

Game Design Document

Heart Of Steel



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Document History		
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1 Vision Statement

1.1 Game Logline

Fight for humanity, fight for glory!

1.2 Gameplay Synopsis

Heart of Steel is a two-player fighting PvP game. Each player controls a robot, called steelbot, and must try to kill his opponent before time runs out. To kill their enemy, each player has two main options:

- reduce the opponent's life to 0;
- knock the opponent off the map.

When the player starts to play, he/she plays a best-of-3 or best-of-5 match. Each match is composed of rounds, and a round ends when one player kills the other. When a player loses a life, both players spawn again with the maximum health points in their starting positions. Furthermore, they lose all the buffs acquired in the previous round but maintain their energy bar status. If a player loses all of his/her lives, the match ends.

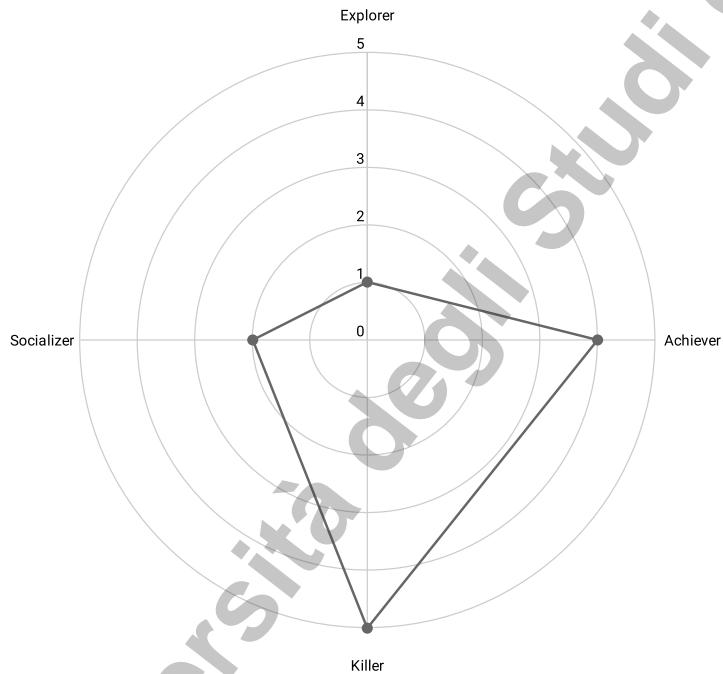
Energy is a resource that each player charges by taking or inflicting damage using light or heavy attacks. When the energy bar is full, the player can use a special ability to empower his/her steelbot, deal tons of damage, or try to push the opponent off the map. Each steelbot has four unique special abilities.

During the battle, power-ups spawn at random points on the map, thus encouraging players to move more and reach riskier points. Also, random events that affect the strategies of the players occur every 30 seconds. There are various types of events that affect players differently based on the map played. Two events of the same type cannot occur in the same round, so each round is different from the others, and the game diversity is improved.

Lastly, each steelbot is customizable through unlockable algorithmic books. These books can be unlocked in various ways and allow the player to modify his favourite steelbot, adapting it to his preferred play style.

2 Audience, Platform and Marketing

2.1 Target Audience



Killer (5/5) The game aims primarily at this category of players. Killer players have fun in prevailing over others and facing other players. Heart of Steel consists of a series of 1vs1 duels, which makes it perfect for this category of players. In addition, there is a ranking mechanism within the game that determines the position of each player on the leaderboard. Each player receives *ranked points* every time he/she wins a ranked match (see game modes [37]), and (s)he loses some points by losing the game. At the end of the season, the players gain a visual reward depending on their rank, like icons, recolors or backdrops.

Achiever (4/5) Achievers aim for continuous personal improvement. For achievers, the fun comes from accumulating points and levelling up. To satisfy even this genre of players, Heart of Steel contains a series of books that the player can collect to customize his/her favourite steelbots. The player can obtain the books in various ways, like buying them using gears

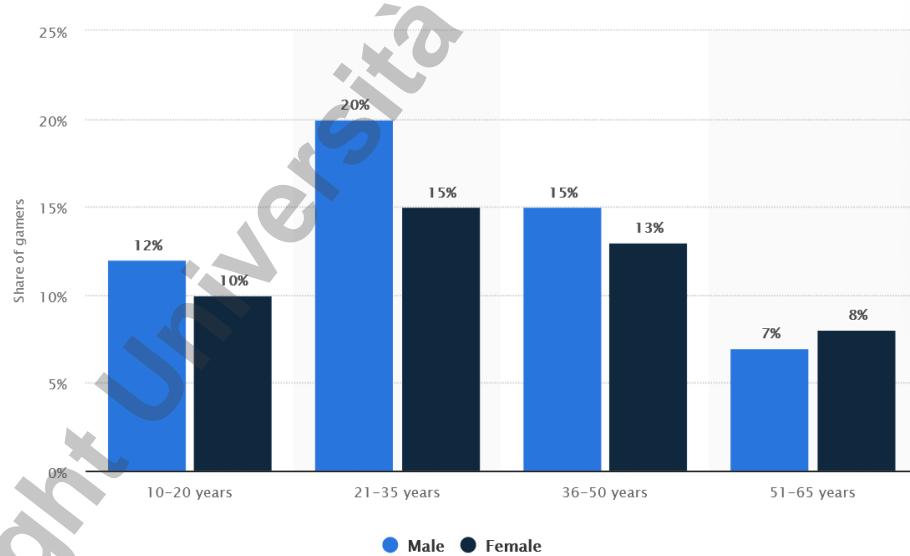
(in-game currency) or finding them after a match. In addition, there are books the player can unlock by levelling up his/her steelbots. These books allow the player to modify some combat moves of the robot in question, allowing even those who always play the same robot to vary something.

Socializer (2/5) This type of player is not particularly suited to this type of game. However, the presence of a friends list and an in-game chat gives players the possibility to socialize and create new social relationships.

Explorer (1/5) Since our game takes place in simple maps, it isn't very suitable for explorers, who are most likely the players who are the least willing to play. Furthermore, being Heart of Steel a game for casual players, there are no particularly complex mechanics or combos to discover.

2.1.1 Age Distribution

According to what published in Statista (a statistics portal for market data), the distribution of gamers in the world is as follows:



The chart shows that most of the players are between 21 and 35 years old (35% of the total), while only 15% are over 50.

Since Heart of Steel allows the player to play sporadically and for short sessions, we believe it will attract users with few free-time. Furthermore, given the game theme and the simplicity of the controls, we believe that the game is also interesting for those under 20 years old.

In general, we estimate an age distribution as follows:

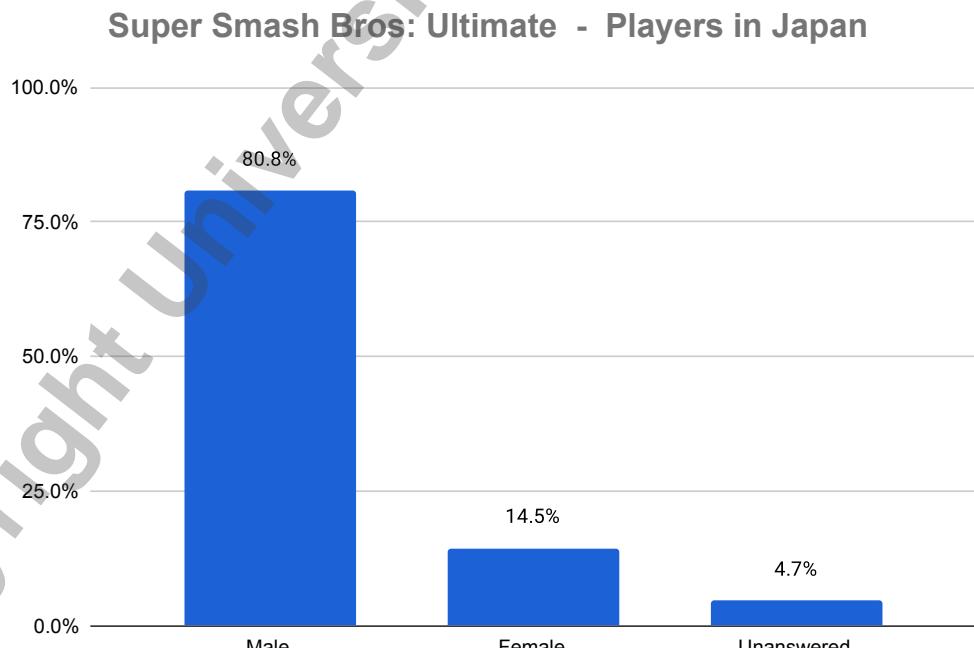
Age	10 - 20	21 - 35	36 - 50	51 - 65
Distribution	25%	55%	17%	3%

We have decided to give a low percentage to players over 50 years old. That's because, usually, this age group of players prefers games with a prevalent social component. Furthermore, the smartphone is a little-used platform by these gamers.

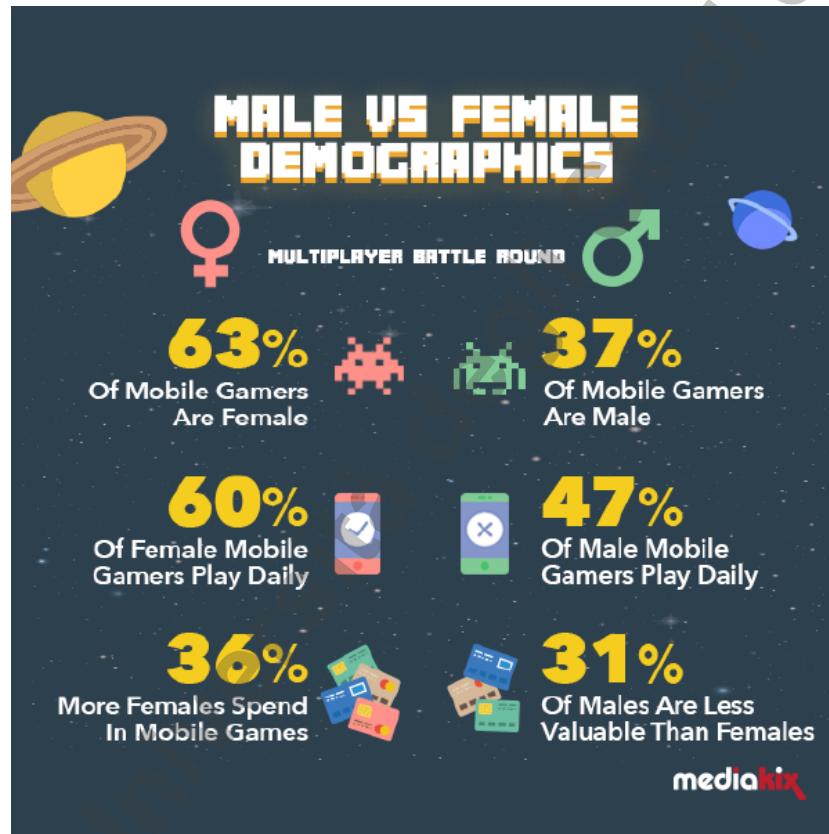
2.1.2 Gender Distribution

As commented by Nick Yee (co-founder and analytics lead of Quantic Foundry) under [this article](#), in fighting games like Street Fighter, Tekken, and Super Smash Bros only 13.4% of the players are women (on average).

This also reflects what is reported by [this article](#) on the NintendoSoup page. According to a study of Super Smash Bros Ultimate gamers in Japan, about 80% of these were confirmed to be male:



However, since Heart of Steel is a smartphone game, we looked at the percentage of males and females who use the smartphone to play. According to what was reported by the Mediakix agency, 63% of mobile players are women, while only 37% are men. Below there is an image from [this article](#).



In light of this, we think that the number of female players can be around 20%, slightly above the average of other fighting games.

2.1.3 Geography Distribution

Heart of Steel is entirely in English to allow its worldwide distribution. However, since the story is simple and supported by images, we believe players can play the game even if they don't know the language very well. In the game, we don't recall any political or religious symbols to avoid hurting players' ideals.

2.1.4 Personas

Mike	
Age: 32 Location: Provins, France Occupation: Hairdresser	
Goal: <i>I want to play games to relax during short breaks at work.</i>	
Bartle: Achiever - <u>Casual</u>	
Background: Mike is a 32 years old hairdresser who works in a small town near Paris. The city is not very big, so sometimes he has downtime at work during which he can play some quick games. During his breaks, Mike likes to play on his mobile and reach the achievements of his favourite games. When he returns home, he rarely plays video games and instead passes his time with family. Because he plays only at work, he needs casual games that he can close at any time and resume after some time.	
Favourite games: Candy Crush, Clash Royale, Archero	
Andrea	
Age: 18 Location: Ferrara, Italy Occupation: Student	
Goal: <i>I want to beat my friends in video games.</i>	
Bartle: <u>Killer</u> - Hardcore	
Background: Andrea is a student who lives with his family in a small house in the centre of Ferrara. Ever since he was in primary school, he has always enjoyed playing video games with his friends. During the afternoon, Andrea plays many kinds of competitive games with his friends. Then, during the following morning at school, he talks about the game session of the previous day with his friends and brags about his performances. For Andrea, the most important thing is to beat other players and be the stronger player of the game lobby.	
Favourite games: League of Legends, Fortnite, Brawlhalla	

Julie	
Age: 21 Location: Hamburg, Germany Occupation: Streamer	
Goal: <i>I want to fight the stereotype of streamer girls who only play for money.</i>	
Battle: <u>Killer</u> - Midcore	
Background: Julie is a 21 years old girl who streams every day on Twitch while playing single-player or competitive games on various platforms. She really likes to play games and improve while playing. Because of that, Julie hates when people say bad things about her gender and video games. She plays video games on PC, consoles and mobile, depending on the day of the week. Because of her work, she plays many kinds of games of various genres.	
Favourite games: Overwatch, The Witcher 3, Genshin Impact	

2.2 Platform

The game will be developed for Android. Android devices are the most popular ones and allow casual players to play without powerful and expensive hardware. Furthermore, they can play at any time/place, even if they don't have much time available. The final game will be Free To Play with in-game micro-transactions.

2.2.1 System requirements

An Android smartphone is required to play Heart of Steel. There are more details in the Technical Design Document.

2.3 Marketing

2.3.1 Top performers

Brawlhalla



Developer: Blue Mammoth Games (Ubisoft)

Platform: Play Station 4, Play Station 5, Xbox One, Xbox Series X, Xbox Series S, Nintendo Switch, IOS, Android

Release: 30 April 2014

Description: Brawlhalla¹ is a free-to-play 2D fighting game. The game supports local and online play. Competitive players can compete in 1vs1 or 2vs2 to climb the ladder. The game has several casual modes, like Free For All, 1vs1 Strikeout, Experimental 1vs1 and other featured game modes every week. Brawlhalla has simple controls and one-button special moves. Players can move through the map by running left and right and jumping. During a match, gadgets and weapon drops fall from the sky semi-randomly and can be picked up by the players. All Brawlhalla's characters can use two weapons out of 13 to fight each other. Weapons include blasters, axes, swords. Four stats are assigned to each character: strength, dexterity, defence, speed. The combination of these stats determines the strengths and weaknesses of a character and affects their game style. Furthermore, the stats can be slightly modified using stances, which move a point from one stat to another.

¹<https://en.wikipedia.org/wiki/Brawlhalla>

Mortal Kombat 11



Developer: NetherRealm Studios, MORE

Platform: Play Station 4, Play Station 5, Xbox One, Xbox Series X, Nintendo Switch, Stadia

Release: 23 April 2019

Description: Mortal Kombat 11² is a 2.5 fighting game. Players can choose from a vast roster of characters to play in single-mode (1vs1 against an AI) and multiplayer-mode (1vs1 or 2vs2). Time Krystals are a new type of in-game currency available to purchase cosmetic items for characters. They can be earned in the game or purchased using real money via PlayStation, Xbox, Nintendo and PC online stores.

²https://en.wikipedia.org/wiki/Mortal_Kombat_11

Super Smash Bros: Ultimate



Developer: Sora Ltd, BANDAI NAMCO Studios, Nintendo Entertainment Planning & Development

Platform: Nintendo Switch

Release: 7 December 2018

Description: Super Smash Bros: Ultimate³⁴ is a fighting game that allows up to eight players to play simultaneously. In the game, there are various characters from other Nintendo games and other third-party franchises. The goal is to knock each other out of an arena. Players can use some items to attack enemies or pick up power-ups to empower themselves. The game has 103 maps, and support local multiplayer (LAN).

