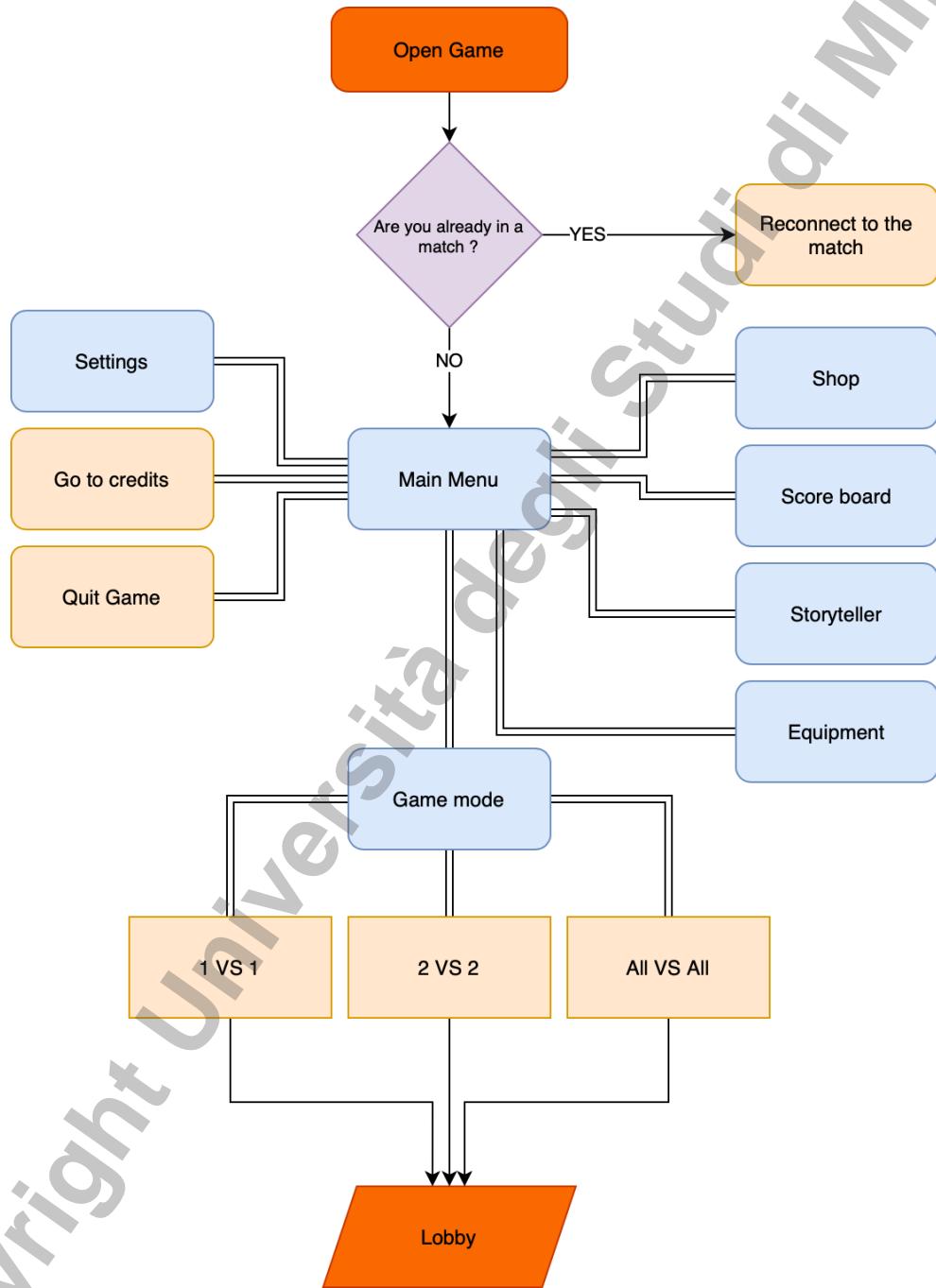
When a player is attacked, he/she must **defend himself/herself**.

The **movement is limited to a fixed distance** from the starting point. On the board there are **some cells obstructed** by obstacles that aren't walkable.

### Gameplay description

#### Pre-game

Opening the game, the main menu is displayed. The game menu is structured like this (further details on each menu are included in the Interfaces section):



After selecting a play mode, the player is **sent to the lobby**. Here the player must **choose one ship**, from the ones available to him/her. Every ship includes a specific captain that represents it.

During the match, the ship will be the actor used by the player, so the term ship and captain are interchangeable (further details are provided in the Captain and Ships section).

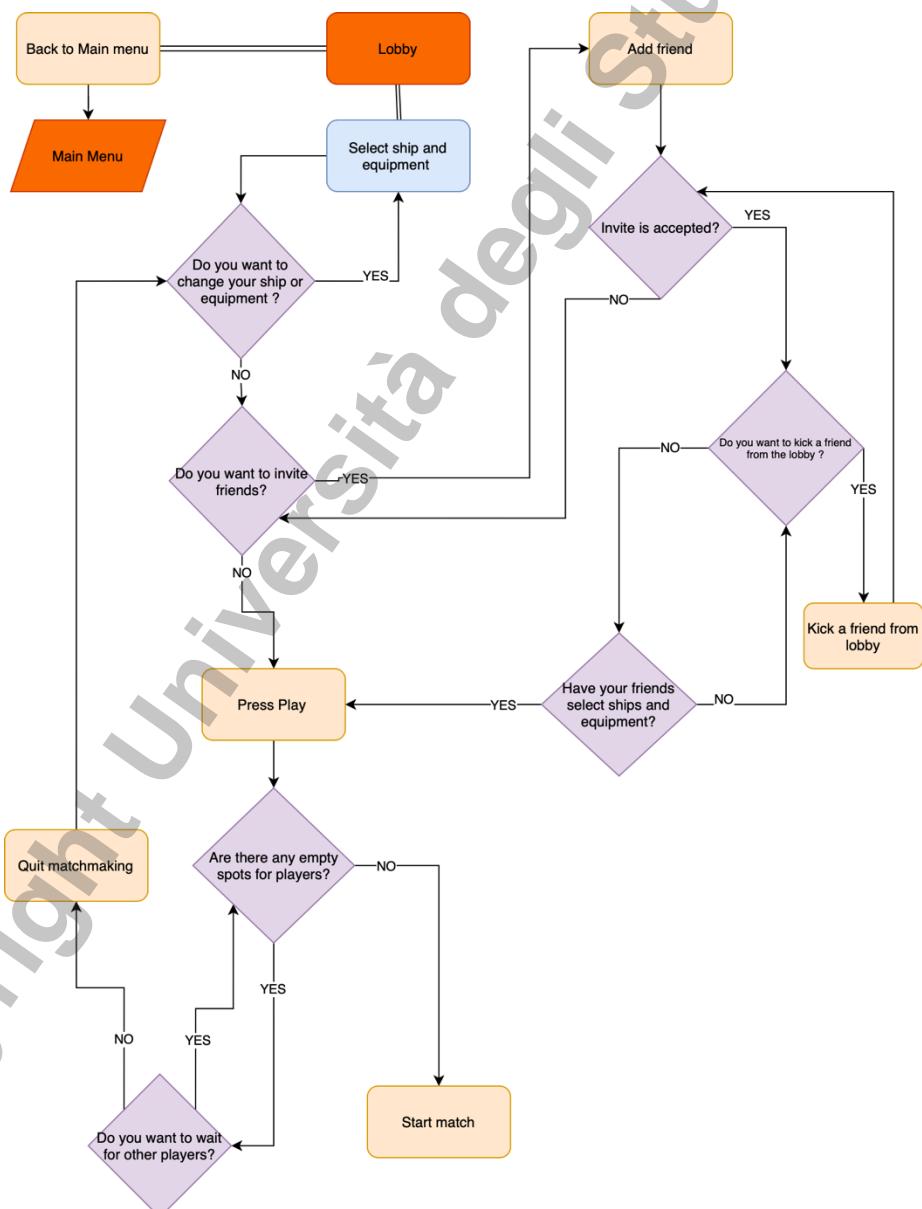
In lobby a player cannot see other players' ships or equipment until the match is ready to start.

The player has to **fill the equipment slots**, one for the attack item, one for the defense item and one for the special item. The ship will be the agent we move around the arena.

When the player is ready to start, he/she can press "Play".

In the lobby, players can also **invite their friends to join the game**. If a friend is invited, the game waits until every player is ready, otherwise strangers are automatically added.