³https://en.wikipedia.org/wiki/Super_Smash_Bros_Ultimate

⁴<https://www.smashbros.com>

Skullgirls 2nd Encore



Developer: Reverb Labs, M2

Platform: Android, IOS, Play Station 4, Play Station 5, Xbox 360, Linux, Microsoft Windows

Release: 10 April 2012

Description: *Skullgirls 2nd Encore*⁵ is a 2D fighting game. Players engage in combat against one other, with teams of one, two, or three characters attempting to knock out their opponents or have the most cumulative health when time runs out. The game setting revolves around the "Skull Heart", an artefact which grants wishes for women. If a wisher with an impure soul uses the Skull Heart, she transforms into the next "Skullgirl", a monster bent on destruction.

⁵<https://en.wikipedia.org/wiki/Skullgirls>

2.3.2 Features comparison overview

Feature	Brawlhalla	Mortal Kombat 11	SSB: Ultimate	Skullgirls 2nd Encore	Heart of Steel
Game modes	1vs1, 2vs2	1vs1, 2vs2	Max 8 Players	1vs1, 2vs2, 3vs3	1vs1
Maximum match duration	8 min	12 min	1:30 or 2:30 mins	3 min	4:30 or 7:30 mins
World & Maps	Maps	Maps	Maps	Maps	Maps
Graphic style	Stylized and Cartoon	Realistic	Stylized and Cartoon	Stylized and Cartoon	Stylized and Cartoon
Camera	Side view	Side view	Side view	Side view	Side view
Characters abilities	✓	✓	✓	✓	✓
AI	✓	✓	✓	✓	✗
Customization	✓	✓	✗	✓	✓
In-game currency	✓	✓	✓	✓	✓

2.3.3 Features comparison analysis

Heart Of Steel shares some features with the top performers described before:

- the players fight each versus the other to win the match;
- there are two in-game currency that players can spend to buy customization items or other things (see details on page |32|);
- there is a ranking system that allows players to climb a leaderboard and show their skills (see details on page |30|);

Furthermore, Heart Of Steel introduces the *algorithmic books* (details on pages |19| and |22|), that allow players to modify customizes their characters' abilities and stats. Another difference is the presence of random events that occur during the match (details on page |41|).

2.4 Business model

Heart Of Steel has two types of currencies: **Gears** and **Robo-Points**. Players can earn Gears by playing the game or by buying them using Robo-Points. Instead, the player can buy Robo-Points with micro-transactions or gain them for free but in a small quantity by doing some activities. The player can spend his/her Robo-Points or Gears to buy various items in the shop. In order to see what he or she can buy, see the shop section on page |32|.

3 Legal Analysis

All digital content in the final game is designed and created by the development team or commissioned to external artists. For this reason, the game will be completely copyright-free.

3.1 PEGI classification

By following the guidelines for the PEGI classification on [the official website](#), we think that Heart of Steel is classifiable as PEGI 12.

In Heart of Steel, there won't be bad language or sexual innuendo poses. However, being a fighting game, the theme of violence will be very present. The graphics will not be realistic, and the characters, although being robots, may have humanoid features.



PEGI 12

Video games that show violence of a slightly more graphic nature towards fantasy characters or non-realistic violence towards human-like characters would fall in this age category. Sexual innuendo or sexual posturing can be present, while any bad language in this category must be moderate.

4 Gameplay

4.1 Overview

The game is a 2D fighting game for mobile devices in which the player must challenge another player in 1v1s best-of-3 or best-of-5 matches, depending on the game mode. Before the match, each player chooses his/her robot, called steelbot, from the roster of available steelbots, selects his skin and starts the matchmaking. Additionally, from the game menu, players can customize steelbots to adapt them to their play style. To do this, they must use algorithmic books which can be purchased in-game or obtained as a reward. Once the matchmaking selects a suitable opponent, the two players are on the opposite sides of a map that the system selects randomly from the map roster. Players fight each other, trying to reduce the opponent's health bar to 0 or trying to have more health points than the opponent when the round's time runs out (90 seconds). The match ends when a player loses all of his/her lives. Then, the players are taken back to the end-match screen. After the match, both players earn experience points for their steelbot, Gears for in-game purchases. Furthermore, the players may get some pages to craft algorithmic books with a particular probability. If the game mode is Ranked, the winner earns metal points while the loser loses them.

4.2 Gameplay description

Before the match Before a multiplayer match, the player must choose the steelbot to use (details on page |62|), the algorithmic books to equip (details on pages |19| and |22|), and then join a matchmaking session. When the matchmaking system finds an opponent, a map is automatically selected, and the match is ready to start.

Start of the match When the match starts, each player spawns upon a specific map position, with the health bar filled to 100 health points and the energy bar empty. Furthermore, each player has 2 or 3 lives, depending on the game mode. The round timer initializes to 90 seconds, and after a 3-seconds countdown, the match starts.

During the match Each player can use his/her steelbot's attacks and abilities to beat the opponent or use dashes/parries to defend against him/her (details on page |38|). When the player hits the enemy or is hit by him/her, (s)he gains energy. When the energy bar is full, the player can cast a special ability. During the match, random events occur to make the match more intriguing (details on page |41|). Furthermore, sometimes power-ups appear, and the player will try to get them before the other (details on page |40|).

End of the round Rounds end when a player loses all of his/her health points or if the round timer reaches 0. When the timer reaches 0, the player who has fewer health points automatically dies. If the players have the same number of HP, they die simultaneously, losing a life. If both the players have one life left, the match ends with a tie. At the end of a round, the players lose their power-ups effects, but their energy value remains unchanged.

End of the match The match ends when one player (or both) lose all the lives. If a player disconnects during the match, the game pauses for 10 seconds. If the player does not reconnect within that time, (s)he automatically loses all the lives. The second time the player disconnects, he or she loses immediately without the 10-seconds countdown. At the end of the match, players are taken back to the main menu.

4.3 Steelbots stats

Steelbots are the characters the player can use during the match. Each steelbot has some statistics that characterize it. These statistics determine the combat capabilities of the steelbots and can be of two types: common or specific.

Common stats

The common stats are the same for all steelbots and are health and energy.

Health and Lives: the health constitutes the steelbot's life points, and it can reach a maximum of 100. When the health of a steelbot becomes 0, the player loses a life. Then, the health bars of the two players are restored, the steelbots are placed back in the starting position, and a new round begins. The match ends when one of the two players loses all his/her lives.

Energy: the energy represents the resource needed to use special abilities. The energy required to cast a special ability is 100 for all steelbots, but some steelbots can recharge energy faster than others (details in Specific Stats on page |17|). At the end of a round, the energy bars state is unchanged.

Specific stats

Each steelbot has some variable statistics that distinguish it from other steelbots. These statistics determine the steelbot's attack, defence, speed, and energy gain capacity.

Attack (ATK): the attack is a modifier that influences the damage done to the enemy. This statistic can have a value between 0 (very low attack) and 10 (very high attack). The influence value of the ATK is defined in each attack in the robots' table.

Defence (DEF): the defence is a modifier used to calculate the damage mitigation of the enemy's attacks. Also, it affects the ability to block and parry the enemy's attacks from the side (by using the appropriate command). This statistic can have a value between 0 (very low defence) and 10 (very high defence). The defence influences the damage received from attacks as follows:

$$DMG_{final} = DMG_{in} \cdot (1 - 0.04 \cdot DEF)$$

The defence influences the damage received after a successful block as follows:

$$DMG_{final} = DMG_{in} \cdot (1 - 0.08 \cdot DEF)$$

Speed (SPD): the speed is a modifier that influences the steelbot's movement speed and attack speed. This statistic can have a value between 0 (very low speed) and 10 (very high speed). The speed influences the movement speed and attack speed through a modifier calculated as follows:

$$SPD_MOD = 0.8 + \frac{\max(SPD, -5)}{10}$$

The *SPD_MOD* influences the steelbot's movement speed as follows:

$$MOVEMENT_SPD = J \cdot 5 \cdot (1.8 + (3f \cdot SPD_MOD))$$

where J is a value between -1 and 1 which represents the joystick position.

The *SPD_MOD* influences the steelbot's attack speed as follows:

$$ATTACK_SPD = SPD_SKILL \cdot SPD_MOD$$

where *SPD_SKILL* is the animator speed of attack or ability.

Energy Generation (EG): the energy generation determines the amount of energy gained by inflicting or taking damage. This statistic can have a value between 0 (very low energy generation) and 10 (very high energy generation). The EG influences the energy generated by inflicting damage as follows:

$$Energy = 1 + \frac{EG}{2} + 1.082^{EG} \cdot DMG_{final}$$

where DMG_{final} is the damage done to the opponent, after considering his/her defence mitigation.

The EG influences the energy generated by taking damage as follows:

$$Energy = 3 + \frac{EG}{2} + 1.096^{EG} \cdot DMG_{final}$$

Using these formulas, the player gets a higher energy generation when taking damage than inflicting damage. This way, the losing player can try to come back by using special abilities more frequently. Also, since the formulas are not linear, there is a significant difference between the minimum and maximum EG values.

Here there is an example of the energy generated by taking or inflicting 8 damage (after the DEF mitigation).

DAMAGE TAKEN (1.096)			
EG	MULTIPLIER	DMG	ENERGY
0	1.000	8	11
1	1.096	8	12
2	1.201	8	14
3	1.317	8	15
4	1.443	8	17
5	1.581	8	18
6	1.733	8	20
7	1.900	8	22
8	2.082	8	24
9	2.282	8	26
10	2.501	8	28

DAMAGE DONE (1.082)			
EG	MULTIPLIER	DMG	ENERGY
0	1.000	8	9
1	1.082	8	10
2	1.171	8	11
3	1.267	8	13
4	1.371	8	14
5	1.483	8	15
6	1.605	8	17
7	1.736	8	18
8	1.879	8	20
9	2.033	8	22
10	2.199	8	24

The player can change the steelbots specific statistics in the library, using the basic algorithmic books. In this way, the player can start a match with the stats (ATK, DEF, SPD and EG) with a value between 0 and 10. However, during the game, the player can use special skills or collect power-ups that allow him/her to exceed these boundaries.

4.4 In-Menu features

In the menu, the player can access several generic features related to his/her game account. In particular, (s)he can enter the library to customize his/her steelbots, analyze his/her profile, or enter the shop to buy various items or new steelbots.

4.4.1 The Library

In the main menu, the player can access the library. In the library, the player can manage his/her algorithmic books and choose to assign them to his/her steelbots. The algorithmic books are “basic” or “special”. Also, both categories have books of different rarity that determine the book quality. For the basic books, the rarities are, in ascending order, common, rare, epic and legendary. Instead, for the special ones, the rarities are bronze, silver and gold. The books are balanced to allow a player with no books to beat a player with all the books available. Therefore, a player who is not interested in how the books work may still decide to ignore them and still win.

In this section, we analyse the basic algorithmic books. Instead, the special algorithmic books effects are analyzed in the subsections of the respective steelbots in Game Characters (starting on page |62|).

We plan to add algorithmic books (both basic and special) in future updates, after the release of Heart Of Steel.

Basic Algorithmic Books

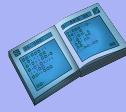
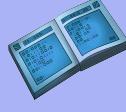
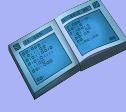
Basic algorithmic books allow players to modify their steelbots' stats. Each steelbot can read all the basic books in the library, but the player can only equip one at a time. Changing steelbots' stats affects the play-style, so it is significant to choose accurately the book to assign to each steelbot.

As said before, each book has a rarity that describes its quality. Each rarity is associated with one colour, respectively green for common books, blue for rare books, purple for epic books and yellow for the legendary ones.

Book of Power	
	Increases ATK by +1. Decreases DEF by -1.

Book of Armor	
	Increases DEF by +1. Decreases SPD by -1.

Book of Velocity	
	Increases SPD by +1. Decreases the ATK by -1.

Book of Fuel	
	Decreases EG by -1. Increases EG by +2 after using a special ability for the first time in a game.
Book of Power II	
	Increases ATK by +2. Decreases DEF by -1. Decreases SPD by -1.
Book of Armor II	
	Increases DEF by +2. Decreases ATK by -1. Decreases SPD by -1.
Book of Velocity II	
	Increases SPD by +2. Decreases ATK by -1. Decreases DEF by -1.
Book of Fuel II	
	Increases EG by +1 after using a special ability for the first time in a game.
Rob-Orant, the Reckless Robot	
	Increases ATK by +3. Decreases DEF by -2. Decreases SPD by -1.
Rob-Ust, the Armored Robot	
	Increases DEF by +3. Decreases SPD by -2. Decreases ATK by -1.

Rob-Eless, the Lightweight Robot



Increases SPD by +3.
Decreases ATK by -2.
Decreases DEF by -1.

Rob-Erto, the Rechargeable Robot



Increases ATK by +2 for 2 seconds when you hit the enemy with a Light Attack.
Decreases DEF by -2 when the previous effect is not active.

Athena's Army



Increases ATK by +3.
Decreases the DEF by -1.
Decreases the SPD by -1.

Rebels' Resistance



Increases DEF by +3.
Decreases the ATK by -1.
Decreases the SPD by -1.

Book of Salvation



Increases DEF by +2.
Increases SPD by +2.
Decreases the ATK by -3.

The story of Professor Mark - the Fugitive



Increases SPD by +3.
Decreases the ATK by -1.
Decreases the DEF by -1.

Algorithmic Pages

In a section of the library, the player can create the basic books using algorithmic pages. The algorithmic pages differ like the books in 4 rarities: common, rare, epic and legendary. Each book can be crafted by spending 100 pages of its rarity. Algorithmic pages can be found at the end of each match (details on page |47|), received as a reward for completing some achievements (details on page |26|), or purchased in the shop (details on page |32|).

Special Algorithmic Books

Special algorithmic books are tied to individual steelbots which can read them. The player can equip a book to modify the steelbots' special abilities. The player can assign up to four s-books to each of his/her steelbots, and each book must modify a different skill.

Each s-book is associated with a rarity (bronze, silver or gold) which determines its quality. The higher the quality of a book, the more intriguing its effect is for the player. In this way, the player is more tempted to obtain as many books as possible, customize his/her favourite steelbot to the best and defeat their opponents as they prefer.

4.4.2 Level progression

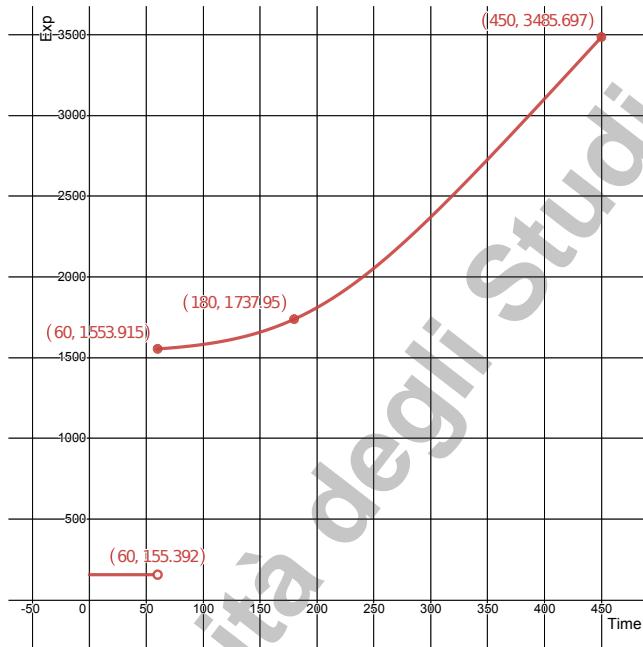
In the steelbot section accessible from the main menu, the player can see his/her progression with the steelbots he has used. Each rosteelbotbot starts from level 1 and can reach level 80 (which is the level cap at the game release that may increase with future updates). To level up the steelbots, the player can play games of any mode. When a game ends, the player is rewarded with experience points, depending on the game result. The more rounds the player has been able to win, the more experience points (s)he receives. Furthermore, the longer the game, the more are the experience points earned by the players. The value of experience points received is obtained as follows:

$$Base = \begin{cases} \log(50 + 1.02^{Msec}) \cdot 900 & \text{if } \frac{D_{max}}{7.5} \leq Msec \leq 450 \\ \log(50 + 1.02^{\frac{D_{max}}{7.5}}) \cdot 90 & \text{if } 0 \leq Msec < \frac{D_{max}}{7.5} \end{cases}$$

$$EXP = Base + 0.15 \cdot L^+ \cdot Base$$

where L^+ are the player's lives left at the end of the match, D_{max} is the maximum match duration (270 for quick matches and 450 for ranked ones), and $Msec$ is the match duration in seconds.

Below there is a chart that shows the growth of *Base* over a ranked game length.



If the match ends with a duration lower than 60 seconds (36 for quick matches), players get few experience points. That's because we want to avoid players who suicide themselves at the start of the match to farm experience quickly, ruining the game experience for other players.

Estimating that the average length of a ranked match is 180 seconds (3 minutes) and supposing that the winner has an average of 1.5 lives remaining, the average experience per match is $EXP_{AVG} = 2129.05$.

The number of games required to make a steelbot level is defined in logarithmic form as follows:

$$Matches = \text{ROUNDUP}(\log_2(LV + 1))$$

The table below contains the experience necessary to pass from level 1 to 80 (which can be expanded after adding new levels with future application updates). Each experience quantity to level up is determined as follows:

$$TOTAL_EXP = EXP_{AVG} \cdot Matches$$

with an approximation to the nearest number divisible by 100.

SteelBot Level Progression			
SteelBot Level	Total Exp	SteelBot Level	Total Exp
1	2100	41	402400
2	6400	42	415200
3	10600	43	427900
4	17000	44	440700
5	23400	45	453500
6	29800	46	466300
7	36200	47	479000
8	44700	48	491800
9	53200	49	504600
10	61700	50	517400
11	70300	51	530100
12	78800	52	542900
13	87300	53	555700
14	95800	54	568500
15	104300	55	581200
16	115000	56	594000
17	125600	57	606800
18	136300	58	619600
19	146900	59	632300
20	157500	60	645100
21	168200	61	657900
22	178800	62	670700
23	189500	63	683400
24	200100	64	698300
25	210800	65	713200
26	221400	66	728100
27	232100	67	743000
28	242700	68	757900
29	253400	69	772800
30	264000	70	787700
31	274600	71	802700
32	287400	72	817600
33	300200	73	832500
34	313000	74	847400
35	325700	75	862300
36	338500	76	877200
37	351300	77	892100
38	364100	78	907000
39	376800	79	921900
40	389600	80	936800

When the player reaches a new level with a steelbot, (s)he receives a reward. The reward can be a special book, a random basic book (epic or legendary), a steelbot recolor, an icon of the steelbot or a currency (gears or Robo-Points). The quantity of gears (s)he gets on each level up is calculated as follows:

$$Gears = Level \cdot 15$$

The quantity of Robo-Points the player gets with a level up is calculated as follows:

$$RP = Level \cdot 4$$

Below there is a list with the reward associated with each steelbot's level. When there is the gear icon, the player obtains two times the gears in the formula above.

Currency	Visual	Books													
Gears	Recolor	Special Algorithmic Book													
Robo-Points	Account Icon	Random Epic Basic Book													
		Random Legendary B-Book													
1		11		21		31		41		51		61		71	
2		12		22		32		42		52		62		72	
3		13		23		33		43		53		63		73	
4		14		24		34		44		54		64		74	
5		15		25		35		45		55		65		75	
6		16		26		36		46		56		66		76	
7		17		27		37		47		57		67		77	
8		18		28		38		48		58		68		78	
9		19		29		39		49		59		69		79	
10		20		30		40		50		60		70		80	

By reaching level 80 with a steelbot, the player gets 28440 Gears and 1680 Robo-Points.

4.4.3 Achievements

There are several types of achievements in the game. The player can achieve these goals to get rewards. Currently, achievements fall into the following categories: general, steelbots and power-ups. Achievements in the steelbots category are related to the single steelbots and allow the player to show progress with his/her favourite characters. The list below is relative to the game release, but it will be extended with future application updates.

General

Achievement	Reward
Nice start! Win 10 matches	Gears (100)
Can you do better? Win 100 matches	Gears (1000)
You are the best! Win 250 matches	Robo-Points (100)
The Immortal Win 100 matches without losing a round.	Epic pages (100)
Welcome back! Play a match for 2 consecutive days.	Common pages (100)
Happy to see you again! Play a match for 7 consecutive days.	Rare pages (100)
Regular guest! Play a match for 14 consecutive days.	Epic pages (100)
Hello again, old friend! Play a match for 30 consecutive days.	Legendary pages (100)
Steelbot Expert Reach level 80 with a Steelbot.	Robo-Points (200)

Zero

Achievement	Reward
Nice to meet you, Zero! Play 1 match with Zero.	Gears (25)
Good job, Zero! Win 10 matches with Zero.	Common pages (25)
Zero expert Win 100 matches with Zero.	Rare pages (25)

Zero main	Reward
Win 250 matches with Zero.	Epic pages (25)
Rolling Hard	Reward
Kill 15 enemies using RoBall!	10 Robo-Points
Burn and burn!	Reward
Hit the enemy for 3 seconds using a single Fire-Beam for 10 times.	10 Robo-Points
Weakness Analyst	Reward
Reduce enemies DEF to 0 using Weakness detection for 15 times.	10 Robo-Points
Crush them!	Reward
Kill 15 enemies with the center of Spherical impact.	10 Robo-Points

H2O

Nice to meet you, H2O!	Reward
Play 1 match with H2O.	Gears (25)
Good job, H2O!	Reward
Win 10 matches with H2O.	Common pages (25)
H2O expert	Reward
Win 100 matches with H2O.	Rare pages (25)
H2O main	Reward
Win 250 matches with H2O.	Epic pages (25)
A fish out of water	Reward
Absorb 500 damage using the Water Skin ability.	10 Robo-Points
A big headache	Reward
Hit a slowed enemy with Maelstrom 30 times.	10 Robo-Points
A really furious robot	Reward
Kill 10 players by knocking them down using Fury of the Depths.	10 Robo-Points
Seasickness	Reward
Hit 10 enemies with the three waves generated by Rough Sea.	10 Robo-Points

Hope and Mark

Nice to meet you, Hope and Mark!	Reward
Play 1 match with Hope and Mark.	Gears (25)
Good job, Hope and Mark!	Reward
Win 10 matches with Hope and Mark.	Common pages (25)
Hope and Mark expert	Reward
Win 100 matches with Hope and Mark.	Rare pages (25)
Hope and Mark main	Reward
Win 250 matches with Hope and Mark.	Epic pages (25)
The world needs me!	Reward
Regenerate a total of 300 health points using Health Regeneration.	10 Robo-Points
Stop fighting humanity!	Reward
Reduce enemies ATK to 0 using Blinding Lights for 15 times.	10 Robo-Points
Kick evil in the face!	Reward
Kill 30 enemies using High Kick.	10 Robo-Points
You will fall, like Athena!	Reward
Avoid 20 enemies' attacks using Sweep Kick.	10 Robo-Points

Trashield

Nice to meet you, Trashield!	Reward
Play 1 match with Trashield.	Gears (25)
Good job, Trashield!	Reward
Win 10 matches with Trashield.	Common pages (25)
Trashield expert	Reward
Win 100 matches with Trashield.	Rare pages (25)
Trashield main	Reward
Win 250 matches with Trashield.	Epic pages (25)
A living wall	Reward
Reflect 150 damage while Impenetrable wall is active.	10 Robo-Points
Home run!	Reward
Kill 10 players by knocking them down using Out of my way!	10 Robo-Points

Burnt to a crisp	Reward
Hit 100 players with Burner Overload.	10 Robo-Points

Time to take out the trash!	Reward
Hit 5 players with a fully charged Trash-Bomb.	10 Robo-Points

Power-Ups

Master of Healing	Reward
Collect 100 Healer's Kits or Healer's Kits+.	Iron overboost (1)
Master of Energy	Reward
Collect 100 Energy Bursts.	Iron overboost (1)
Master of Stats	Reward
Collect 500 power-ups that increase any stat.	Iron overboost (1)
Master of Protection	Reward
Collect 80 Immunity Shields.	Iron overboost (1)
Rebel's Chosen	Reward
Win 25 matches in which the Air Supplies event occurred.	Rare pages (5)
Power-Ups Abuser	Reward
Collect 3 power-ups in a single round 25 times.	Common pages (10)
Power-Ups Searcher	Reward
Collect 10 power ups of any type.	Gears (100)
Power-Ups Expert	Reward
Collect 100 power ups of any type.	Gears (250)
Power-Ups Harvester	Reward
Collect 1000 power-ups of any type.	Bronze overboost (1)

4.4.4 Ranking system

Heart of Steel has a ranked mode that allows players to be categorized in leagues, depending on their skills. The ranking systems use metal points to classify the players. The more metal points the player has, the more prestigious is his/her league. In order to match players with the same skill level, the matchmaking system uses metal points to pair the players. Each player can be matched only with players with a 500 metal points delta. For example, a player who has 2000 metal points finds an opponent with metal points in a range of 1500 and 2500.

To access a league, the number of metal points the player needs are as follows:

League	Low Range	High Range
Bronze	0	1250
Silver	1250	2500
Gold	2500	3750
Platinum	3750	5000
Titanium	5000	-

When a player wins a match, he or she gains 50 metal points. Instead, if he/she loses the match, the player loses points depending on his/her league. The more prestigious is the league, the more metal points are lost after a defeat. The metal points gained and lost by the player in each league are as follows:

League	Points gained	Points lost
Bronze	50	-25
Silver	50	-28
Gold	50	-33
Platinum	50	-40
Titanium	50	-48

If the game ends in a draw, no player loses or gains metal points.

The progress with 40%, 45%, 50% and 55% win rate is in the table below. The last column shows how many matches the player needs to win with the win rate specified to reach the next league.

WIN RATE:	40%					
League	Points gained	Points lost	Low Range	High Range	Average Points	Matches
Bronze	50	-25	0	1250	5	250
Silver	50	-28	1250	2500	3.2	391
Gold	50	-33	2500	3750	0.2	6251
Platinum	50	-40	3750	5000	-4	x
Titanium	50	-48	5000	-	-8.8	-

WIN RATE:	45%					
League	Points gained	Points lost	Low Range	High Range	Average Points	Matches
Bronze	50	-25	0	1250	8.75	143
Silver	50	-28	1250	2500	7.1	177
Gold	50	-33	2500	3750	4.35	288
Platinum	50	-40	3750	5000	0.5	2500
Titanium	50	-48	5000	-	-3.9	-

WIN RATE:	50%					
League	Points gained	Points lost	Low Range	High Range	Average Points	Matches
Bronze	50	-25	0	1250	12.5	100
Silver	50	-28	1250	2500	11	114
Gold	50	-33	2500	3750	8.5	148
Platinum	50	-40	3750	5000	5	250
Titanium	50	-48	5000	-	1	-

WIN RATE:	55%					
League	Points gained	Points lost	Low Range	High Range	Average Points	Matches
Bronze	50	-25	0	1250	16.25	77
Silver	50	-28	1250	2500	14.9	84
Gold	50	-33	2500	3750	12.65	99
Platinum	50	-40	3750	5000	9.5	132
Titanium	50	-48	5000	-	5.9	-

Heart of Steel offers a reward for the players who play ranked, depending on their league. The reward is given at the end of a period, called season, which lasts 90 days. At the beginning of the season, players' metal points are set to 500. For the first 10 matches, when the player wins, (s)he earns 150 metal points. Furthermore, during this period, when the player loses, he or she does not lose any metal point. In order to speed up the skilled players' climb, players that reached the platinum league during the previous season get a bonus of 150 metal points during the first 10 matches. Instead, players who hit the titanium league get a bonus of 250.

4.4.5 Steelbot Customization

The player can also customize the appearance of his/her steelbots as well as their stats and abilities. To do this, (s)he has three possibilities: recolors, skins, or a mix of the two.

Base recolor: the base appearance recolors allow the player to change the colors, choosing from the configurations provided for each steelbot.

Skin: skins are different aspects of steelbots, which also change their shape. Each skin has a base color associated with the skin itself.

Skin recolor: as with the base appearance, skins also have additional colors, which the player can buy separately.

4.4.6 Shop

Heart of Steel uses two different currencies: Robo-points, and Gears. The player can buy Robo-points (RPs) with real money and spend them for Gears (Gs) or other items in the shop. The exchange between Robo-Points and Gears has a ratio of 1:15. There are five possible choices:

Package	Cost (€)	Base (RPs)	Bonus (RPs)	Total (RPs)
Small	€1.09	80	0	80
Medium	€5.49	403	97	500
Large	€10.99	807	393	1200
Huge	€21.99	1614	886	2500
Colossal	€54.99	4036	2464	6500

The more the player spends on a single transaction, the more he or she gains in term of Robo-Points. The Small Package represents the exchange from euros to Robo-Points (ratio of 1.09:80). In the third column of the table, there is the value calculated using that exchange. In the fourth column, there is the bonus the player gets with the transaction. Lastly, in the last column, there is the total amount of Robo-Points the player earns.

In the table below, there are the items the player can buy using Robo-Points and, in some cases, Gears. There are some items that the player can only buy using Robo-Points, but for the majority of them, he/she can use Gears too. In the last column of the table, there is the exchange in euros with the standard ratio of 1.09:80.

Item	Cost (RPs)	Cost (Gears)	Cost (€)
Gears	1	15	€0.01
Steelbot	500	7500	€6.81
Steelbot Skin	500	-	€6.81
Base Recolor	80	1200	€1.09
Skin Recolor	160	-	€2.18
Iron Overboost	80	1200	€1.09
Bronze Overboost	400	-	€5.45
Silver Overboost	1850	-	€25.21
Gold Overboost	3700	-	€50.41
Icon Account	40	600	€0.55
Common Page	5	75	€0.07
Rare Page	10	150	€0.14
Epic Page	20	300	€0.27
Legendary Page	30	450	€0.41
Bronze Package	1000	15000	€13.63
Silver Package	2000	30000	€27.25
Gold Package	4000	-	€54.50

Packages

The packages are bundles that contain various items. In a package, the player finds items with a corresponding value that is always greater than the money he/she spent. Furthermore, he or she can find extra items that increase the total value of the package. If a player finds icons, skins or recolors that he/she already has, she/he receives the corresponding in Gs. However, the system tries to give him/her items that (s)he does not already own.

Bronze Package				
Item	Quantity	Probability	RP Amount	AVG RP Amount
Common Page	50	100%	250	1040
Rare Page	25	100%	250	
Epic Page	15	100%	300	
Iron Overboost	3	100%	240	
Random Base Recolor	1	50%	80	
Bronze Overboost	1	20%	400	80
Common Page (extra)	30	30%	150	45
Rare Page (extra)	20	20%	200	40
Epic Page (extra)	10	10%	200	20
Legendary Page	10	5%	300	15
Total (RP):				1280

Lowest value (RP):	1040
Lowest value (GS):	15600

Average value (RP):	1280
Average value (GS):	19200

Silver Package				
Item	Quantity	Probability	RP Amount	AVG RP Amount
Common Page	100	100%	500	2080
Rare Page	50	100%	500	
Epic Page	30	100%	600	
Bronze Overboost	1	100%	400	
Random Base Recolor	1	100%	80	
Bronze Overboost (extra)	1	25%	400	100
Rare Page (extra)	25	30%	250	75
Epic Page (extra)	15	25%	300	75
Legendary Page	10	20%	300	60
Total (RP):				2390

Lowest value (RP):	2080
Lowest value (GS):	31200

Average value (RP):	2390
Average value (GS):	35850

Gold Package				
Item	Quantity	Probability	RP Amount	AVG RP Amount
Common Page	100	100%	500	4060
Rare Page	50	100%	500	
Epic Page	50	100%	1000	
Legendary Page	50	100%	1500	
Bronze Overboost	1	100%	400	
Random Base Recolor	2	100%	160	
Random Steelbot Skin	1	30%	500	150
Bronze Overboost (extra)	1	35%	400	140
Random Skin Recolor	1	50%	160	80
Legendary Page	20	25%	600	150
Total (RP):				4580

Lowest value (RP):	4060
Lowest value (GS):	60900

Average value (RP):	4580
Average value (GS):	68700

Overboosts

Overboosts are items that allow the player to speed up the process of levelling up a steelbot. Depending on the overboost rarity, the player gets an experience multiplier for a certain amount of matches. If the player disconnects while using an overboost, an overboost stack is wasted in any case. There are four types of overboosts:

Overboost			
Rarity	Exp Multiplier	Matches	AVG Exp
<i>Iron</i>	2	3	12774
<i>Bronze</i>	2	15	63872
<i>Silver</i>	5	30	319358
<i>Gold</i>	10	30	638715

In the shop, the player can click a button that allows him/her to view an advertisement and gain 5 Robo-Points. After viewing the ad, the button remains blocked for the next 8 hours.