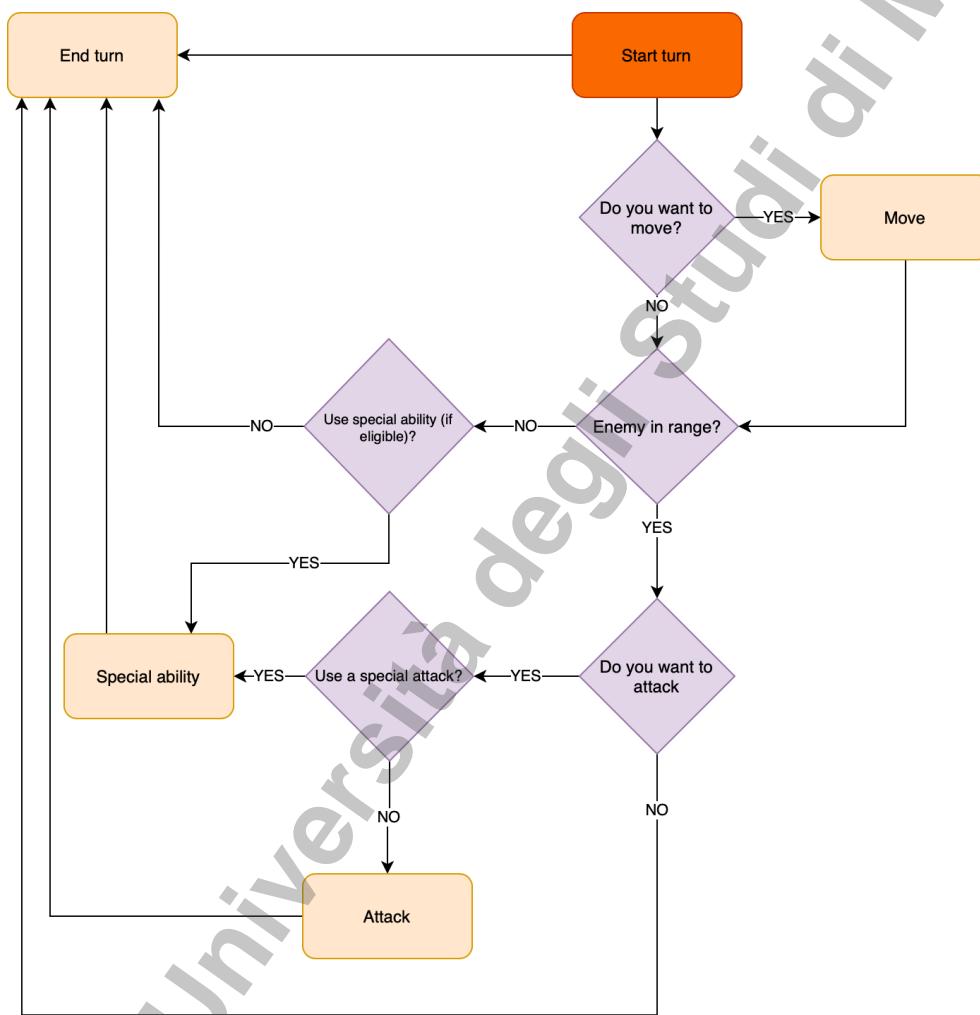
This mechanics apply for every game mode. The only difference is that in the event of a team match, a team composition must be provided.



# The game

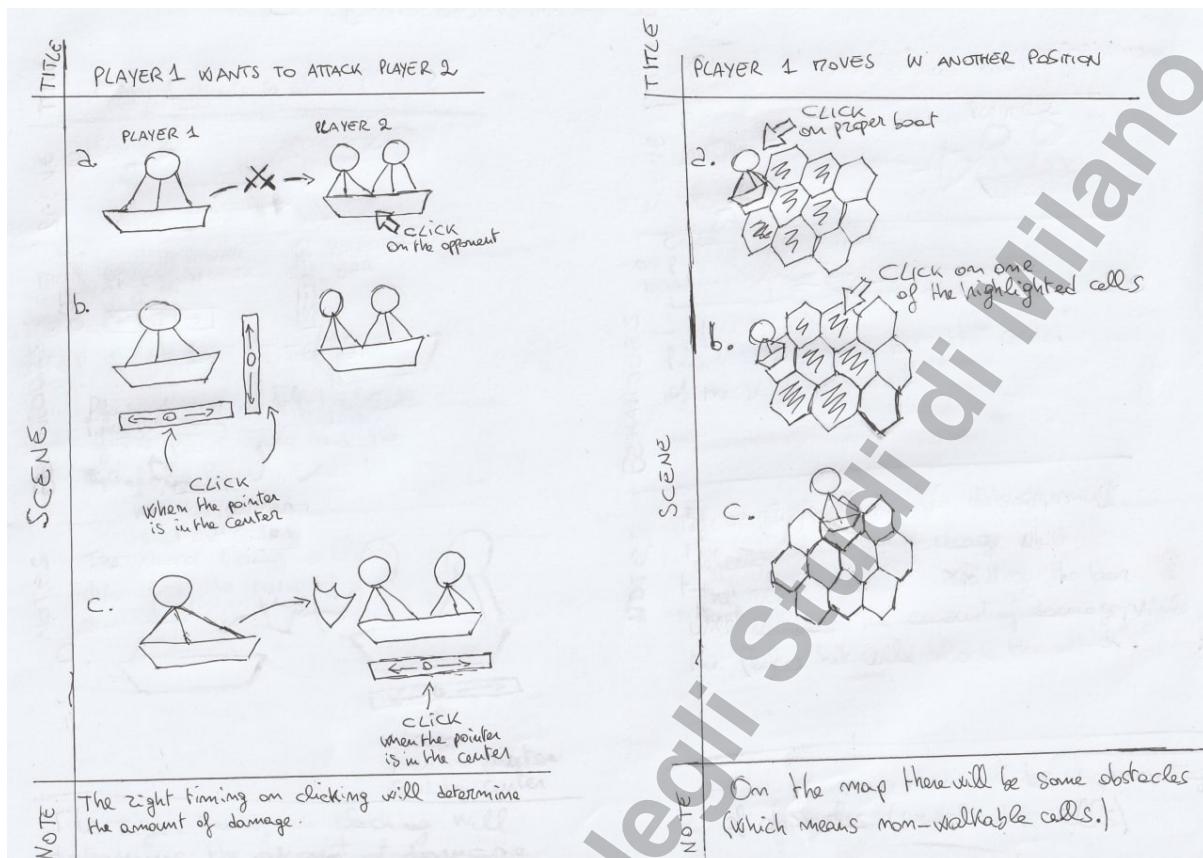
When the match starts the players are positioned in opposite sides of the arena (at equal distance from each other), such that they are not able to shoot each other right at the start of the match. The playing order is randomly generated, and obstacles are placed on the board.

The **turn** follows this cycle:



- **Move:** the player can move the ship of a given number of cells within the arena. The number of cells is equal for all ships. Obstacles cells limit movement.
  - **Attack:** if an enemy ship is in range, it can be attacked.
  - **Special ability:** if the special ability is charged and eligible (more detail in the Rules section), it can be used. It is used instead of the attack.
  - **Pass the turn:** a player chooses to end the turn.

If a player is attacked by an enemy, the attacked player can perform a **defensive action**. The defense action mitigates the damage received from the attacker.



CORE MECHANICS STORYBOARD

If the health of a player drops to 0, this player **loses the match**. The ship will be removed from the board and the player can choose to be a spectator (in this state the player cannot perform any action except exiting the game) or quit the game and return to the lobby.

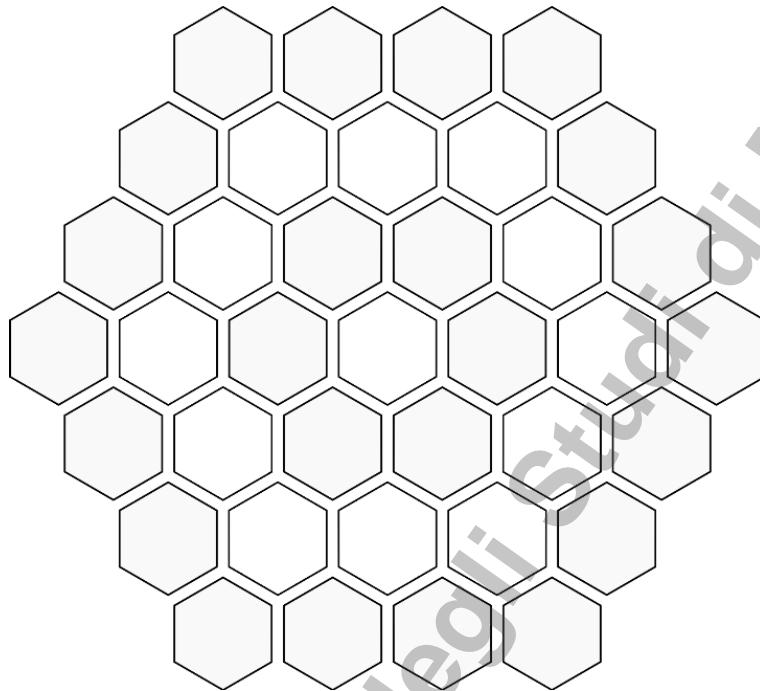
The **match will end** when only one player or team survives. After a player win, all players exit the match, and they return to the lobby.

A scoreboard is shown before the player quits the game.

The players, during the match, have the ability to communicate with others via stickers.

### Arena

The game takes place in the sky, as the players are ascending to Paradisu. The arena is a **hexagonal board**, limited at the edges by a barrier.



The board is a hexagonal map made of tiles. There are two kinds of tile:

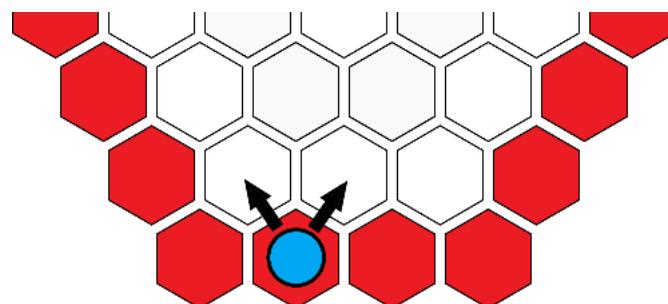
- **Sky tiles**: most of the arena is composed by these tiles, it is a free space where the players can navigate on or place the ship.
- **Cloud tiles**: these are obstacles, players cannot place the ship or navigate on these tiles and attacks are affected if a cloud is blocking the target. The limit of the arena is composed by this kind of tile.