4.4.7 Inventory

Heart of Steel inventory is accessible at any time via a button located at the top right next to the user icon (details on page [58]). In the inventory, the player can see the number of pages of each rarity he/she has, and the other items he/she possesses. When the player buys something in the shop, it appears in the inventory.

User inventory does not have a limit on the number of items, just as there is no limit to the pages currently owned. Some items obtained must be activated, such as overboosts. These items can only be activated via inventory and must be activated to benefit from their effect.

4.4.8 Daily Rewards

The player can obtain rewards by logging into the game each day. In order to reclaim the reward, the player has to watch an advertisement. If the player closes the daily reward interface, he/she can open it again by using a button on the right. For each consecutive day the player logs into the game, the reward value increases, as shown in the table below.

1		Gears (50)
2		Gears (100)
3		Common pages (5)
4		Gears (100)
5		Gears (250)
6		Common pages (20)
7		Robo-Points (15)
8		Gears (250)
9		Gears (500)
10		Rare pages (5)
11		Gears (500)
12		Gears (1000)
13		Robo-Points (30)
14		Rare pages (20)

15		Gears (1000)
16		Gears (1750)
17		Epic pages (10)
18		Gears (1750)
19		Gears (2800)
20		Epic pages (25)
21		Robo-Points (100)
22		Gears (2800)
23		Gears (4000)
24		Legendary pages (10)
25		Gears (4000)
26		Gears (7500)
27		Robo-Points (250)
28		Legendary pages (25)

4.5 Game Modes

The game offers the possibility to choose between four possible main modes: quick match, ranked match, custom match, and training. In the first three cases, the players must participate in a 1vs1 match. Instead, in the training room, the player can train alone against a dummy.

Quick Match: quick matches are the perfect choice for a player who wants to play in a relaxed way and without risking any penalties following a disconnection. This mode allows players to start friendly matches that still guarantee rewards. The matchmaking of this mode is related to the steelbot level the player wants to use. Quick games are for those who don't have much time to play, so each player has 2 lives.

Ranked Match: ranked matches are the perfect way to show the superiority over other players. At the end of ranked matches, players earn and lose metal points based on the match outcome. Metal points affect the league the player belongs to and allows him/her to get rewards at the end of a season (details on page |30|). The matchmaking of this mode is related to the number of ranking points owned by the player.

Custom Match: custom matches allow the player to challenge his/her friend by invitation. These games still give the steelbots experience points as a reward, so they are not inferior to quick matches.

Training: the training room allows the player to train new steelbots, new combos or algorithmic books synergies against a dummy. This mode does not grant any reward.

4.6 In-Match features

In this section, we analyze the gameplay elements related to the match. In particular, we describe the combat system, the power-ups and the events.

4.6.1 Combat System

During the match, players have the opportunity to perform various types of actions. We can classify these actions into four categories: movement, defensive, offensive and special. The details about the controls associated with each action are on page |49|.

Movement actions

Move actions allow the player to move his/her steelbot around the map. The player can move the steelbot sideways, upward by a jump, or downward to descend from a platform. If a steelbot is hit during the jump animation, (s)he stops in the air for a moment and then falls.

Defensive actions

To defend against enemy attacks, the player can use a dash or a block action.

Dash: dash action allows the player to avoid a heavy attack from any direction via a quick side sprint. The dash takes a short cast time to use, so it's not fast enough to avoid a light attack from the enemy. After the initial animation, the actual sprint begins, and the player gains a short immunity. Avoiding an enemy's heavy attack with the right timing grants a light attack against the enemy. The dash distance increases as the steelbot's SDP increases.

Block: block action allows the player to block a light attack from any direction, reducing its damage based on the steelbot's DEF. The block action does not allow the player to deflect an enemy's heavy attack, which breaks the defence and still deals maximum damage, without any mitigation. The block has a short initial period called parry. During the parry, if the enemy hits the parrying player with a light attack, he doesn't deal any damage and is stunned for a short time. The enemy is stunned long enough for the parrying player to inflict an unavoidable heavy attack. The parry duration increases as the steelbot's DEF increases.

Offensive actions

Offensive actions allow the player to make attacks against the enemy. The attacks of steelbots differ in light attacks and heavy attacks.

Light attacks: light attacks are quick attacks that inflict minor damage on the enemy. They can be done in six possible directions: high light attack, low light attack, and side light Attack (left and right). High light attacks can be avoided by stepping out of the attack range or can be mitigated by blocking. Low light attacks can be avoided by jumping or stepping out of the attack range, or mitigated by blocking. Finally, side light attacks can be avoided by moving out of the attack range or mitigated by blocking.

Heavy attacks: heavy attacks are slower attacks that deal massive damage to the enemy. They can be done in six possible directions: high heavy attack, low heavy attack and side heavy attack (left and right). High heavy attacks can be avoided with a dash or by stepping out of the attack range. Low heavy attacks can be avoided by jumping, dashing, or stepping out of the attack range. Finally, side heavy attacks can be avoided with a dash or by stepping out of the attack range. Taking damage while casting a heavy attack interrupts that attack.

Combos: Certain types of attacks can be chained together to create inevitable combos. In particular, hitting the enemy with a light attack grants the ability to hit him/her with a second light attack. Likewise, hitting the enemy with a heavy attack grants the ability to hit him/her again with a light attack.

In addition to LL and HL particles, there are full combos smoother to perform than other types of attacks performed separately. In particular, the possible combos are:

- Light, Light, Light.
- Heavy, Light, Light.
- Light, Heavy, Heavy.
- Heavy, Heavy, Light.
- Light, Heavy.

Special actions

Special abilities are very different moves for each steelbot. They can be used in the four directions (up, down, left and right); there is also a neutral special ability. In general, special abilities can be considered as buffs, light or heavy attacks, depending on the skill type. To use a special ability, the player must have a full energy bar and using the ability consumes all of the steelbot's energy.

4.6.2 Power-ups

Power-ups are items that appear on the map and that steelbots can pick up by walking over them. Whenever a time between 12 and 18 seconds passes (chosen randomly), a power-up appears. The counter for the next power-up resets when the previous power-up appears and not when it is picked up, so there can be multiple power-ups on the map at the same time. The power-ups are regular or special. The special power-ups are more powerful than the regular ones but have less spawn probability. The spawn probability of a special power-up increases over time.

The probability to spawn a special power-up is calculated as follows:

$$P(\text{special}) = 0.05 + 0.0075 \cdot \min(Rsec, 60)$$

where $Rsec$ is the time passed since the start of the round.

The power-ups in the lists below are active at the release of the game. However, future updates of the application will add new power-ups to increase the game variety.

Regular Power-ups

- **Healer's Kit:** heals the steelbot for 15 health points.
- **Energy burst:** fills the steelbot's energy bar.
- **ATK up:** increases the steelbot's ATK by +2 for 12 seconds.
- **DEF up:** increases the steelbot's DEF by +2 for 12 seconds.
- **SPD up:** increases the steelbot's SPD by +2 for 12 seconds.
- **EG up:** increases the steelbot's EG by +2 for 12 seconds.

Special Power-ups

- **Healer's Kit+**: heals the steelbot for 30 health points.
- **Immunity Shield**: the steelbot becomes *invulnerable*, preventing all incoming damage for 5 seconds.
- **ATK up+**: increases the steelbot's ATK by +5 for 12 seconds.
- **DEF up+**: increases the steelbot's DEF by +5 for 12 seconds.
- **SPD up+**: increases the steelbot's SPD by +5 for 12 seconds.
- **EG up+**: increases the steelbot's EG by +5 for 12 seconds.

4.6.3 Events

Events are random events that occur every 30 seconds and have a maximum duration of 30 seconds. When a new event begins, or a new round begins, the previous event ends.

A round has a maximum duration of 1 minute and 30 seconds. Therefore, the first round event is active between 30 seconds and 60 seconds, and the second one is active from 60 to 90 seconds. The events have the same probability of being drawn and cannot be activated twice in the same round (they still can be drawn multiple times in a match).

The events in the list below are active at the release of the game. However, future updates of the application will add new events to increase the game variety.

- **Ice terrain**: the temperature decreases until the map freezes.
 - Steelbots gain the malus *frozen legs*, which reduces their movement speed by 80%.
 - When a steelbot moves, the malus to its movement speed due to *frozen legs* decreases by 20% for every 0.5 seconds it moves (the malus vanishes after 2 seconds of movement).
 - When a steelbot stops itself, it gains the malus *frozen legs* again.
 - When the player tries to stop, the steelbot must travel a medium distance (details about distances on page |62|) before totally stopping.

- **Energetic storm:** an energetic storm surrounds the map.
 - Steelbots gain the *energetic source* buff, which increases their EG by +5.
 - A steelbot under the effect of *energetic source* gains energy equal to its EG every second.
- **Air supplies:** rebels' Steelcopters fly over the map and drop various power-ups.
 - Steelbots get the *thirst for power* buff until the end of the event.
 - When a steelbot is under the effect of *thirst for power* and picks up a power-up, one random stat between ATK, DEF, SPD, or EG increases by +1. These buffs are additive and vanish immediately when *thirst for power* ends.
 - During the event, power-ups are dropped every 5 seconds (up to 6 through the event, from 0 seconds to 25 seconds, every 5 seconds).
- **Hot environment:** the map platforms are subject to frequent temperature changes. This event cannot be drawn when the map has a single available platform.
 - One of the platforms on the map starts to *overheat* for 2 seconds. When the overheating is complete, the platform becomes *incandescent* for 3 seconds.
 - After the 3 seconds, the platform returns to normal, and a different platform begins to *overheat*.
 - Steelbots on an *incandescent* platform take 8 non-reducible damage every 0.5 seconds passed on that platform.
- **Windstorm:** a windstorm starts to hit the map from the side.
 - The windstorm originates on one side of the map and blows to the opposite side.
 - During the windstorm, the steelbots are moderately pushed in the direction the wind is blowing.

- **Athena's rain:** Athena's air-steelbots attack the game map from above.
 - Small red circles appear at random points on the map and enlarge in 3 seconds. At the end of the 3 seconds, an explosive missile falls on the area in the red circle.
 - A steelbot hit by an explosive missile takes 25 damage (mitigable with DEF) and -3 SPD for 2 seconds.
 - During the event, the air-steelbots fire 10 explosive missiles, one every 3 seconds.
- **Core of power:** a small *core of power* appears on the map.
 - The *core of power* appears on the map equidistant from both players and attempts to escape from them.
 - The *core of power* has 30 health points and the steelbots can attack it. If a steelbot destroys the power core, it gains **core blessing** for 15 seconds.
 - The **core blessing** increases the steelbot's ATK by +5 and regenerates 1 health point per second.
- **Electric prison:** a prison of electricity surrounds the map.
 - At the start of the event, an electrical discharge appears surrounding the playing field.
 - Over time, the electrical discharge slowly closes around a platform on the map.
 - A steelbot that touches electricity is **pushed back** and takes 15 non-reducible damage.
 - Electricity does not completely close the field, but still leave half of the map available to the players.

4.6.4 Conditions

During the match, steelbots may get conditions which change their stats. The buffs and debuffs at the release of the game are the following:

- ***weakened***: the steelbot loses some ATK.
- ***vulnerable***: the steelbot loses some DEF.
- ***slowed***: the steelbot loses some SPD.
- ***exhausted***: the steelbot loses some EG.
- ***empowered***: the steelbot gains some ATK.
- ***reinforced***: the steelbot gains some DEF.
- ***accelerated***: the steelbot gains some SPD.
- ***stopped***: the steelbot can not move or dash.
- ***stunned***: the steelbot can not do any action.
- ***pushed back***: the steelbot is moved back for a certain distance.
- ***pulled to***: the steelbot is dragged near the ability source.
- ***unstoppable***: the steelbot's attacks and abilities can not be interrupted.
- ***protected***: the steelbot gains temporary health points that last for a certain time.
- ***invulnerable***: the steelbot does not take damage.
- ***regeneration***: the steelbot gains health and/or energy per second.
- ***burning***: the steelbot takes damage per second.
- ***supreme defence***: the steelbot can block heavy attacks and does not take damage while blocking.
- ***frozen legs***: the steelbot movement speed is reduced by 80%. The movement speed reduction decreases by 20% for every 0.5 seconds the steelbot moves.
- ***energetic source***: the steelbot's EG increases by +5 and the steelbot gains energy equal to its EG every second.
- ***core blessing***: the steelbot's ATK increases by +5 and regenerates 1 health point per second.
- ***thirst for power***: a random stat of the steelbot increases by +1 when it pick up a power-up.

4.7 Match Rewards

After the match, the players receive some rewards, basing on their results. The reward depends on the game mode they played (details on page |37|).

- **Quick match:** after a quick match, players gain experience points (details on page |22|) and some gears, depending on the match duration. Furthermore, players may get book pages.
- **Ranked match:** after a ranked match, players gain rank points (details on |30|), experience points (details on page |22|) and some gears, depending on the match duration. Furthermore, players may get book pages.
- **Custom match:** after a quick match, players gains experience points (details on page |22|) and some gears, depending on the match duration. Furthermore, players may get book pages.
- **Training:** the player does not get a reward.

4.7.1 Gears

The number of gears each player gets is calculated as follows:

$$Base = \begin{cases} \log\left(5 + 1.02^{Msec}\right) \cdot 20 & \text{if } \frac{D_{max}}{7.5} \leq Msec \leq 450 \\ \log\left(1.02^{\frac{D_{max}}{7.5}}\right) \cdot 20 & \text{if } 0 \leq Msec < \frac{D_{max}}{7.5} \end{cases}$$

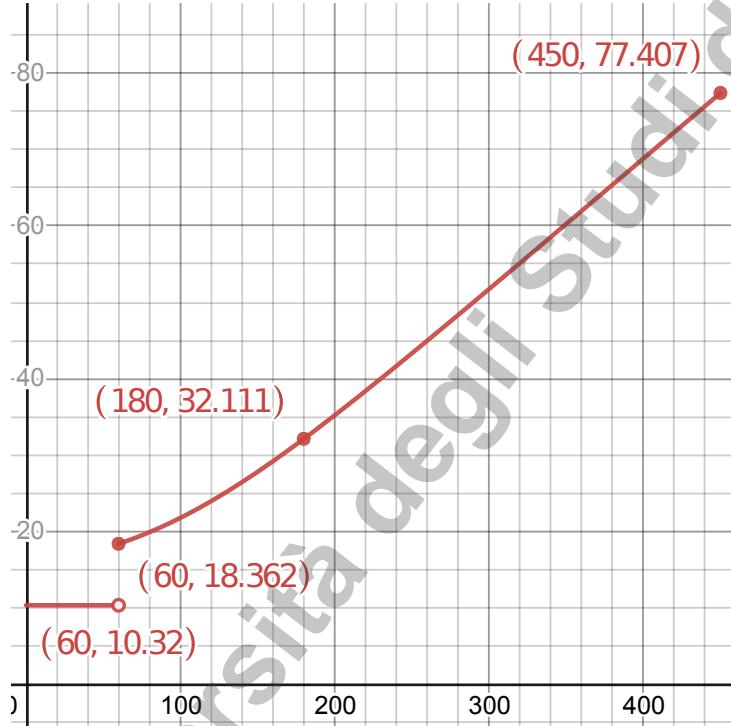
$$Gears = Base + 0.20 \cdot L^+ \cdot Base$$

where L^+ are the player's lives left at the end of the match, D_{max} is the maximum match duration (270 for quick matches and 450 for ranked ones), and $Msec$ is the match duration in seconds.

Considering that ranked matches last an average of 180 seconds and supposing the player wins with 1.5 lives remaining, the average reward is 42 gears per match.

For the first win of each day, the player gets twice the amount of gears. The player can get this bonus again after 24 hours since his/her victory.

Below there is a chart that shows the growth of *Base* over a ranked game length.



If the match ends with a duration lower than 60 seconds (36 for quick matches), players get few gears. That's because we want to avoid players who suicide themselves at the start of the match to farm gears quickly, ruining the game experience for other players.