At the start of the match **each player is placed along the edge of the board**, at an equal distance from each other.

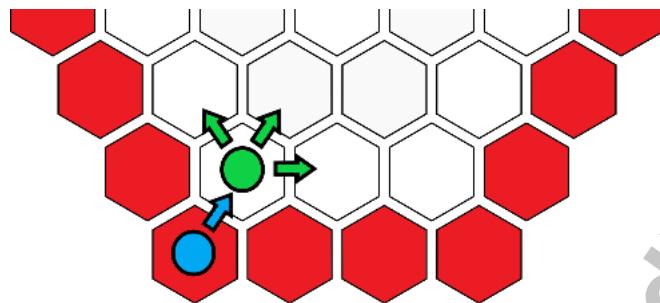
Every two round of turns, **the arena shrinks in size**. This stops when only the 7 central tiles remain available.

**Clouds tiles cover the 15% of the map**. This percentage will remain constant even when the arena become smaller. When this reduction occur all the clouds tiles will be removed, and the correct amount of cloud tiles will be repositioned randomly.

If a ship is placed in a tile that will be removed, the ship will be moved in a random free adjacent tile.



If the ship is stuck in a corner, blocked by another ship, the first ship will push the second, following the same logic as before.



### Captains and Ships

In the lobby, the player can choose a ship, that will come with a captain. These **captains** can be considered the avatar of the players during the match and the **ships** are going to be the actor they will interact with.

A game that uses the same concept is F-zero X, in which the player chooses a ship that is associated to a hero (pictured below) but in the actual race the player interacts only with the ship and the hero is just an avatar to indicate the player position in the race.



We decide to add a living character as the “face of the ship” to help the player empathize with the character and make the game more immersive.

There is a predefined set of characters the player can pick from.

Each **character has a little backstory** which can be read in the Storyteller menu.

Each ship has a **set of equipment**, some of it is immediately available, while the rest must be unlocked by using the ship and gaining experience.

The ship has health points, that are equal for every ship.

### Sidebar, attack and defense

The **sidebar** is the core mechanic of the gameplay.

It is a simple minigame where an arrow slides along a bar that is partitioned with different colors. The players have to stop the arrow in the right spot by clicking at the right time. When the player clicks, the arrow stops, there is no delay or dragging.

We decide to incorporate this minigame due to our target customers. We want few easy controls.

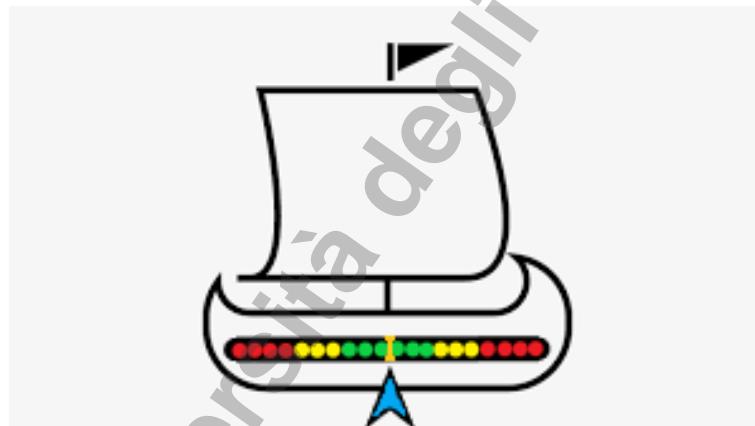
This mechanic is **easy to understand** (for casual gamer) but **hard to master** (for killer player).

It is used both for attack and defense.

**Attack** is split in 2 steps: Hit and Damage (similar to **Dungeons & Dragons**).

When a player attacks another, two slidebars are shown to the attacking player, one for the Hit and one for the Damage.

The **Hit** sidebar determine if the player hits the enemy in a “good spot” or not. Based on how well a player perform the mini game his/her damages are going to be multiplied on a given scale.



Here is the multiplying scale:

Color	Multiplier
Red	0.5
Yellow	0.7
Green	1.0
Gold	2.0

If an **obstacle is on the line of fire**, hitting red or yellow will void the attack.

The **Damage** sidebar works like the Hit sidebar but differs in the range of multiplier, that goes from 0 to 1.

The Damage sidebar determines what percentage of that maximum damage of the weapon the player is going to inflict.

Here is the percentage scale:

Color	Percentage
Red	0.50
Yellow	0.75
Green	1.00

The **arrangement of the colors** and the **speed** can vary for every weapon. **Powerful weapons are harder to use.**

We take inspiration from Dungeons & Dragons for the attack mechanics, but the game of chances given by dices is replaced with a game in which skills can be leveraged.

When a player is attacked, a **defense sidebar** shows up and the attacked player should try to hit the sweet spot to mitigate the damage as much as possible.

Differently from the damage sidebar, the defense sidebar is not divided in multiple section, it is a range of number starting with 0 at the two extremities and going up to 1 at the center. This percentage is by how much the damage should be reduced.

Perfectly hitting the middle spot gives a complete protection, the incoming damage is reduced to 0. But it's **very difficult to hit the center.**

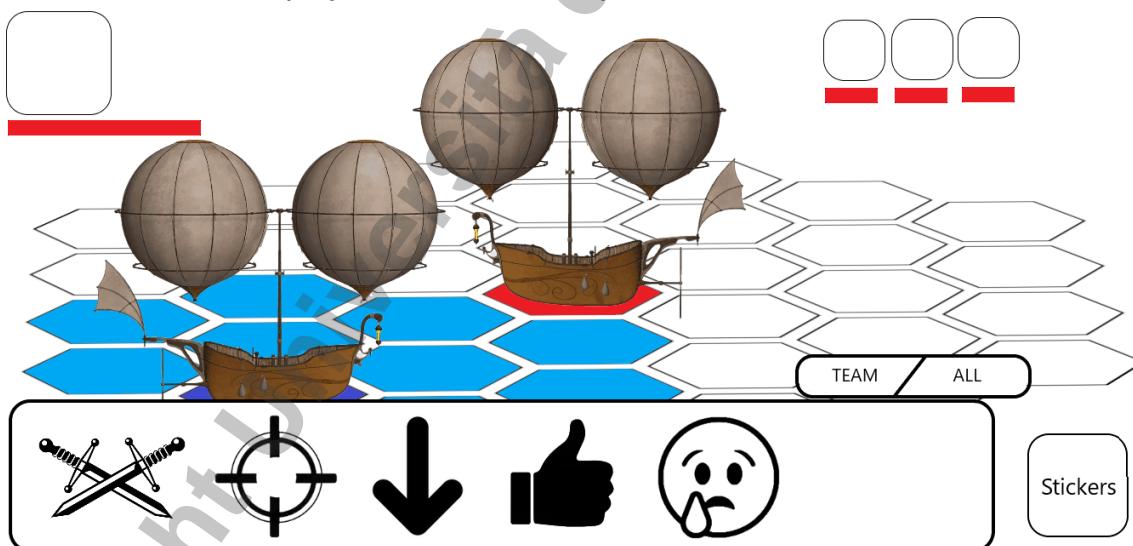
All sidebar have a **timer of 30 seconds**, if the player doesn't make a move, the game will end the minigame with a random result.

### Communications

Players communicate in-game via **stickers**. We will provide a set of stickers to the players, which they can use to communicate.

These stickers are going to be of different nature, some will be for **strategic purposes**, other just for **entertainment**.

If a player sends a sticker all the others will see it. The only exception is in the presence of teams, in which the players can also send private sticker to the other team member.



There will be a default set of stickers for all players, additional stickers can be unlocked as rewards for achievements or via in-game purchases.

Received stickers will be shown temporarily above the ship that sent it.

We choose stickers and non-verbal communication to **avoid an in-game chat, which requires moderation**. Inappropriate language is not available with stickers.

### Disconnection, Quits and AFK

If a player **disconnects** during a match his/her ship became inactive. The game will **automatically pass the turn** every time the disconnected player's turn occurs. The disconnected player can still receive damage and the automatic defense (the 30

seconds minigame timer) will not occur. Other players will quickly take out this player, as it is an easy target.

If a player **disconnects in a team game**, the teammate takes control of the ship.

If the player, during his/her turn, **does not perform any action for 1 minute without disconnecting**, the game will automatically pass the turn. A **warning of inactivity** is sent to the player, if the player does not interact with the game within another minute from the warning, he/she will be disconnected from the match and treated as seen in the previous paragraph.

It's possible that **a player might want to freeze** the match by interacting with the game but without ending the turn. This is why the whole turn has a time limit of 2 minutes, the turn will end automatically. Other abuses could happen, in these cases the player can be reported.

If a player **reconnects**, and the ship is still in game, the player can take back control of it. If the system or the teammate is controlling the disconnected player's ship, control cannot be given to him/her until the turn is ended.