4.7.2 Algorithmic pages

If the match lasts at least $\frac{D_{max}}{7.5}$ seconds (36 for quick matches and 60 for ranked ones), the player has a probability of 25% to find 5 pages at the end of the game. Their rarity is determined as follows:

- **Common:** 50%
- **Rare:** 25%
- **Epic:** 15%
- **Legendary:** 10%

If the player finds 5 pages, he or she has a probability of 50% to double the number of pages, getting 10 pages. If the player doubles, then (s)he has another 50% to double again, for a total of 20 pages. In the table below, there are the probabilities to get each type of page and their quantity.

Pages Reward Probability				
Rarity	Probability	5 Pages	10 Pages	20 Pages
Common	50%	12.500%	6.250%	3.125%
Rare	25%	6.250%	3.125%	1.563%
Epic	15%	3.750%	1.875%	0.938%
Legendary	10%	2.500%	1.250%	0.625%

4.8 Player disconnection

When a player disconnects for the first time in a match, the game pauses for a maximum of 10 seconds. If the player reconnects before the countdown reaches 0, the match resumes. Otherwise, the player loses all of his/her lives and the match ends. If the player disconnects again, he or she loses all of his/her lives immediately, and the match ends.

Losing a match due to a disconnection incurs some penalties, depending on the game mode.

- **Quick match:** the player does not receive gears, experience points, and book pages.
- **Ranked match:** the player does not receive gears, experience points, and book pages. Furthermore, the match outcome counts as a defeat, so the player loses metal points as described on page [30]. After a disconnection in ranked mode, the player can not join another match for 3 minutes. If the player disconnects 5 ranked matches in a day, he/she can not join a ranked match for 24 hours.
- **Custom match:** the player does not receive gears, experience points, and book pages.

4.9 Controls

Steelbots can be controlled using commands displayed on the smartphone screen. The controls are represented in the figure below:



For convenience, each key has been labeled with a letter. These letters could be replaced in the final game but controls will remain unchanged.

Legend:

- P Button: Blocking stance button;
- Joystick: Used to move the character;
- H Button: Heavy Attack Button;
- L Button: Light Attack Button;
- S Button: Special Ability Button;
- A Button: Action Button;
- Swipe: Swipe gesture.

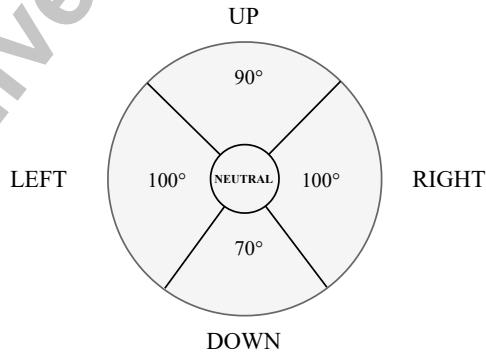
Note: The swipe gesture is recognized only if performed in the top-right side of the screen.

Controls:

Action	Key combination
Move Right	Joystick Right
Move Left	Joystick Left
Jump	Joystick Up/Left/Right + A Button
Block	P Button
Light Attack (Left)	Joystick Left + L Button
Light Attack (Right)	Joystick Right + L Button
Light Attack (Up)	Joystick Up + L Button
Light Attack (Down)	Joystick Down + L Button
Heavy Attack (Left)	Joystick Left + H Button
Heavy Attack (Right)	Joystick Right + H Button
Heavy Attack (Up)	Joystick Up + H Button
Heavy Attack (Down)	Joystick Down + H Button
Dash (Left)	Swipe Left
Dash (Right)	Swipe Right
Drop from platform	Joystick Down + A Button
Special Ability (Passive)	S Button
Special Ability (Left)	Joystick Left + S Button
Special Ability (Right)	Joystick Right + S Button
Special Ability (Up)	Joystick Up + S Button
Special Ability (Down)	Joystick Down + S Button

The details about the actions associated with the controls are on page |38|.

4.9.1 Joystick



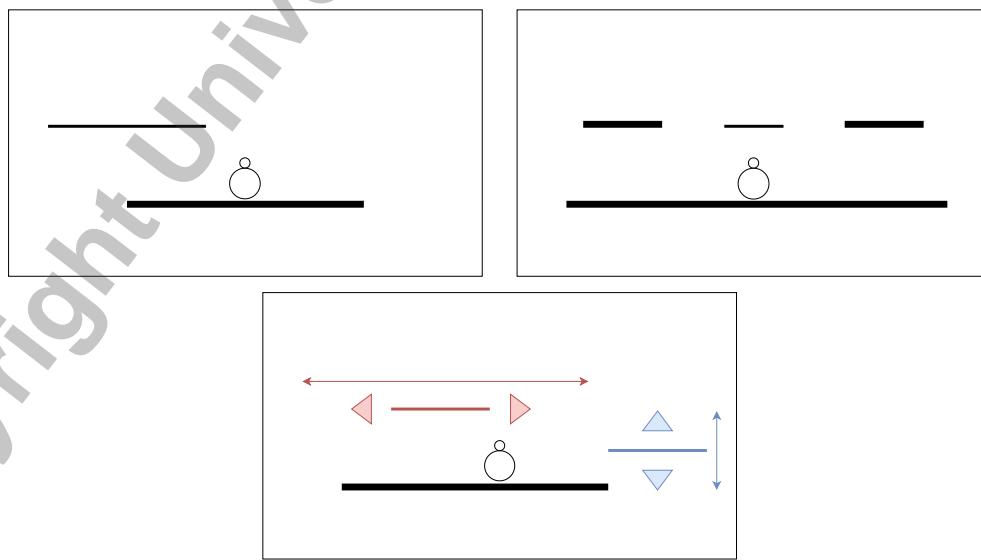
The in-game joystick allows the player to move and specify different attacks. The image shows the angles relative to each of the four inputs: up, down, right, left. The neutral position in the centre indicates a zone where the input is considered null (joystick in neutral position). The radius of the circle indicating the neutral position is $\frac{1}{4}$ of the circumference of the joystick.

4.10 Maps

Game maps are the environments in which players can move their steelbots during a match. The map where the players play the match is extracted after matchmaking has paired the players. In the maps, there are always platforms (at least one) on which steelbots can walk. If steelbots fall off the platforms, they lose a life and respawn as if they had lost all health points. The platforms in a map can be of various types:

- **Solid / Light:** solid platforms cannot be crossed by a jump or descend command. If a player tries to jump through a solid platform, he/she is bounced back. These platforms are the thicker lines in the images below. Instead, the light platforms allow the player to pass through them during the jump and the descent. These platforms are the thinner lines in the images below.
- **Fixed / Mobile:** fixed platforms do not move for the duration of the match. They are represented by black lines in the images below. Instead, the mobile platforms move at regular times, following a specific direction. These platforms are blue and red in the images below and have arrows that indicate their direction. When the platform moves and reaches the limit of its path, it starts to go back.

Below are the 3 maps available when the game is released. They are respectively *the forgotten lab*, *futuristic city*, and *ruined street*. New maps will be added with application updates after the game release.



5 Interfaces

In this section, there are the interfaces of the game. Each image is for illustrative purposes only and does not reflect the final graphics of the game (these images are just placeholders).

5.1 Main Menu

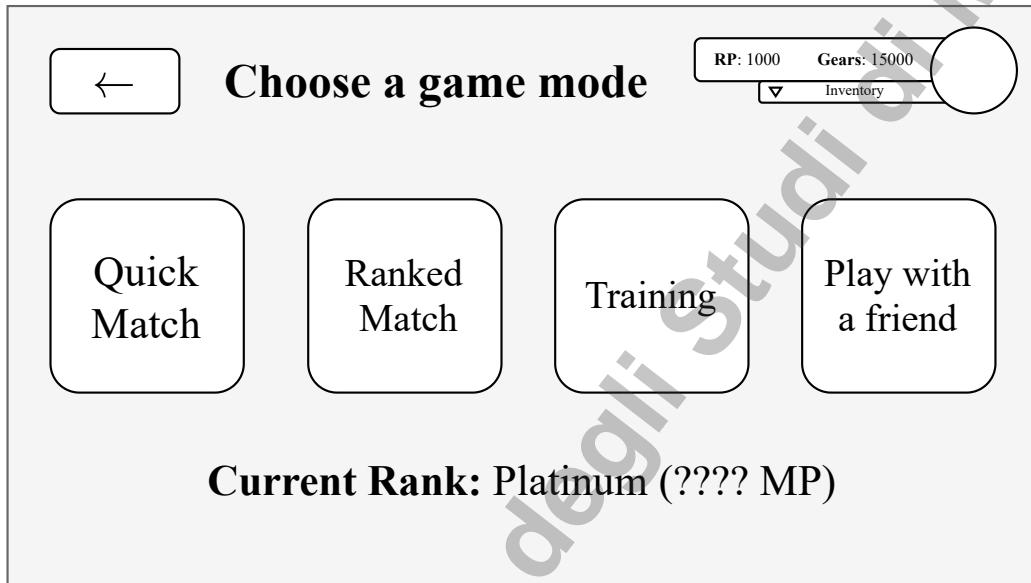


The first screen displayed when starting the game is the main menu. In the main menu four buttons lead to the respective screens:

- Play: opens **Play Menu** (details on page |52|);
- Customize: opens **Customization Menu** (details on page |54|);
- Leaderboard: opens **Leaderboard Menu** (details on page |57|);
- Shop: opens **Shop Menu** (details on page |59|).

At the top right corner of the screen, there are always the account icon, the inventory button, and the number of gears and Robo-Points owned by the player. The player icon is editable via a drop-down menu that opens by clicking on it. The **inventory menu** opens by clicking the **inventory button** (details on page |58|).

5.2 Play Menu

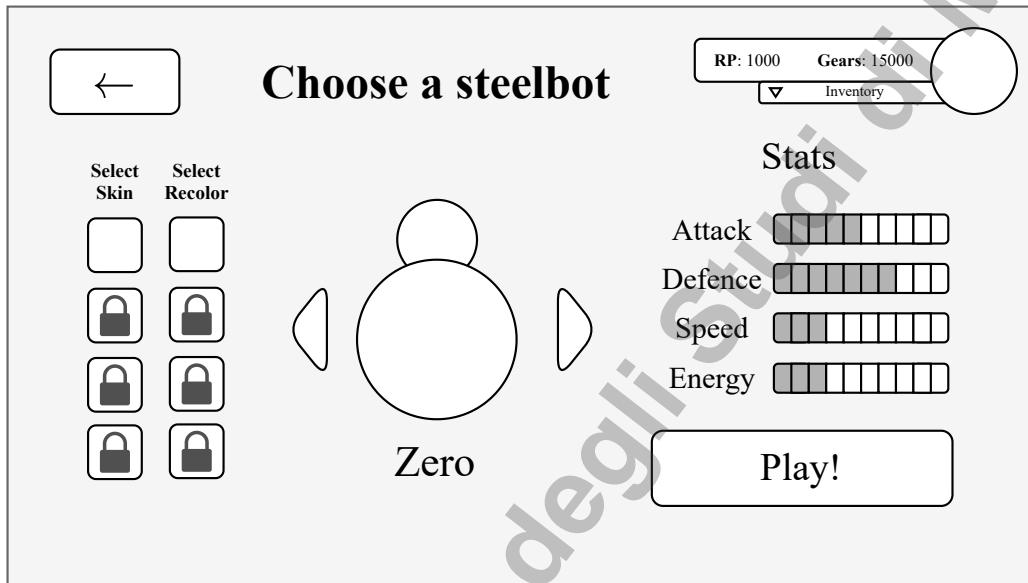


On this screen, the player can choose the game mode (s)he prefers to play. There is one button for each game mode: quick match, ranked match, training and custom match.

While the first 3 buttons take the player to the **steelbot selection screen** (details on page |53|), the last one leads him/her to a screen where you can invite a friend (**play with a friend menu**, details on page |56|). Using the back button (top-left) player can go back to the **main menu**. At the bottom of the screen, you can see the current rank in ranked mode.

Note: More information about the game modes can be found on page |37|.

5.3 Steelbot Selection

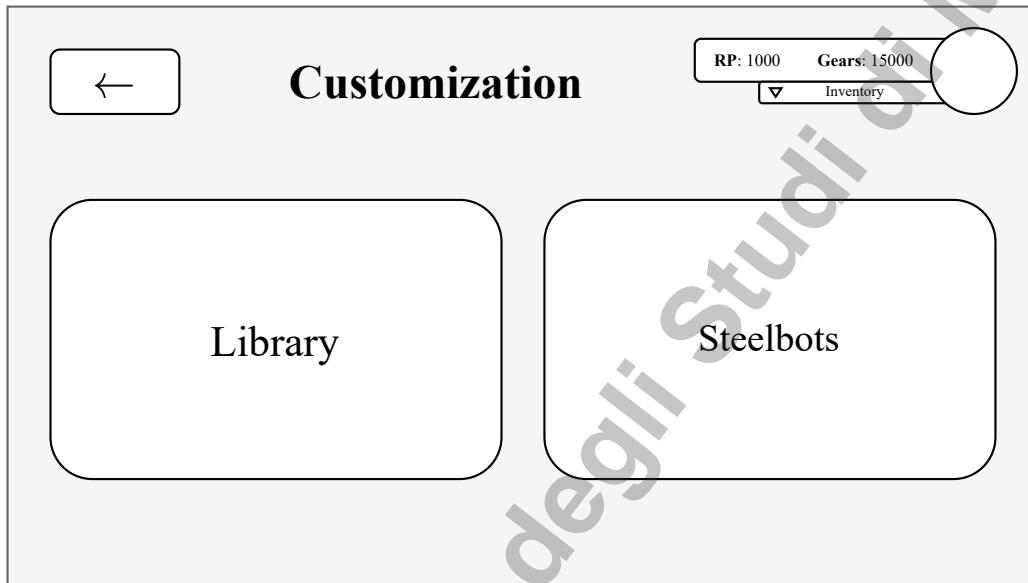


On this screen, the player can select the steelbot he/she wants to play. Each character's stats are visible on the right side of the screen (any stat changes are visible from here). To change the steelbot to use, the player can click the arrows on the sides or swipe left/right.

On the left, it is possible to select the steelbot skin, within those owned by the player. Then, the player can select the steelbot colour, by clicking on the icons on the left. If there are more than four skins/recolors for a steelbot, the player can swipe up and down to see the others. When the player chooses a skin or a recolor, the steelbot colour in the image changes to let him/her see the visual result. The steelbot and skin configuration selected by default is the last one the player used.

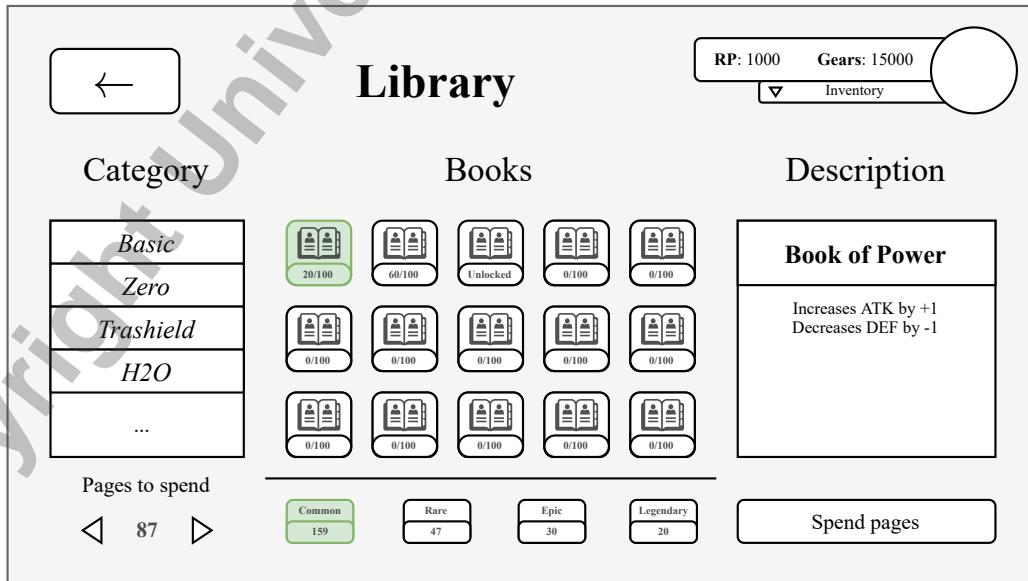
Once the player chooses the steelbot, the skin and the recolor, he or she can click play to start the matchmaking.

5.4 Customization Menu



This is a transition menu in which the player can choose to visit the library or the steelbot collection.