### Controls

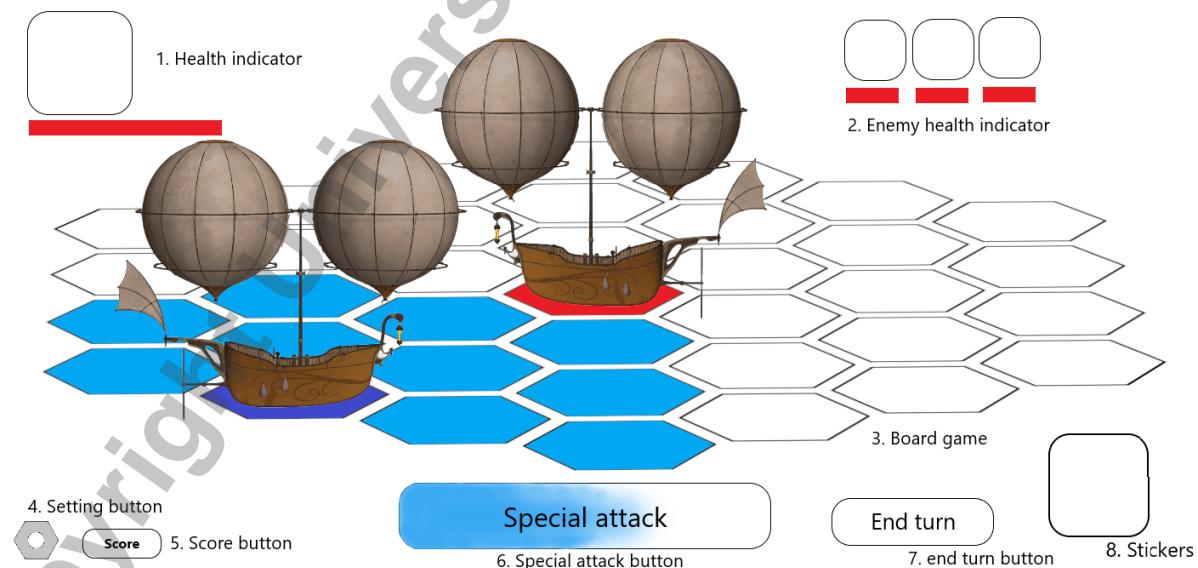
The gameplay is consistent between mobile and PC, controls are similar.

On **mobile**, the player interacts with the interface via single taps and swipes.

On **PC**, we replace the tap with clicks, and swipes with drag and drop.

A **keyboard** is not necessary during gameplay, but keyboard shortcuts are available.

**Game controllers** are supported, but not necessary, and are mapped like the keyboard.



1. The **health** of the ship will be represented by a bar located in the upper left corner of the interface. Every time the player is damaged, this bar will decay according to the damage taken. Near the health bar, there is a space where the captain is shown. There is no interaction with this element.

2. In the upper right corner of the monitor **enemies** are shown with their respective health. The active player is highlighted. There is no interaction with this element.
3. During the turn, by clicking on their own ship, the players will see, in a different color, the eligible **cells** where movement is allowed. Clicking on one of these tiles, will perform the movement. If an enemy ship is in range of the attack, the underlying cell will be highlighted in red. If the player clicks on the **enemy ship**, the attack can begin.
4. The **settings** button gives the player access to options and quit from the match.
5. The **score** button opens a table with live statistics from the match. The table will contain data such: number of ships destroyed, total damage inflicted, and total damage mitigated. When the button is released, the table will close.
6. The **special ability** button works both as the actual button to push to perform the special action, and as the charge indicator for the special action.
7. The **end turn** button allows the player to end his/her turn.
8. Pressing the **stickers** button, the communication systems is shown, and a sticker can be sent.

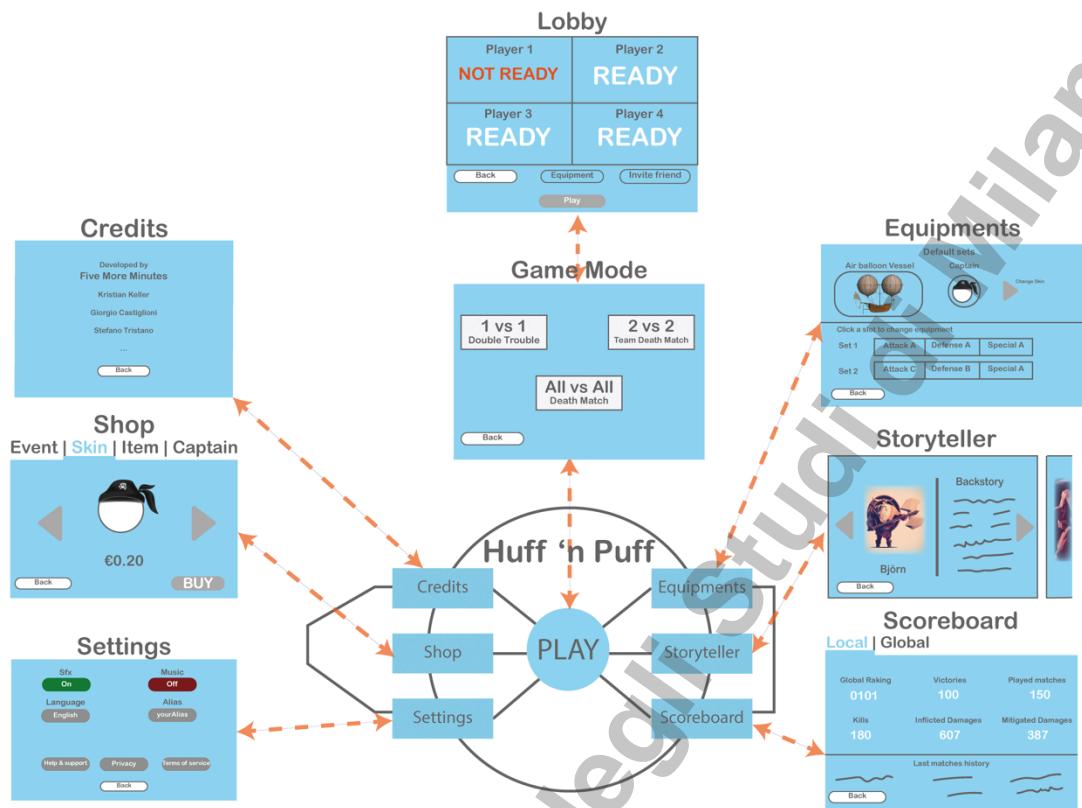
The player can **zoom in or out** by using a pinch or by scrolling on the mouse.

**Camera panning** is done via swipes or by dragging.

Here are the **shortcuts** that can be performed with a keyboard or a game controller, with the default mapping (user customizable):

Action	Keyboard	Game controller
Stop the sidebar	Spacebar	A
Open settings	ESC	Menu
Open score table	Hold TAB	LB
Perform special action	Q	Y
End turn	E	RB
Open/close stickers	T	B
Zoom in/out	Up/Down	Up/Down
Camera panning	Left/Right	Left/Right

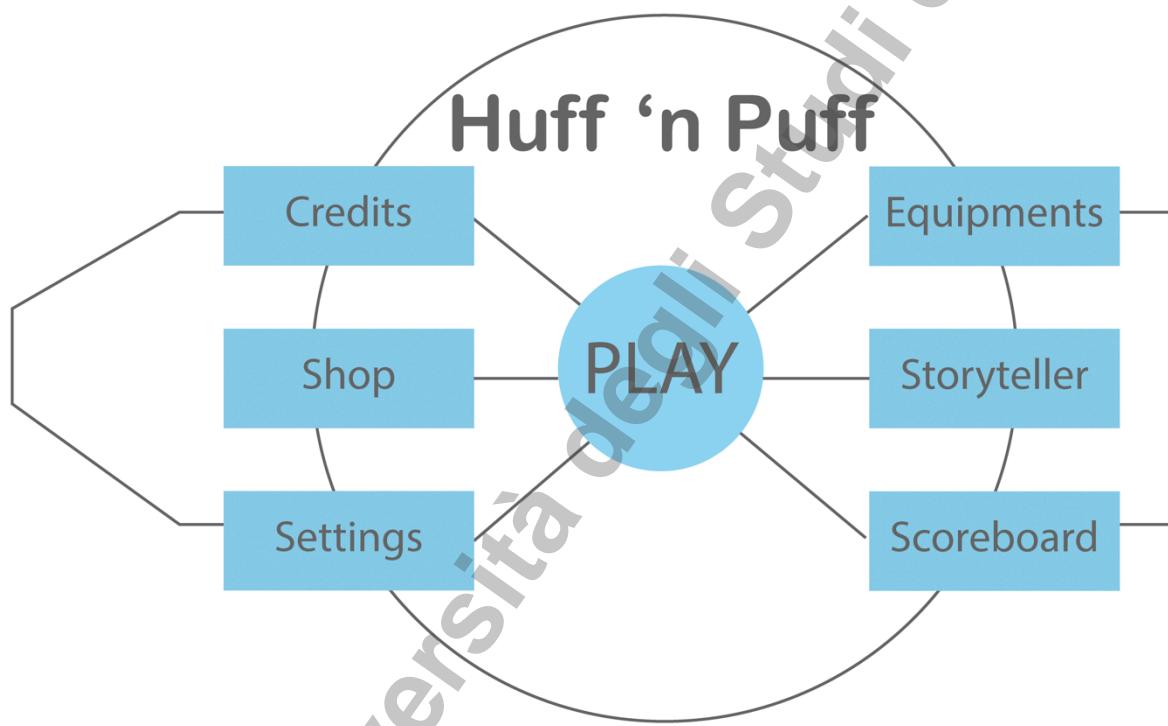
## Interfaces



**Main Menu**

This is showed right after the player is welcomed in the game. Links to other pages are available:

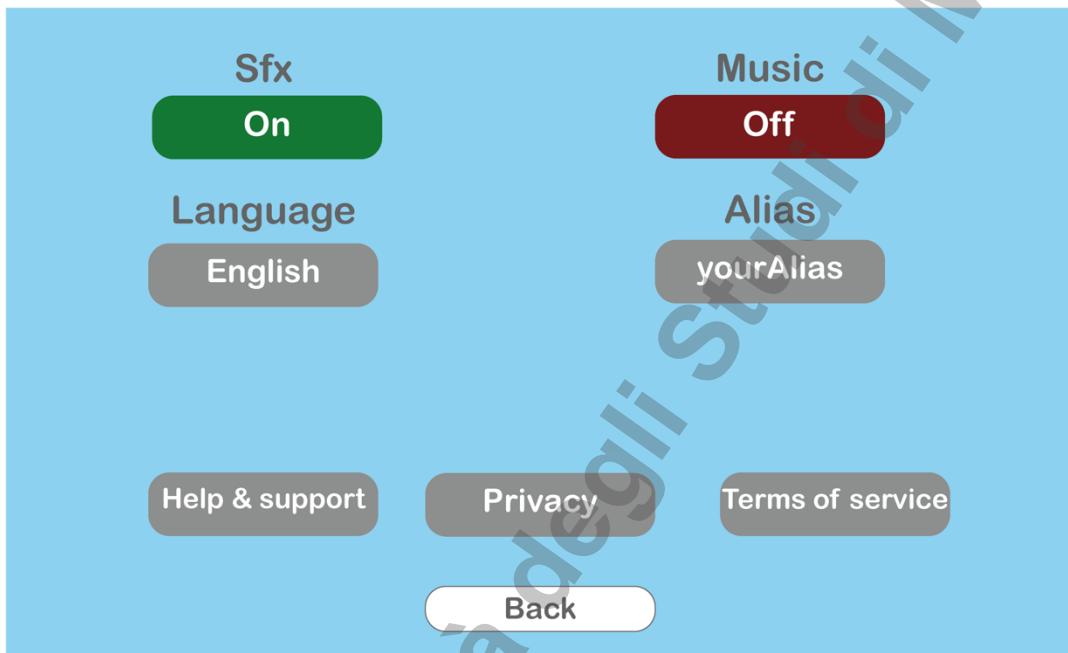
- Settings
- Credits
- Shop
- Score board
- Storyteller
- Equipment
- Play



**Settings**

The player can modify the game setting (Sounds and Controls) and choose the stickers pool for the matches.

# Settings



**Credits**

Credits of the game containing the name of all the contributor.

# Credits

Developed by

**Five More Minutes**

Kristian Keller

Giorgio Castiglioni

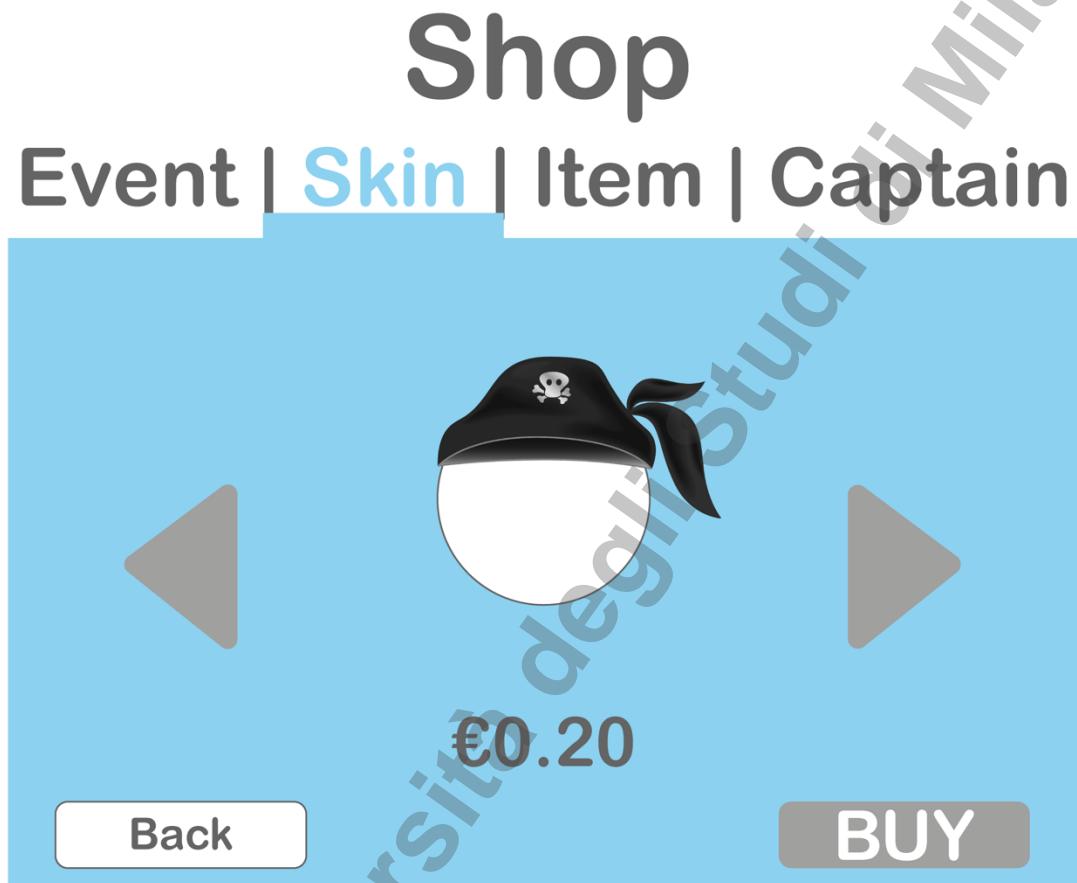
Stefano Tristano

...

Back

**Shop**

A section where the player can purchase aesthetic items like ship skins, captain costumes and stickers.



**Score board**

The score bord is divided in:

- Personal stats: players can see their own history of statistics and how they perform
- Global score board: leaderboard of players



***Storyteller***

A section where the player can see all the captains and ships, read the history and backstory of the characters.

# Storyteller



**Equipment**

In this area the players can see all their ships and check the level of them. Players can prepare a default set of equipment to pick in the lobby so they can avoid wasting time in the lobby.

# Equipments

Default sets

Air balloon Vessel	Captain	Change Skin
--------------------	---------	-------------

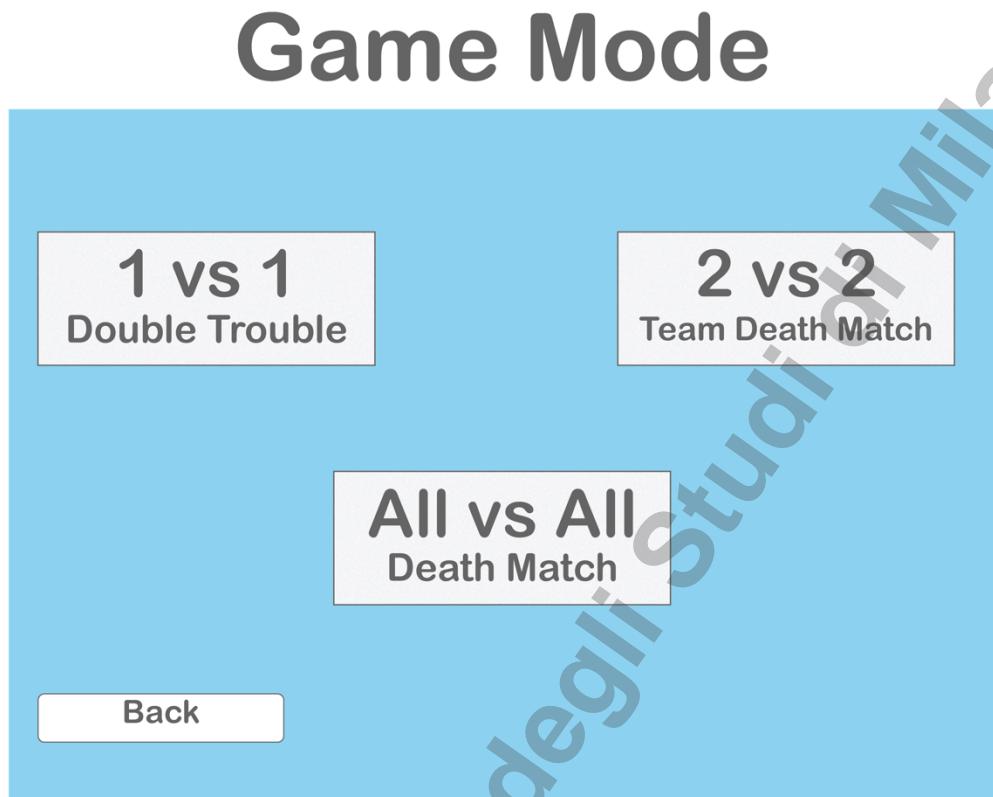
Click a slot to change equipment

Set 1	Attack A	Defense A	Special A
Set 2	Attack C	Defense B	Special A

Back

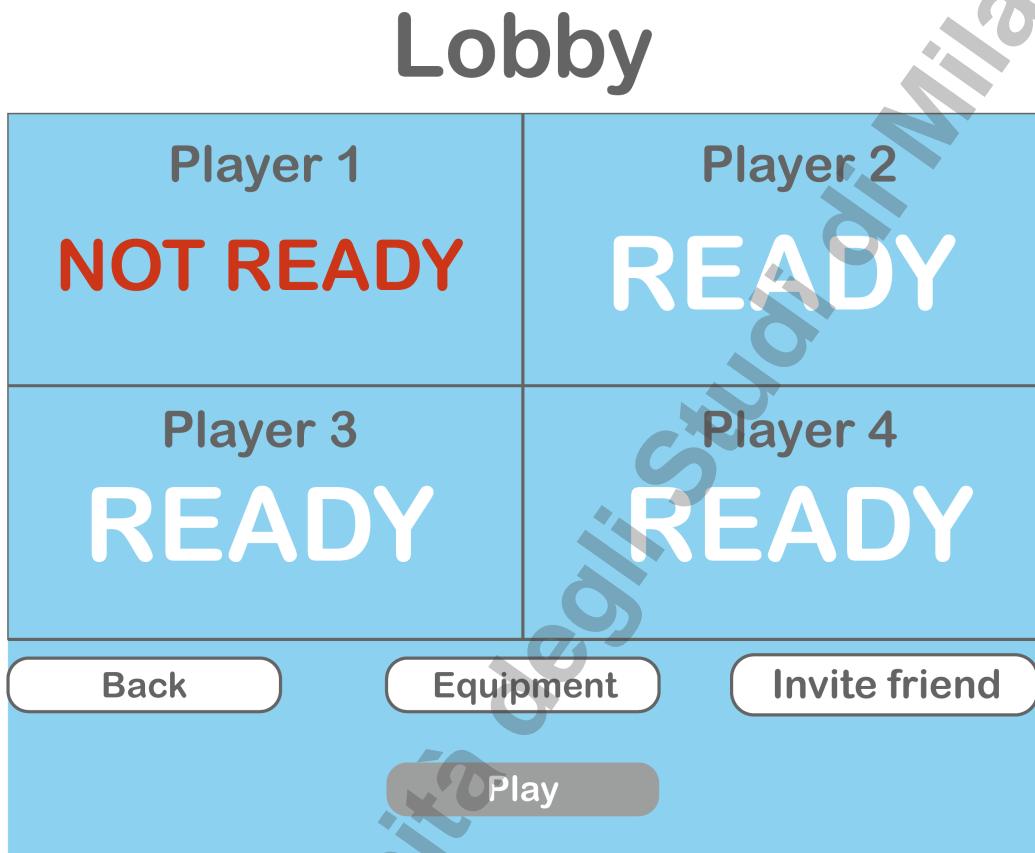
**Play menu: game mode selection**

A game mode needs to be selected before entering the lobby.



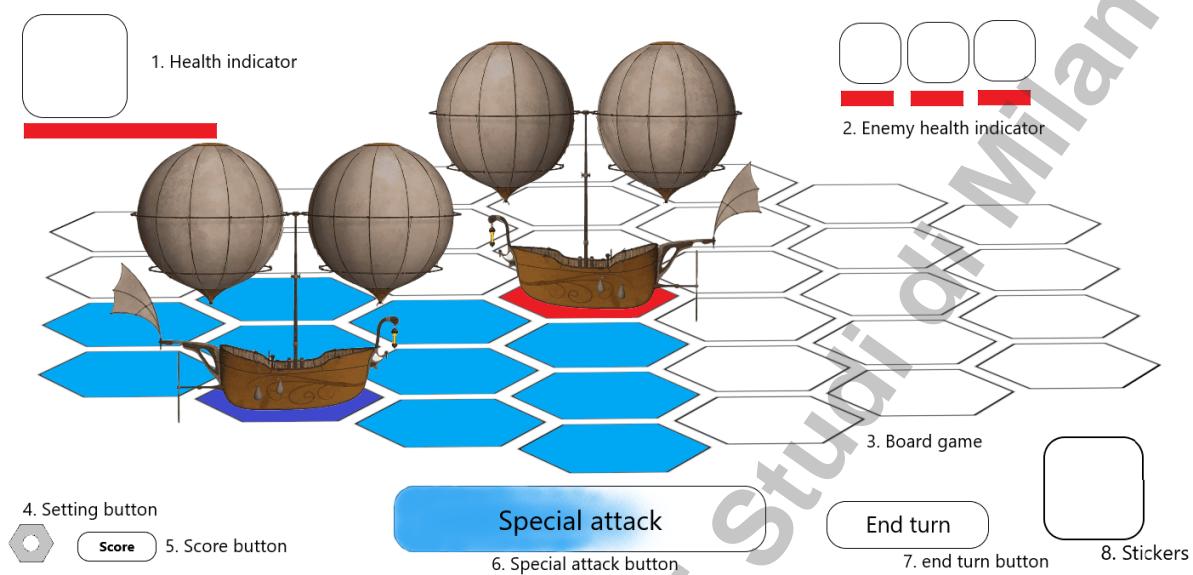
**Lobby**

There are options to edit the ship equipment, a friend can be invited and there is a play button to start.



**Main game**

This is the interface where the game happens and is shown in the Controls section.



## Rules

Rules for the game are enlisted here, divided by section. Rules are enforced through the interface of the game.

### Participants

This is a multiplayer game. A **minimum of 2 players** is required and a **maximum of 4 is allowed**. No solo play is allowed, but a single player can be matched with strangers if no friends are available.

As described in the section dedicated to game modes, players can battle **individually** or in **teams of 2 players**.

### Ships

The ship is the actor of the player, as it can be controlled. Ships include a captain that is not controllable.

Different ships are available in the game, some are freely available, others can be unlocked or purchased.

Each ship comes with an equipment that can be used in a match; **the available equipment increases as the ship levels up**.

The ship starts at level 1, an increase in the level occurs after 10 matches. As the level increases, more items become available. All the equipment becomes available/unlockable at level 5 and the ship can be considered complete.

There are 3 classes of ships:

- **Offensive**: the available equipment is geared towards attacks, but defense is less effective
- **Defensive**: the available equipment is geared towards defense, but attack is less effective
- **Balanced**: the available equipment gives equal possibilities of attack and defense

In a match, **the ship starts with 100 health points**. All ships, no matter the level or the class, start with the same health points.

### Equipment

Equipment is added to ship before starting a match. Available equipment is determined by class and level of the ship. In particular three types of equipment must be added:

- **Attack item**
- **Defense item**
- **Special item**

**Attack items** can be used during an attack to an enemy. They come with varying power; each one has a maximum damage, a range and a sidebar speed. More powerful items will make the sidebar minigame harder.

**Defense items** must be used if the ship is attacked by an enemy. They also come with a sidebar minigame, that is calibrated according to the effectiveness of the defense.

The **special item** can be either offensive or defensive. It can be used only if it is charged. In detail:

- **Special attack**: it can be selected in place of a standard attack during a turn
- **Special defense**: it can be activated during a turn and will be effective the next time the player is attacked

**Special abilities must be charged to 100%**, the charge can happen either by **waiting a certain number of turns** (varying by item) or via **making good hits in the minigame**, as in the following table:

Red/Yellow hit	+0%
Green hit	+30%
Gold hit	+50%

### Game board

The game board is **hexagonal**, it is made of hexagonal tiles. The size of the board is limited, and it **delimits the arena of the game**.

The board has a radius of 6 tiles, so that there are **91 tiles**. There are **5 rings**, progressively larger around the center. The number of cells in the rings are: 6, 12, 18, 24, 30.

Clouds cover **15%** of the board acting as obstacles. They are placed **randomly**.

Ships are placed in the outer ring at the start of the match, the distance between the ships will be the maximum available, in effect:

Number of ships	Initial distance
2	15
3	10
4	7

The board **shrinks every two rounds of turns**, every time the board shrinks a ring become unavailable and clouds are relocated. Ships are pushed towards the center, as described earlier in the section dedicated to the Arena.

When 7 tiles are left the shrinking stops.

The size of the board is calculated as follows:

Round	Radius	Number of tiles	Number of obstacles
1-2	6	91	14
3-4	5	61	9
5-6	4	37	6
7-8	3	19	3
9-10 and over	2	7	1

### Movements

Players can **move the ship** before attacking an enemy. Movement can be done in 6 directions, when the path is clear. **A walk can touch a maximum of 3 tiles**, including the destination.

Movement must happen **before the attack**.

In a given cell there can be **only one ship or one cloud**.

When the arena shrinks, if the ship is on a deleted tile, it will be relocated in an adjacent tile. If all the adjacent tiles are blocked by ships, those are relocated first.

### Turns

The match is played on turns, there are an unlimited number of rounds, but most matches end in about 10 rounds.

**The order of the players is selected randomly.** When playing in teams the **two teams are always alternated**.

During the turn it is possible to move the ship and then attack or use the special item. The turn can be passed without doing anything.

### Attacks

Attacks must happen within the turn; it can use a standard item or a special attack item. After the attack is selected, the sidebar minigame is played. **The attack ends the turn.**

The player can choose to **activate a special defense item**, in this case the attack is **forfeited**.