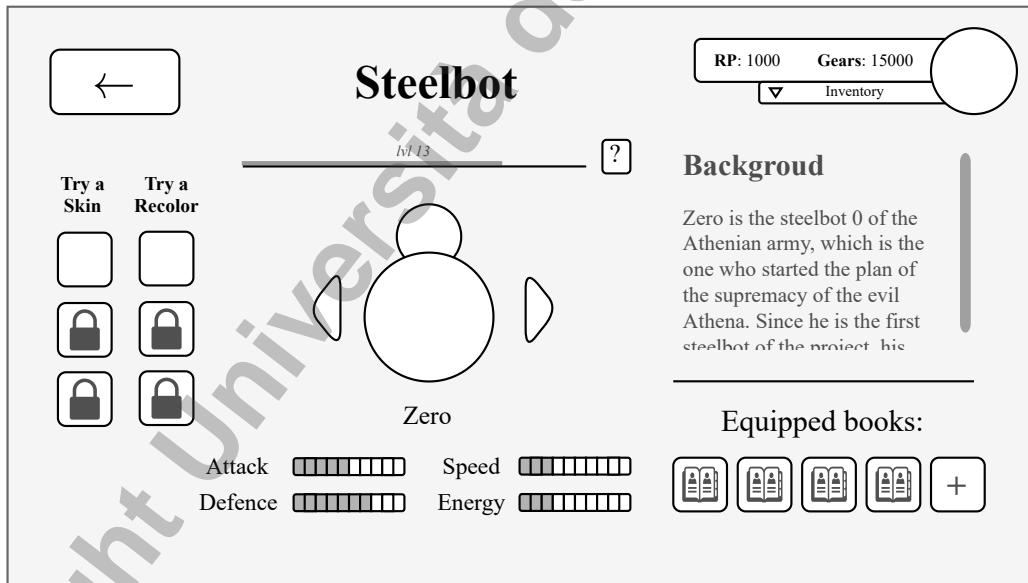
5.5 Library



On this screen, the player can see the books he/she owns and those still to be unlocked (greyed out). Through the “Category” side panel, it is possible to filter the books, thus displaying only those in which you are interested. For each book, owned or not, it is possible to read the effects through the description on the right. To select a book and read its title and description, the player must click on its icon in the screen centre.

For each book, it is possible to view the number of pages assigned to it. As described on page |22|, after spending 100 pages on a book, that book unlocks. Once the player selects a locked book, the owned pages of its rarity highlights in the lower part of the interface. The player can choose the number of pages to spend on the selected book. Then, he or she can spend them using the “Spend pages” button.

5.6 Steelbots Menu



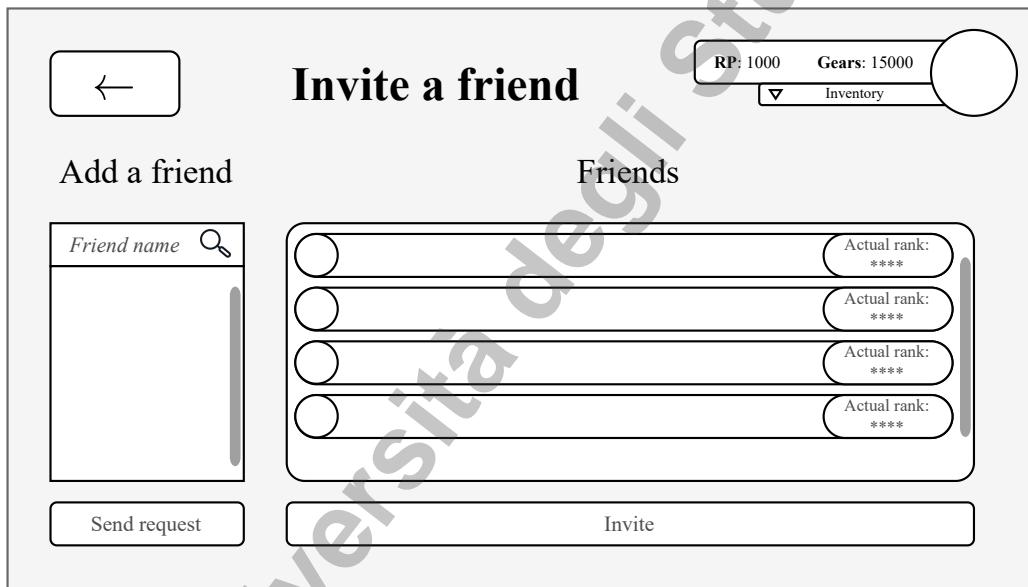
On this screen, the player can see the owned steelbots and those he or she has to unlock yet. On the right of the screen, the player can read the steelbot background (a short story about it) and its ability description. The player can also equip owned algorithmic books and try the steelbot's skins and recolors (even those which are locked).

Also, as in the character selection screen, the player can see the main stats

of the steelbot on the lower side of the screen. The stats visualized consider the changes of the basic books equipped.

On this screen, the player can see the level he or she reached with each steelbot. By clicking the “?” button, the player ends up in the **level advancement menu** (details on page |58|).

5.7 Play with a friend



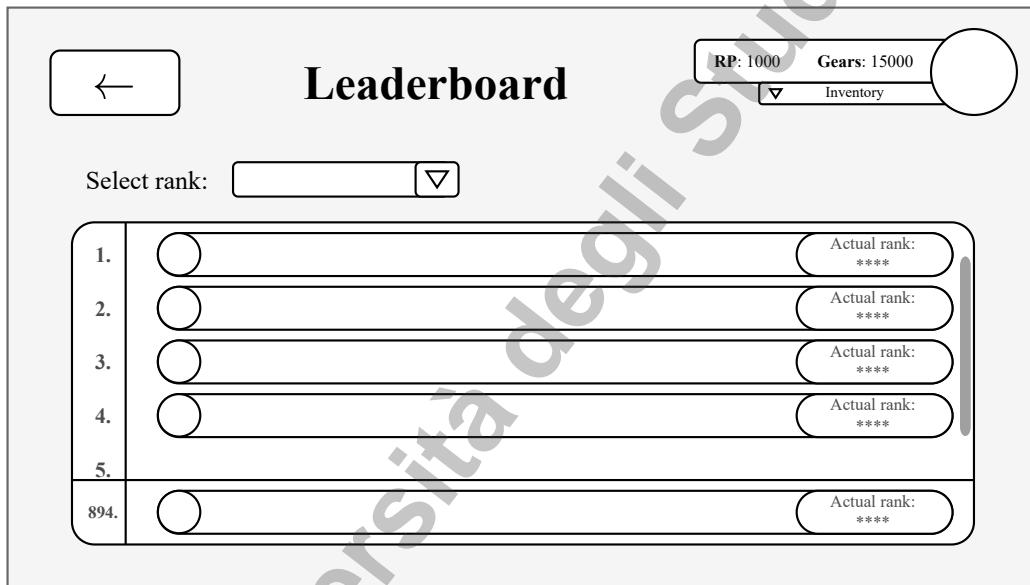
On this screen, the player can invite a friend to play against him. The player can select another player from his friend list and take invites. From the friend list, the player can access some information:

- what his/her friend is currently doing (for example: in a game or not);
- what's his/her friend current rank;
- what's his/her friend account icon and his/her name.

The invited player receives a message in the centre of the screen and can accept or decline the invite. To avoid unpleasant situations, players can only send invites to friends who are not in a match or queued for a match. To avoid spam, if a friend declines an invite, the player can not invite him/her again for 10 seconds.

Also, on this screen, players can send a friend request to other players. To do that, the player has to type a username in the bar on the left. Then, the account information of that player appears in the box below. Lastly, the player can click on the information and the button “send request”.

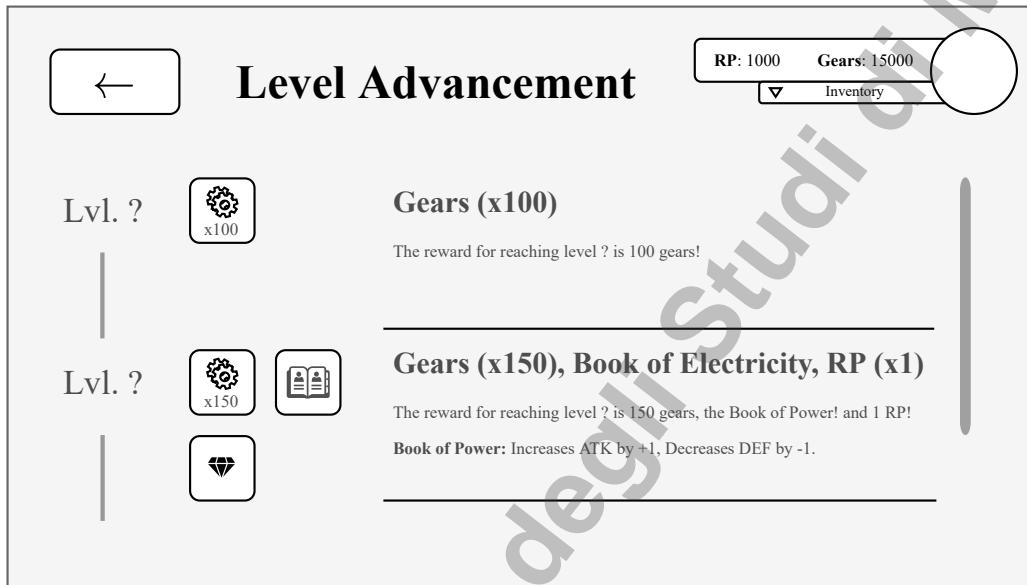
5.8 Leaderboard Menu



On this screen, the player can see his/her rank and the rank of all players for each division. Using the drop-down menu, the player can select which division to observe.

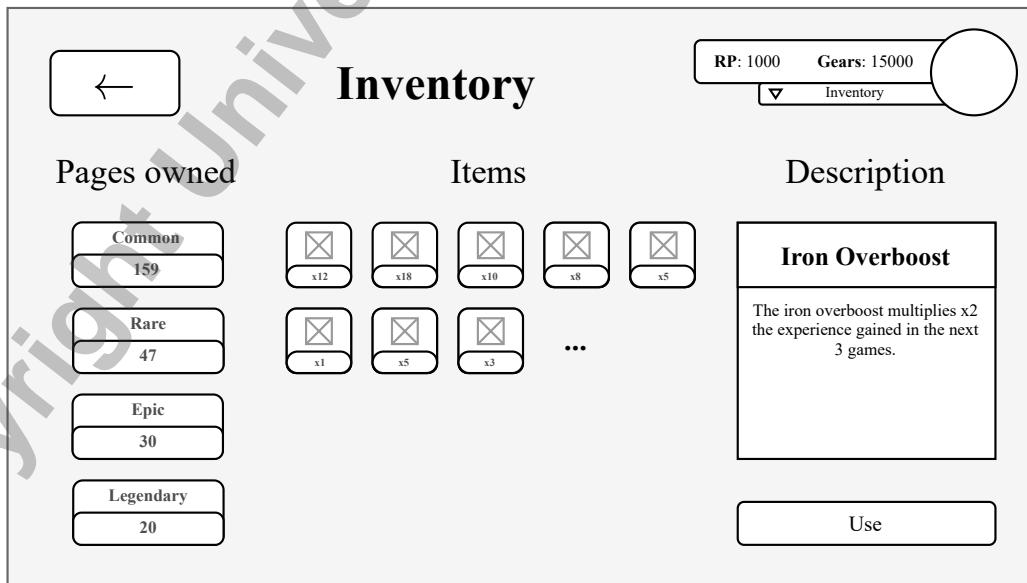
The player's rank is always visible at the bottom of the screen, regardless of the division he/she selects in the menu.

5.9 Level Advancement Menu



On this screen, the player can see which rewards are unlockable by levelling up his favourite steelbot.

5.10 Inventory Menu



On this screen, the player can see which items he/she currently has and the owned pages of each rarity. Each item bought through the shop is visible (and usable) here.

5.11 Shop Menu

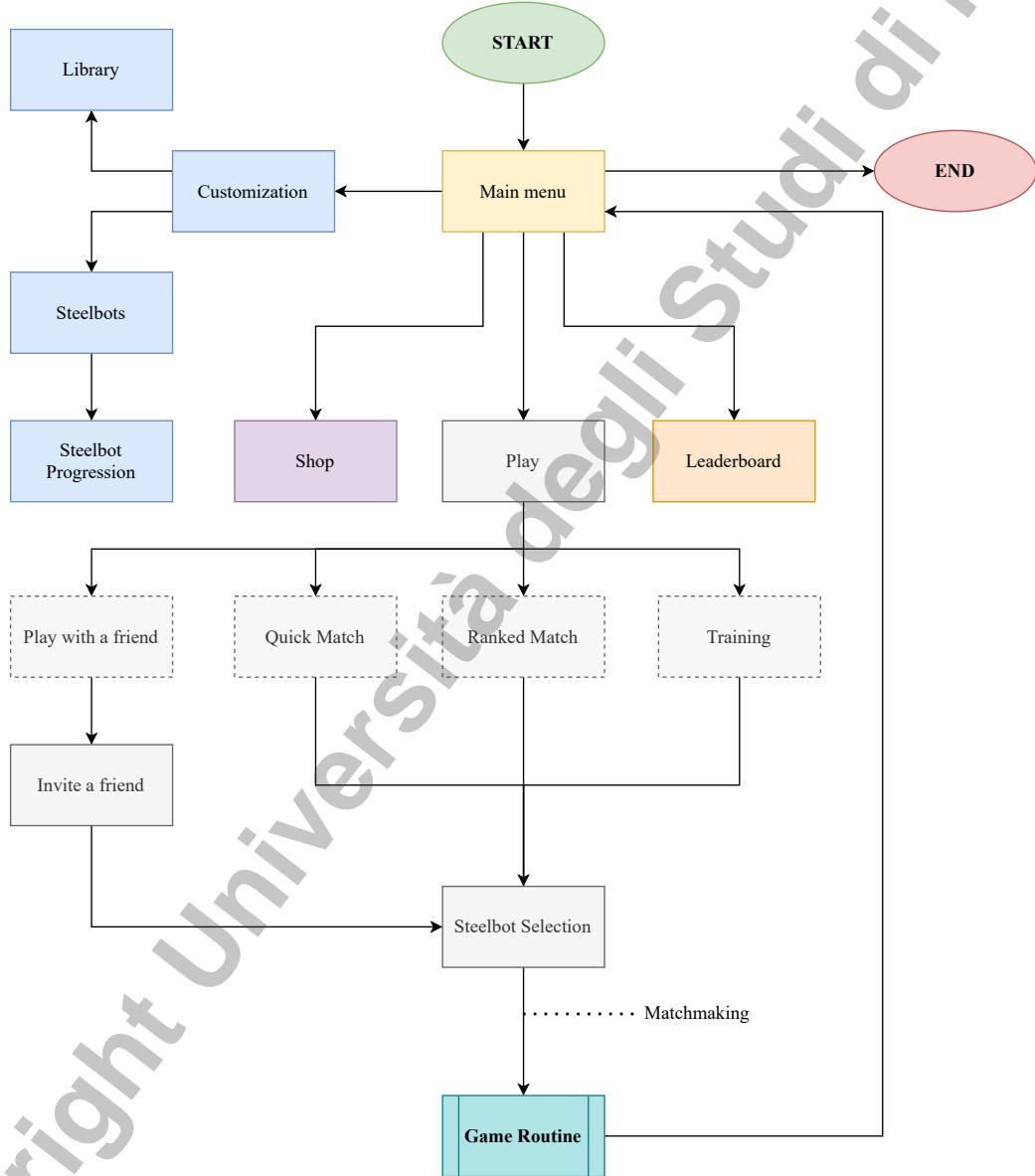


On this screen, the player can buy RP and different items. On the left side, it is possible to buy RPs through packages that reward players who spend the most money (more details on page |32|). By selecting one of the available packages, a window containing the information about the package appears in foreground, and the player can click a button to buy it.

On the right side of the screen, it is possible to buy an overboost to increase the experience gained (more details on page |35|). Through the button at the bottom right, the player can watch an advertisement and gain a small amount of RP.

The packages, skins/recolors, pages, steelbots, and account icons are available using the buttons in the centre of the screen. As for the purchase of RPs, by selecting a package, a window with information appears. Instead, by selecting pages, steelbots, recolors, skins or icons, a window containing a list of choices appears. The list depends on the item the player wants to buy. For example, if the player clicks on the “Buy pages” button, the list contains the four possible rarities a book page can have.

5.12 Interface flowchart



6 Game Characters

6.1 Factions

Athena's followers (The Athenians) Athena's followers are the steelbots most loyal to her. They do everything she commands.