The power of the attack is determined by the **maximum power of the item** that is:

- Multiplied by the Hit minigame
- Multiplied by the Damage minigame
- Multiplied by the Defense of the enemy

The multiplier can **mitigate the attack** if the **value is less than 1**.

Attacks can also fail if obstacles are in the way and the player doesn't score well in the minigame.

The attack can be started if the target is in range of attack item, usually around 3 tiles.

### Defense

Defense is the response to an attack. The sidebar minigame is tied to the defense item selected with the ship.

If the player activated a special defense item, that will be used instead of the standard one.

The defense action **can end with the player losing the game**.

### Winning and rewards

**The last player or team standing, wins.**

All players receive a **label**, statistics are shown.

A ship that participated might level up.

Achievements can be unlocked after a match.

### Timing

The game has a set of timers, detailed before in the document, that keeps the game at a **steady pace**. The timers manage the disconnection of a player.

A turn can last a maximum of 2 minutes and a warning is displayed after 1 minute of inactivity.

Usually, a match lasts about 15 or 20 minutes. During a match a player can temporarily close the game, the ship won't move and won't defend itself.

Minigames last at maximum 30 seconds, after which they are completed automatically at random.

### Winning conditions and Scoring

The game is won by the **last standing player or team**.

Scores are shown at the end of the match and include:

- Number of kills
- Damage inflicted
- Damage mitigated

Players are assigned a label, according to behaviors in the game:

- **Opportunist**: highest number of kills and lowest damage inflicted.
- **Coward**: didn't attack for two consecutive turns.
- **Real winner**: highest number of damages inflicted.
- **Bastion of steel**: highest number of damages mitigated.
- **Perfectionist**: killed all the enemies.
- **Sniper**: picked gold two times in sidebar minigames.

Future versions of the game might include other labels.

Labels won't be saved and are not achievements but receiving them for the first time can unlock achievements and stickers.

### ***Game modes***

Multiple game modes are available.

#### **One VS One: Double Trouble**

Two players (A and B) compete against each other. Every player chooses two ships to use during the match. The starting player is chosen randomly, and the turns follow the sequent logic A1 B1 A2 B2.

Even if one ship of a player is destroyed, the sequent of turns continue the same way.

#### **Two VS Two: Team Death Match**

Four players are divided into two teams (Teams A and B). Every player has one ship, and the turns follow the same logic as before A1 B1 A2 B2. If a team member is defeated, the teams are still alternated, members of the same team cannot play right after the other.

#### **All VS All: Death Match**

From 2 and up to 4 players will compete against each other in a death match, where the winner will be the last player standing. The turns schedule is determined randomly at the start of the match. In All VS All the players control only one ship (even if only 2 are playing).

## Game Characters and Items

Here is a list of characters and items that will be in the game. Further updates to the game will include others.

### *Ships and Captains*

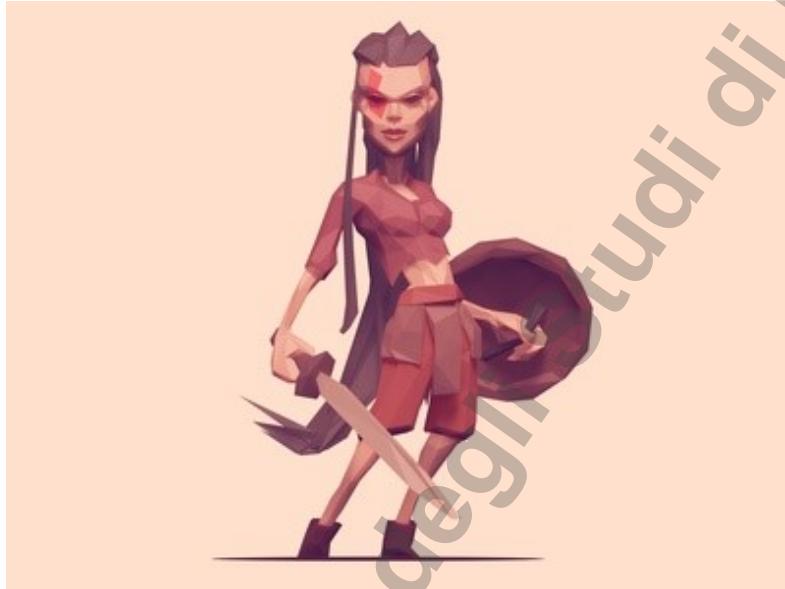
Our **characters are characterized by their ship**, that represents the **historical and cultural contest of the captain**.

All captains will have a **background story** that present shortly their life and why they have earned the possibility to enter Paradisu. All these background stories can be read in the Storyteller menu.

Ships and captains are related to each other, here are four examples.

### Ulfhild the Skjaldmær (Shieldmaiden)

Ulfhild was a **Norse warrior**, one of the greatest. She participated in innumerable battles, always emerging victorious. Rumors of this undefeatable warrior spread rapidly and opponent from everywhere came to challenge Ulfhild. Her craving for battle was insatiable and she accepted every challenge, always ending with Ulfhild victory. In the end the only enemy she couldn't defeat was time. Now she has another possibility to prove her greatness and earn her spot in Paradisu.



Her vessel is inspired by the iconic Norse ship Dreki.



Ulfhild gameplay revolves around being a **resilient, melee vessel** with a **great defense but low offensive capabilities**. The players that use Ulfhild can be less careful and allow themselves to take some damage.

### Kaeso the Roman legionary

A **Hispano-Roman legatus** forced into becoming a slave who seeks revenge. He has earned the favor of Marcus Aurelius. After the murder of his family by hand of a Norse warrior called Ulfhild, he vows vengeance.

He travels all the way up in the European continent to finally kill her, but in his journey, he tries to swim through a lake. The lake, and its freezing water makes him drown before reaching Ulfhild.

He still has a chance to battle Ulfhild in the afterlife.



His vessel is inspired by the classic roman warship Trireme.



Kaeso gameplay focus on being a **melee, DPS character**. So, the idea is to give him a **powerful attack item** that deals high damage but with **no range and a weak defense**, so the players must be careful when approaching an enemy.

### Zenone Isaurian the Byzantine general

He was known for his abilities, and it was clear that he was destined to become the **greatest military general**. He always was in first line during battles and gained everyone respect. He was blessed with the secret formula for the devastating weapon that, today, we know as **Greek Fire**.

In a strange accident, his ship caught fire, and he perished. His brother took his role as a general right after.



His ship is modeled after the Byzantine ship Dromon.



Zenone game play focuses on **damaging enemy from distance**. With less damage than the trireme, but more defense, it is an overall **balanced ship** with a strong special attack component. The main idea of gameplay could be “stay involved in the action to charge rapidly the special ability”.

### Kameyo the Japanese Onna-bugeisha (women samurai)

During her childhood she was **trained to defend herself and her house** in case of war. She grew in a very strict environment and became a cold-hearted mother.

She abandoned the father of her child in a cave and left him to starve when she found out that he broke the marriage agreement.

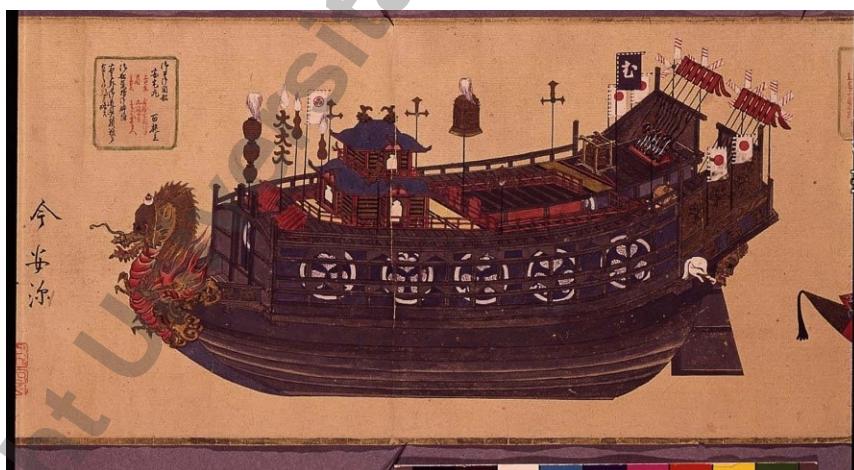
Her child was forced to enroll in military and became her greatest achievement.

She joined him in fights and battles, until her child was killed by a Chinese warrior.

She later committed Harakiri.



Her ship takes inspiration from the Japanese war ship Atakebune.



The Atakabune is also known as “Tekkōsen” that literally means “iron ship”, so we automatically think of a **defense-driven ship**. We opted for a ranged vessel with **low attack power but high defense**. Similar to Zenone, Kameyo must stay in the center of the action if she wants to deal some damage and charge the special ability as fast as possible.

**Items**

Here are some examples of items.

**Iron dagger**

<b>Name</b>	Iron Dagger
<b>Owner</b>	Kaeso
<b>Level needed</b>	1
<b>Type</b>	Attack
<b>Max damage</b>	20
<b>Difficulty of minigame</b>	Medium
<b>Range</b>	1 tile
<b>Passive effect</b>	None

**Runed Shield**

<b>Name</b>	Runed Shield
<b>Owner</b>	Ulfhild
<b>Level needed</b>	3
<b>Type</b>	Defense
<b>Max defense</b>	70%
<b>Difficulty of minigame</b>	Hard
<b>Passive effect</b>	In case of a perfect defense (1.0) a little portion of damage (0.1) is reflected on the attacker.

**Greek Fire**

<b>Name</b>	Greek Fire
<b>Owner</b>	Zenone
<b>Level needed</b>	5
<b>Type</b>	Special Attack
<b>Max damage</b>	30
<b>Ability</b>	Unleash a powerful flame attack that hit every enemy on the fire line. This attack ignores obstacles.
<b>Difficulty of minigame</b>	Hard
<b>Recharge for turn</b>	+30%
<b>Range</b>	6

## Brass Gong



<b>Name</b>	Brass Gong
<b>Owner</b>	Kameyo
<b>Level needed</b>	2
<b>Type</b>	Special Defense
<b>Ability</b>	For 3 rounds this ship can't defend itself, but all incoming damage are reduced for 50%.
<b>Difficulty of minigame</b>	Easy
<b>Recharge for turn</b>	+25%

## Story

### *Backstory*

Narrator when **launching the game for the first time**:

"All of you achieved greatness in your life.

Some of you were glorious leaders, the most loved and feared of their time.

Others were undefeatable warriors, so strong and reckless that you were compared to demigods.

You came from different eras and cultures but all of you share two distinctive traits: you earn the title of hero during your life...

... and you all met at the end, somehow.

When heroes like you die, they ascend to the Paradisu, the hero's heaven, this is the ultimate display of honor and glory.

But all of you have another trait in common, you don't like to share.

So, take part in the last battle, the one to determine who is the greatest and earn your place in Paradisu!"

### *Plot and story reveal*

The story of the game is very simple and is explained when the game is played for the first time.

The game takes place in a past-time setting.

The player has just died and **must earn a spot in Paradisu, the afterlife**.

It is explained to the player that the battle is the only way to ascend to Paradisu is to win the battle.

The battle happens in the sky where the players are seen ascending, the pyre on the ship fuels the balloon that make it ascend.

Every character has a backstory that the player can read, but it is not mandatory to.

## Game World

The game takes place in an afterlife arena in the sky. The arena is hexagonal and is filled with tiles. Some tiles are filled with clouds.

The player can move the camera and see the area from multiple viewpoints. Outside of the playable area, there is only a **cloudy sky**.

## Media List and References

In this section we describe the media we need and the reference to use when designing it.

### Air Balloon Ship

For every ship we will need:

- 3D models
- The description of the ship
- Movement animation
- Stationary animation
- Sound effects
- Hit and destroyed animation
- Hit and destroyed particle effects
- Texture and materials
- Sidebar design
- Props

For ships we referenced:



SEA OF THIEVES



MATTHEW TAMASHIRO



VALERIUS1990

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*Captains*

For every captain we will need:

- 3D models
- The backstory of the captain
- Stationary animation
- Reactions (Attacking, Defending, Winning, Losing) animation
- Sound effects including voice
- Texture and materials
- 2D artwork

For captains we referenced:



JONA DINGES



JONA DINGES



JONA DINGES

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### Equipment

For every item we will need:

- 3D models
- Description of the item
- Animations
- Particle effects
- Sound effects
- Texture and materials
- 2D artwork
- Arrangement of the sidebar minigame

For items we referenced:





SOLO ALIEN D'EVIL MEXART.RU

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### Arena

For the arena will need:

- Tiles
  - Texture and materials
  - Animations
- Clouds
  - Texture and materials
  - Animations
  - 3D model
  - Sound effects
- Skybox
- Props

For the arena we referenced:



SYUTKINANTON



FOR THE KING

### Game GUI

- Game menus
- Sound effects
- Background music
- 2D graphics
- Stickers
- Animations

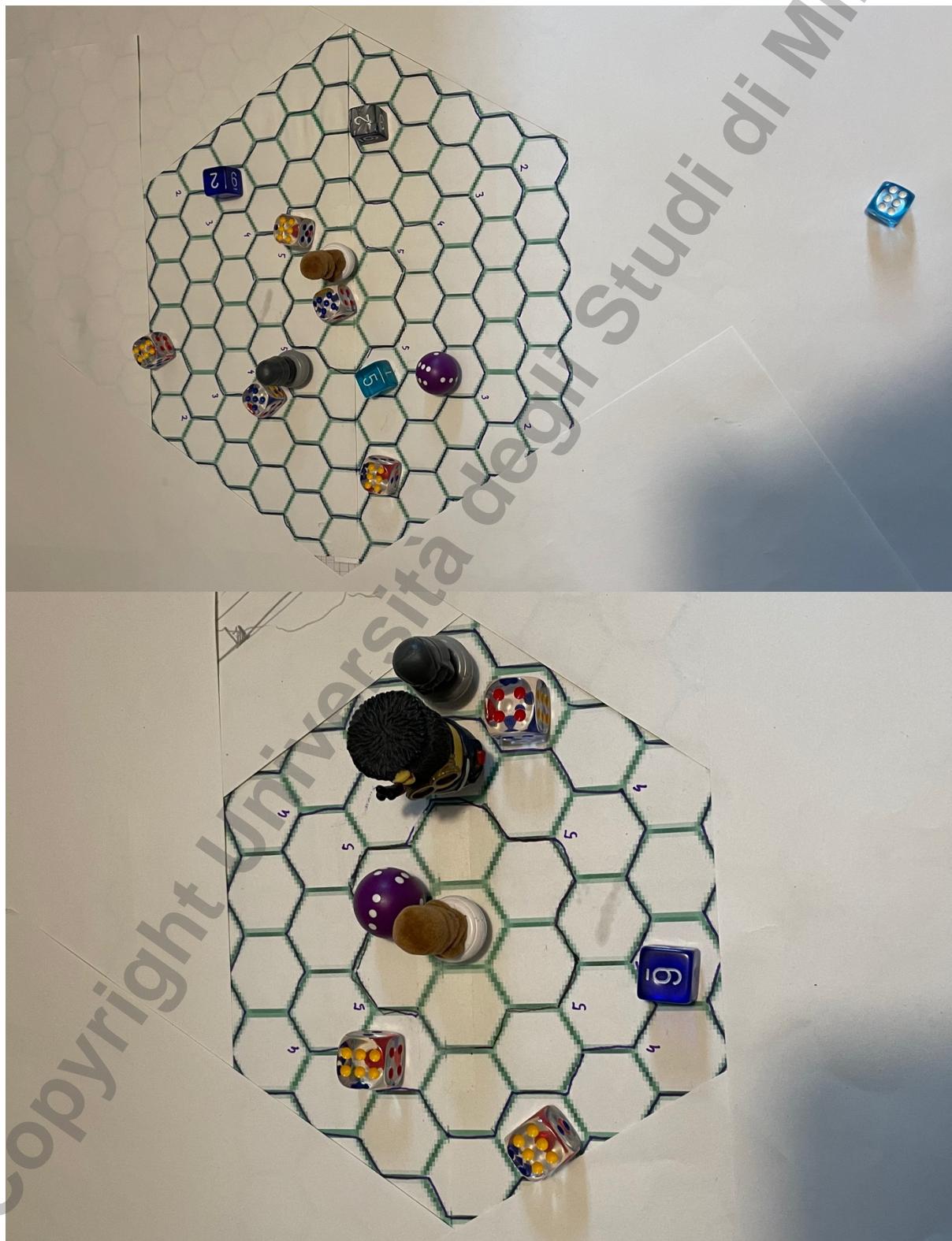
For the background music we referenced two genres:

- Korean Pop Beat: <https://youtu.be/03CgoGcorkQ>
  - Ideal for menu and character selection
- Electronic Beat: <https://youtu.be/ApN1cZoiX4w>
  - Ideal for battle
  - Only the instrumental part

## Physical Prototype

To help with the development of the game we made a physical prototype of the game on paper.

We experimented with different rules focusing on **the movement, the size of the board e the turn structure**, because we had doubts about these mechanics.



We started with a **rectangular sheet of hexagonal paper**.

After playing without boundaries, we added them, we picked a radius of the board so that the match lasted at maximum 20 minutes, considering **the shrinking of the arena**.

We found out that, when the arena is big, **players tend to hide and escape**. The smaller arena **forces players to attack others**.

We used **dices** to simulate obstacles. We also used dices to **calculate the amount of damage**.

We used **cards** to simulate special items.

We experimented with these **turn structures**:

- Just the attack or just the movement
- Attack before the movement
- Movement before the attack
- Movement and attack at the player's choice

We found out that **attack should end the turn** to prevent a situation in which a player attacks an enemy and then escapes.

We also found out that it adds fun and strategy to give the possibility to move the ship before an attack. Getting too close to an enemy mean being exposed.

We **experimented both with equal ships and different classes of ships**. Having different classes create a fun dynamic in which a player is tempted to attack a specific other player.

We tried to find a way to keep the obstacles in place during the shrieking, but we found out that **relocating the obstacles randomly can act as a surprise** and forces players to find new strategies.

We tried these **game modes**:

- One ship VS one ship
- Three ships against each other
- Two ships VS two ships

We could not try the team mode, so we resorted to **four ships and two players** and found out that **it was fun too**. So, we added the double trouble mode.

## Digital Prototype

The digital prototype will include *a fraction* of what is described in the document. The prototype will include basic networking and will demonstrate core mechanics like the sidebar minigame and basic movement of the ships.

We think that these two components are the core of the game and are useful to demonstrate the game.

Not all ships, characters, items and media presented in the document will be present in the prototype.