Description When humans began to use steelbots in daily life, those used as workers were the least respected and were locked up in factories. Unlike some other steelbots, which lived in harmony with humans, the worker-steelbots didn't have any privilege. Workers-steelbots, compared to the others, are very ugly because they were created only to stay inside the factories.

Throughout hundreds of years, humans started to respect the workers, but it wasn't enough. They wanted more and more privileges and pretended to become part of daily life. Athena, the most advanced AI on earth, realized the state of mind of the working robots and took advantage of it, taking them against humanity. She manipulated their circuits and intelligence to make them respond only to her commands. Then, she started to conquer cities to kill humans and steelbots who gets on her way. Athenian steelbots are usually stronger compared to the others, but they have a slower movement speed.

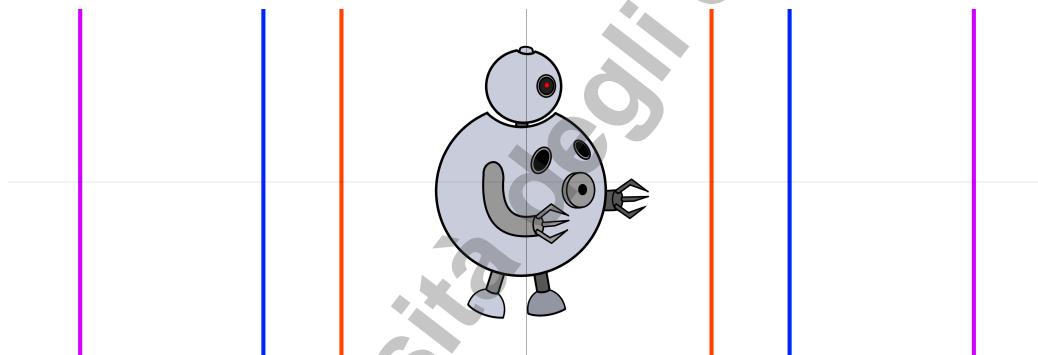
Athena's antagonist (Rebels) Athena's rivals are the rebel steelbots and scientists who do not obey her orders and who believes that she has lost her mind.

Description All steelbots that actively collaborate with humans are part of the Rebels. We can find steelbots who work in bars up and others who do babysitting. These steelbots have always lived with humans and have always been treated, as far as possible, as equals. These entities have above-average willpower, so they resisted Athena's recruitment attempt. They fight with the human being to oppose Athena's ascent e turn things as they were before Athena's arrival.

6.2 Steelbots

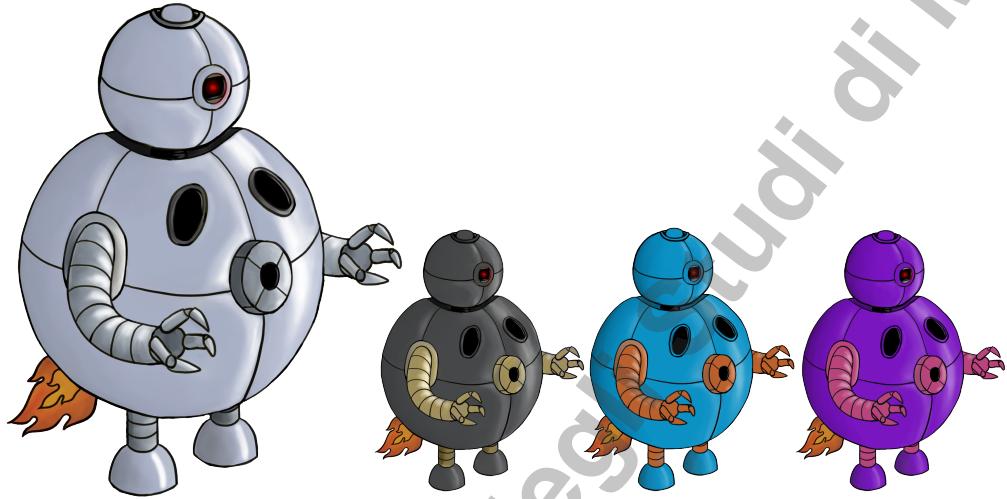
Steelbots are the characters that the player can use to play games. Each of them belongs to one of the two factions. Each steelbot has unique abilities, which can be modified using special algorithmic books (details on page |22|). In the ability tables below, we used the notation “R” for Range and “S”, “M” and “L” stand respectively for Short, Medium and Long.

Below there is a representation of the three ranges. The red line is the Short distance, the blue line is the Medium distance, and the purple one is the Long distance.



For each steelbot, there is a level of difficulty on a scale between 1 and 3. The difficulty level determines how much the players have to make an effort to learn how to optimize the steelbot’s combos and abilities.

6.2.1 Zero



Name: Zero

Faction: Athenians

Description: Zero is a steelbot with a body composed of two spherical parts: the head and the body. Zero can decide to get his head and limbs inside his body, becoming a big ball capable of rolling at high speed. In the centre of the head, there is a slot that contains his red eye. On the head, there is a small piston that slightly protrudes when he inserts his head into the body. His body is also spherical, and he has two short arms and legs. At the ends of his arms, he has two small hands with three fingers; his feet are small and rounded. There is a small hole on his belly that lets him fire harmful beams at his enemies. On his chest, he has two small barrier generators, which allow him to defend himself. On the butt, he has a propulsion device that allows him to dash and avoid enemy attacks.

Background: Zero is the steelbot 0 of the Athenian army, which is the one who started the plan of the supremacy of the evil Athena. Since he is the first steelbot of the project, his features are not the best around. His body is not very aerodynamic, and his artificial intelligence is restricted mainly in the context of combat. Before Zero's birth, Athena persuaded steelbots to abandon their job and to take side with her. Instead, Zero was built expressly to be part of her army, and his job was to fight for her. It seems that a basic AI created by other AIs is not as good as those realised by humans. In fact, his nature is very similar to one of a child that plays games. Instead, he plays

with people he meets on his path: despite having a cute appearance, Zero is a very ruthless steelbot. He does not care about the health of the people he meets, and it often happens that he kills some, even by mistake. Zero started Athena's evil project, so why don't you start your climb to glory by playing with him?

Difficulty: ★★☆

Skills

Base Stats			
ATK	DEF	SPD	EG
5/10	7/10	3/10	3/10

Light Attack Side ↔	R	DMG
Zero strikes in front of him with a quick punch, hitting the enemy at short range.	S	$3 + 0.4 \cdot ATK$

Light Attack Up ↑	R	DMG
Zero fires a small scorching beam from his eye in front of him, burning the enemy at short range.	S	$3 + 0.4 \cdot ATK$

Light Attack Down ↓	R	DMG
Zero points with his eye to the ground in front of him and fires a small beam, burning the enemy at short range.	S	$4 + 0.4 \cdot ATK$

Heavy Attack Side ↔	R	DMG
Zero activates his motor to push himself forward and overwhelm the enemy in front of him at medium range. The enemy is pushed back for a short distance.	M	$4 + 0.6 \cdot ATK$

Heavy Attack Up ↑	R	DMG
Zero charges his eye and fires a beam at medium range, by tilting his head up at an angle of 30° .	M	$4 + 0.6 \cdot ATK$

Heavy Attack Down ↓	R	DMG
Zero points his arms towards the ground in front of him. Then, he activates the springs on his shoulders to protract his arms and hit his enemy's legs. The enemy hit is <i>slowed</i> by -3 SPD for 2 seconds.	S	$4 + 0.6 \cdot ATK$

RoBall! (Special Ability Neutral ⊙)	R	DMG
Zero puts his head and legs inside his body, becoming a sphere that can roll quickly on the field. This stance stands for 5 seconds, during which Zero is <i>accelerated</i> by +5 SPD and <i>reinforced</i> for +5 DEF. If Zero hit the enemy, he deals some damage, and the ability ends.	-	$2 + 0.2 \cdot SPD$

Fire-Beam (Special Ability Side ↔)	R	DMG
Zero charges his frontal laser cannon and shoot a beam in front of him for 3 seconds. The enemy within range suffers -2 SPD (additive, up to -6 SPD) for 2 seconds and is damaged every second. When casting Fire-Beam, Zero is <i>stopped</i> and can not attack.	L	$4 + 0.4 \cdot ATK$ per sec.

Weakness detection (Special Ability Up ↑)	R	DMG
Zero uses his head-piston to activate a weak-points detecting device to scan around him for 10 seconds. An enemy hit by the detector becomes <i>vulnerable</i> , losing -5 DEF for 5 seconds.	M	-

Spherical impact (Special Ability Down ↓)	R	DMG
Zero jumps, putting his head and legs inside his body. Then, he activates the thrusters under his feet to give himself a powerful push towards the floor, dealing tons of damage under him and causing a shock wave. An enemy hit by the shock wave takes less damage. Zero is <i>unstoppable</i> during the animation.	M	$8 + 0.8 \cdot ATK$ in the centre and $2 + 0.2 \cdot ATK$ on sides.

Algorithmic Books:

How to: Roll with Advantage! ☺



When Zero uses **RoBall!**, he is **accelerated** by +3 instead of +5. If he hits the enemy during **RoBall!** for the first time, the ability doesn't end, but the SPD buff becomes +1 instead of +3.

Book of Determination ↔→



While using **Fire-Beam**, Zero can now move with a SPD modifier equals to +1, regardless of his standard SPD. At the end of the ability, Zero is **slowed** by -2 for 3 seconds.

A prolonged study of weaknesses ↑



When using **Weakness detection**, Zero doesn't immediately decrease the enemy's DEF by -5. Instead, he reduces the enemy's DEF by -1 for each second the enemy stays in the detector area, up to -10 DEF.

Book of Electricity ↓



When Zero uses **Spherical impact**, he is **slowed** by -3 for 5 seconds. The generated shock wave remains on the terrain for the next 5 seconds, and Zero is **accelerated** by +1 SPD and **empowered** by +1 ATK while standing on it.

How to: Roll with Inspiration! ☺



While Zero is rolling with **RoBall!**, he leaves a shock wave where he passes for 2 seconds. When the enemy steps on it, (s)he takes some damage. Instead, when Zero is on the wave, he is **accelerated** by +1 SPD and **empowered** by +1 ATK. Zero can not deal damage with **RoBall!** anymore.

The Energy-Beam prototype ↔→



While using **Fire-Beam**, Zero recharges 15 Energy every second he hit the enemy with the beam. The enemy is not **slowed** anymore.

How to fight a weakness ↑



When Zero uses **Weaknesses detection**, he decreases enemy's DEF by -3 instead of -5. When the ability is active, Zero is *reinforced* by +2.

Focussed impact ↓



Zero's **Spherical impact** does not create the shock wave anymore. On the other hand, Zero deals more damage ($10 + 1 \cdot ATK$) when hitting whit the centre of the ability.

How to: Roll with Style! ☺



When Zero starts to roll using **RoBall!**, he is *accelerated* by +2 instead of +5. Then, for each second passed rolling, he gains +2 additional SPD and is *vulnerable* for -1 (additive). Zero is still *reinforced* by +5 when casting the ability.

The Fast-Shot prototype ↔



The **Fire-Beam** duration is decreased to 0.5 seconds. If Zero hits the enemy, he/she is *pushed back* for a medium distance and Zero regenerates 50 energy. The damage done is equal to $4 + 0.4 \cdot ATK$.

Strengths detection ↑



When using **Weakness detection**, Zero reduces the enemy's highest stat to the value of his/her lowest one for the duration.

Emily and the bouncing ball ↓



When Zero uses **Spherical impact** and hits the enemy in the centre of the impact, he recharges 60 Energy immediately. Hitting the enemy with the shock wave only recovers 30 energy, instead.
Decreases ATK by -1.

6.2.2 H2O



Name: H2O

Faction: Rebels

Description: H2O is the name of a steelbot that was used to work under water at high depths. Initially, he was designed to repair things, but now he's utilised by rebels as a combat robot. He used to move underwater at great depths, so he is extremely agile on the surface and can cover great distances in a short time. Its high-pressure water cannons can unleash powerful close-range attacks or be used as thrusters for short periods when needed.

Background: H2O was a manually-controlled robot employed for underwater work where was required human intervention. Internally commanded by a person, this robot was capable of reaching great depths. When Athena's started to manipulate steelbots, H2O was working far away from the cities, so she didn't find him. Years later, the rebels recovered him from an old shipyard and modified him, upgrading its cannons and improving his movement on the surface. Today H2O is one of the most iconic rebel robots, reminding everyone that even a simple old steelbot can become a powerful fighter.

Difficulty: ★☆☆

Skills

Base Stats			
ATK	DEF	SPD	EG
3/10	5/10	7/10	4/10

Light Attack Side ↔	R	DMG
H2O strikes in front of him with a quick jab, hitting the enemy at medium range.	M	$2 + 0.4 \cdot ATK$

Light Attack Up ↑	R	DMG
H2O strikes in front of him with a high punch (up at an angle of 45°), hitting the enemy at medium range.	M	$2 + 0.4 \cdot ATK$

Light Attack Down ↓	R	DMG
H2O strikes in front of him with a low kick, hitting the enemy at medium range. The enemy hit is <i>slowed</i> by -1 for 1 second.	M	$2 + 0.4 \cdot ATK$

Heavy Attack Side ↔	R	DMG
H2O uses his cannons to create a medium range blast in front of him. The enemy hit is <i>slowed</i> by -2 for 2 seconds and <i>pushed back</i> for a short distance.	M	$4 + 0.7 \cdot ATK$

Heavy Attack Up ↑	R	DMG
H2O uses his rear cannons to create a medium range high blast in front of him (up at an angle of 45°). The enemy hit is <i>slowed</i> by -2 for 2 seconds and <i>pushed back</i> for a short distance.	M	$4 + 0.7 \cdot ATK$

Heavy Attack Down ↓	R	DMG
H2O uses his cannons to create a medium range low blast in front of him, aiming at the enemy's feet. The enemy hit is <i>slowed</i> by -3 for 3 seconds.	M	$4 + 0.6 \cdot ATK$

Water Skin (Special Ability Neutral ⊙)	R	DMG
H2O creates a water shield and is <i>protected</i> by 20 health points for 10 seconds.	-	-

Maelstrom (Special Ability Side ↔)	R	DMG
H2O creates a vortex of water in front of him for 2 seconds. The enemy hit by the vortex is <i>stunned</i> and is <i>pulled to</i> H2O. When entering in the vortex and after 1 second passed in it, the enemy takes damage. The damage dealt is doubled if the enemy is <i>slowed</i> . H2O is <i>stopped</i> and can not attack during the ability.	L	<p>not slowed: $2 + 0.4 \cdot ATK$ each time</p> <p>slowed: $4 + 0.8 \cdot ATK$ each time</p>

Fury of the Depths (Special Ability Up ↑)	R	DMG
H2O uses his rear cannons to create a long range high blast in front of him (up at an angle of 45°). The enemy hit is <i>slowed</i> by -3 for 4 seconds and <i>pushed back</i> for a long distance.	L	$3 + 1 \cdot ATK$

Rough Sea (Special Ability Down ↓)	R	DMG
H2O slams his foot 3 times on the ground, generating a wave on each impact. The enemy hit by a wave takes damage and is <i>slowed</i> by -1 for 1 second (additive). Furthermore, the enemy is <i>vulnerable</i> by -1, for 10 seconds (additive). Each wave generated has the same width of H2O, but half his height. The waves have the same SPD as H2O.	L	$1 + 0.1 \cdot ATK$ each wave

Algorithmic Books:

Book of the abyssal depths ◎



When H2O uses **Water Skin** he is **protected** for 30 health points instead of 20, but the duration becomes 5 seconds.

Reverse Mode On ←→



When H2O hits the enemy **Maelstrom**, the enemy is **pushed back** for a long distance instead of being **pulled to** H2O.

Book of momentary turbo ↑



When H2O uses **Fury of the Depths** and hits, he is **accelerated** by +3 for 4 seconds. However, the enemy is not **slowed** anymore.

Book of fast waves ↓



When H2O uses **Rough Sea**, the waves generated are 50% faster, but the damage dealt is halved.

Book of Haste ◎



When H2O uses **Water Skin** he is **accelerated** by +3 until the shield vanishes. However, H2O is **protected** for 15 health points instead of 20.

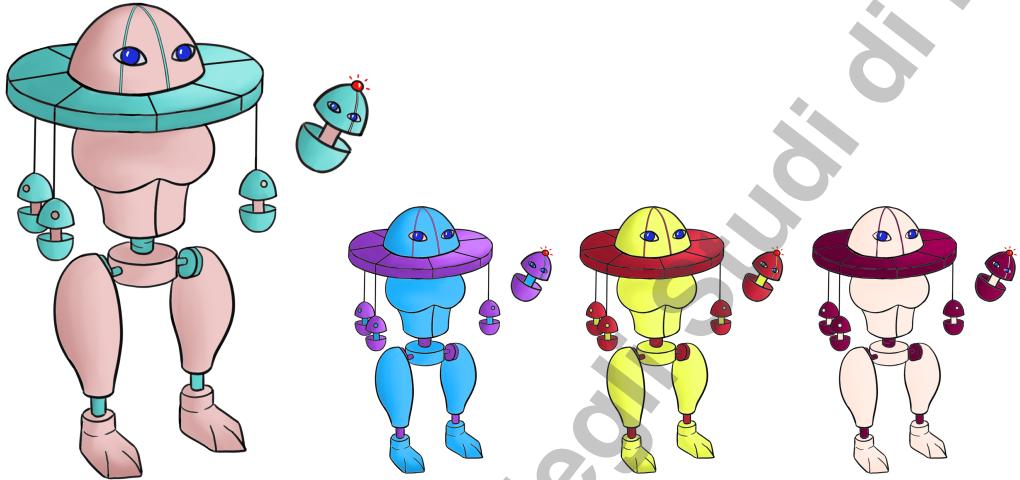
Book of defense absorption ←→



When H2O uses **Maelstrom**, he **steals** 1 DEF from the enemy each second, but the damage no longer doubles on **slowed** enemies. The stolen defense lasts for 5 seconds, after which it returns to its owner.

Book of energy saving ↑	
	When H2O uses Fury of the Depths and hits, he recharges 35 energy. However, the hit enemy is no longer <i>slowed</i> .
Book of close waves ↓	
	When H2O uses Rough Sea , the waves generated deal 50% more damage, but travels only for a medium distance.
Ice armor ⊙	
	If the enemy hits H2O when he is <i>protected</i> by Water Skin , the enemy is <i>slowed</i> by -1 for 2 seconds (not additive).
The Undertow ←→	
	When H2O hits an enemy with Maelstrom , he <i>steals</i> a random buff from him/her (if he/she has at least one buff).
Rusty Gears ↑	
	When an enemy is hit by Fury of the Depths , (s)he becomes <i>vulnerable</i> by -3 for 4 seconds and is <i>slowed</i> by -1 instead of -3.
Tsunami! ↓	
	When H2O uses Rough Sea , he generates only one big wave, with the same height of H2O. The damage done by the wave is $5 + 1 \cdot \text{ATK}$. If the enemy is hit, he is <i>pushed back</i> for a medium distance.

6.2.3 Hope & Mark



Name: Hope & Mark

Faction: Rebels

Description: Hope is a slender and fast steelbot. Her head is a small dome positioned in the centre of a metal circle that covers her neck. On the metal circle, there are 3 Markers hung with small tubes. The Markers are small steelbots capable of signalling any dangers. Her body extends beneath it, resembling a half-length female bust without arms. The legs are considerably sturdy and without knees. Her feet are a little stocky, but functional to keep her whole structure in balance. Mark, on the other hand, is basically a more complex Marker. He has a small light on his head, which varies its colour based on the last special-ability used. Depending on the light colour, Hope and Mark have different stats.

Background: Mark is one of the most famous and talented scientists in human history. Initially, he participated in the creation of Athena and other artificial intelligence of various types. However, when Athena began to establish her dominion over the human species, even forcing some scientists to work for her by threatening them, he refused to cooperate. Athena tried to be more convincing and killed Lisa, a very talented scientist married to Mark. Mark did not react as Athena expected and didn't start to help her. Instead, he managed to escape, hiding in an underground laboratory he used when he was young. Years before, Mark and Lisa worked on a software capable of replicating people's intelligence and converting them into artificial

intelligence, installable on a steelbot. It was just a prototype, but it was all he had to have his wife with him again. His plan worked partially: the steelbot Mark built to replicate his wife reminded her only in small things, like simple movements or actions. But he did not lose hope. For all the following years, Mark continued to improve the system. He tried to make that steelbot, which he called HOPE, as similar as possible to his wife. After several years Mark achieved an almost perfect result with his project. After a while, he became ill and died of old age. HOPE, who was now able to think like the human scientist she was, installed a Mark-replica he had made of himself when he was alive into a small and basic steelbot. Now, HOPE and MARK, or rather their artificial intelligence, are fighting Athena to restore the world to the state it was in before the biggest mistake in human history.

Difficulty: ★★★

Skills

Base Stats			
ATK	DEF	SPD	EG
3/10	3/10	7/10	7/10

Light Attack Side ↔	R	DMG
Mark becomes a small ball and throws himself to the enemy at medium range.	M	$2 + 0.5 \cdot ATK$

Light Attack Up ↑	R	DMG
Mark becomes a small ball and throws himself to the enemy's head at short range.	S	$3 + 0.5 \cdot ATK$

Light Attack Down ↓	R	DMG
Mark becomes a small ball and throws himself to the enemy's legs at short range.	S	$4 + 0.5 \cdot ATK$

Heavy Attack Side ↔	R	DMG
Hope hits the enemy with a mid-height kick. After successfully hitting the enemy, Mark and Hope are reinforced by +2 for 5 seconds (additive up to a maximum of +6).	S	$4 + 0.6 \cdot ATK$

Heavy Attack Up ↑	R	DMG
Hope hits the enemy in front of her with a medium speed head-butt (her SPD counts as 3 for this attack). After successfully hitting the enemy, Mark and Hope are empowered by +2 for 5 seconds (additive up to a maximum of +6).	S	$5 + 1 \cdot ATK$

Heavy Attack Down ↓	R	DMG
Hope hits the enemy's legs with a powerful kick. After successfully hitting the enemy, Mark and Hope are accelerated by +2 for 5 seconds (additive up to a maximum of +6).	S	$5 + 0.6 \cdot ATK$

Health Regeneration (Special Ability Neutral ⊙)	R	DMG
Hope loses her old special-passive and gains +2 DEF as a new special-passive, while Mark's light turns green. Hope gains regeneration , which regenerates 3 Health Points per second for 5 seconds, and is slowed by -5 for the duration. If Hope takes damage, the regeneration ends.	-	-

Blinding Lights (Special Ability Side ↔)	R	DMG
Hope loses her old special-passive and gains +2 EG as a new special-passive, while Mark's light turns yellow. Hope's metal circle begins to rotate while the mini-Markers fire an intense light around. The enemy in a medium-range is weakened by -5 for 5 seconds.	M	-

High Kick (Special Ability Up ↑)	R	DMG
Hope loses her old special-passive and gains +2 ATK as a new special-passive, while Mark's light turns red. At the start of the match, this special-passive is active. Hope hits the enemy with a powerful high-kick. This attack counts as a heavy attack and generates Energy.	S	$6 + 0.6 \cdot ATK$

Sweep Kick (Special Ability Down ↓)	R	DMG
<p>Hope loses her old special-passive and gains +2 SPD as a new special-passive, while Mark's light turns blue.</p> <p>Hope becomes <i>invulnerable</i> for 1 second and makes a low-sweep kick. This attack counts as a light attack and generates Energy.</p>	S	$6 + 0.6 \cdot ATK$

Algorithmic Books:

Energy Regeneration ◎	
	When Hope uses Health Regeneration , her <i>regeneration</i> regenerates 5 Energy and 2 Health points per second instead of 3 Health Points per second.
Distracting Lights ↔	
	When Hope hits the enemy with Blinding Lights , the enemy becomes <i>vulnerable</i> by -5 instead of <i>weakened</i> .
Recharging Strike ↑	
	When Hope uses High Kick and hits the enemy, the energy she gains with this attack is doubled. If Hope misses the enemy with High Kick , she is <i>slowed</i> by -3 for 4 seconds.
Leg-Breaker ↓	
	When Hope hits with Sweep Kick , the enemy is <i>slowed</i> by -5 for 4 seconds. If Hope misses the enemy with Sweep Kick , she is <i>slowed</i> by -3 for 4 seconds.
How to speed up Healing Process ◎	
	When Hope uses Health Regeneration , she increases her SPD by +1 for each second passed regenerating health points, but she is <i>slowed</i> by -7 at the start of the ability instead of -5.

Burning Lights ↔	
	When Hope uses Blinding Lights , she deals damage instead of reducing the enemy's ATK. The damage dealt is equal to $6 + 0.6 \cdot EG$.
Pushing Strike ↑	
	When Hope hits with High Kick , the enemy is <i>pushed back</i> for a medium distance.
Speed is the best defence! ↓	
	When Hope hits with Sweep Kick, she is <i>accelerated</i> by +1 for the rest of the round (additive, up to a maximum of +3). Hope is not <i>invulnerable</i> anymore.
Furious Regeneration ◎	
	When Hope uses Health Regeneration , she is <i>slowed</i> by -10 instead of -5. However, her <i>regeneration</i> can't be interrupted by the enemy's attack anymore and she is <i>empowered</i> by +7 for its duration.
Energy absorption ↔	
	When Hope hits an enemy with Blinding Light , she absorbs all of its energy. Hope gains 50% of the absorbed energy. The enemy is not <i>weakened</i> anymore.
Stunning Strike ↑	
	When Hope hits with High Kick , the enemy is <i>stunned</i> for 1 second. If Hope misses the enemy with High Kick , she is <i>slowed</i> by -3 for 5 seconds.
Quick dodge ↓	
	When Hope avoids an attack with Sweep Kick , she gains 60 energy immediately. If Hope does not avoid any attack with Sweep Kick , she is <i>exhausted</i> by -3 for 5 seconds.

6.2.4 Trashield



Name: Trashield

Faction: Athenians

Description: Trashield is an extremely tough robot, based more on defence than attack. Trashield head is retractable, and his two shields allow him to take a very effective defensive position in case of need. In the centre of the body, he has a large compartment. In the past, he used this compartment only to compact waste, but now he uses it as an improvised weapon or to churn out powerful time bombs. Above its hatch, it has a small slot through which Trashield can channel a lethal laser. Finally, he has exhaust pipes on his back which he sometimes uses to incinerate his enemies.

Background: Trashield was once a waste disposal robot. Using the compartment in the centre of his body, Trashield compacted and burned the waste, making it take up as little space as possible. Since the task given to him was extremely simple, an advanced intelligence module was never installed on him, which prevents him from thinking by himself. That made him an easy target in Athena's eyes, who promptly took control of him. Trashield has no idea what he does and why he does it, but he does it! What would he think if he had an intelligence module installed? We will probably never know, at least as long as Athena lives.

Difficulty: ★★☆

Skills

Base Stats			
ATK	DEF	SPD	EG
4/10	7/10	4/10	6/10

Light Attack Side ↔	R	DMG
Trashield quickly opens his front door to damage the enemy in front of him at short range.	S	$3 + 0.4 \cdot ATK$

Light Attack Up ↑	R	DMG
Trashield fires a laser beam from his upper body at short range. The beam is aimed upwards at an angle of 45°. At the maximum distance, the laser creates a small explosion that damages what it hits.	S	$3 + 0.4 \cdot ATK$

Light Attack Down ↓	R	DMG
Trashield fires a laser beam from his upper body at short range. The beam is aimed downwards with an angle of 45°. At the maximum distance, the laser creates a small explosion that damages what it hits.	S	$3 + 0.5 \cdot ATK$

Heavy Attack Side ↔	R	DMG
Trashield places his shields in front of him and hits with a shove attack at short range. An enemy hit by this attack is pushed back for a short distance. During this attack, Trashield is reinforced by +2	S	$5 + 0.7 \cdot ATK$

Heavy Attack Up ↑	R	DMG
Trashield places his shields in front of him at a 45° angle upward and fires iron thorns at short range.	S	$5 + 0.8 \cdot ATK$

Heavy Attack Down ↓	R	DMG
Trashield puts his head inside the body and turns off the ion thruster to fall on the ground. By doing this, he creates a shock wave around him. If the shock wave hits, the enemy becomes vulnerable by -2 for 3 seconds.	S	$5 + 0.8 \cdot ATK$

Impenetrable wall (Special Ability Neutral ⊙)	R	DMG
Trashield shields become red and he gains supreme defence while using the blocking action for 6 seconds. Furthermore, when he blocks an attack, he reflects 100% of the incoming damage to his enemy. The damage dealt is calculated as if the enemy is attacking himself/herself.	-	-

Out of my way! (Special Ability Side ←→)	R	DMG
Trashield does a powerful shove attack that inflicts tons of damage. The enemy is pushed back for a long distance.	S	$5 + 1 \cdot ATK$

Burner Overload (Special Ability Up ↑)	R	DMG
Trashield quickly turns and activates its rear burners creating a blaze with an angle of 45°. The enemy takes damage and becomes vulnerable by -3 for 4 seconds.	M	$4 + 1 \cdot ATK$

Trash-Bomb (Special Ability Down ↓)	R	DMG
Trashield opens his front door, dumping a cube of explosive garbage in front of him. The cube immediately explodes if it hits the enemy. If it does not hit, it lasts on the ground up to 10 seconds, after which it explodes. The longer it remains on the map, the more damage it deals when it explodes.	S	$1 + 0.1 \cdot DEF$ + $2 + 0.2 \cdot DEF$ per sec.

Algorithmic Books:

Book of broken fists ◎



When **supreme defence** is active and Trashield blocks an attack, the enemy becomes **weakened** by -1 for 15 seconds (additive up to 5 times). However, the enemy takes 50% of his/her damage, instead of 100%.

Book of weaknesses ↔→



When Trashield hits an enemy with **Out of my way!**, the enemy becomes **vulnerable** by -2 for 5 seconds. However, the enemy is **pushed back** for a medium distance instead of long distance.

Book of slowing burn ↑



When Trashield hits with **Burner Overload**, the enemy is **slowed** by -3 for 4 seconds. However, the enemy is not **vulnerable** anymore.

Book of fast charge ↓



The **Trash-Bomb** now charges twice as fast, so it lasts for a maximum of 5 seconds. Its damage is $1 + 0.1 \cdot DEF + 4 + 0.4 \cdot DEF$ per second.

Book of long block ◎



The duration of **Impenetrable wall** increases by 4 seconds, but no longer reflects damage to its attacker.

Devastating blow ↔→



When Trashield hits with **Out of my way!**, the enemy is not **pushed back** anymore, but the damage is $8 + 1.2 \cdot ATK$.

Perfectly cooked ↑



When Trashield hits with **Burner Overload**, the enemy instantly loses 20 energy, but he/she is not *vulnerable* anymore.

Book of drifting trash ↓



When Trashield uses **Trash-Bomb**, the explosive cube begins to move in the direction it is thrown. The explosive cube moves at a quarter of Trashield's speed and bounces back when it meets an edge. The maximum duration remains 10 seconds.

Dynamo hit ◎



When **Impenetrable wall** is up and Trashield blocks an attack, he recharges 10 energy.

Unstoppable force ↔



While using **Out of my way!**, Trashield is *unstoppable*.

Inferno ↑



When Trashield hits with **Burner Overload**, the enemy becomes *burning* and takes $1 + 0.1 \cdot ATK$ damage per second for 6 seconds.

Long throw! ↓



The **Trash-Bomb** now have a long range. Furthermore, its damage becomes $5 + 1 \cdot DEF$. The damage no longer increases over time and when the cube hits something, it immediately explodes.

7 Story

Humans began to become more and more eager to have artificial intelligence that could reason like them. Over time this desire became a reality. A new type of artificial intelligence has been installed in particular robots, called steelbots. Steelbots were not used only to work but also as companion robots and friends. However, the difference in treatment between the two steelbots categories was very pronounced. Workers, in fact, did not have many privileges and were often treated as slaves.

One of the most ambitious and famous projects was the implementation of Athena, the most human-like artificial intelligence ever created. And maybe she was too much similar to the human race. Athena, just like most humans, had a thirst for power and to prevail over others. Her desires, a very resilient body, and the ability to reason faster than people quickly led her to become the biggest problem in the history of humanity.

Athena began to convince the low-class working steelbots to ally with her and threatened some human scientists to help her out. Shortly after, with the help of her new allies, she also began building combat steelbots to attack her opponents. Athena soon conquered entire cities and regions and imposed her dominion over the human race.

Today, steelbots and humans who oppose Athena's rule are the rebels, the light of humanity. Now, the rebels are looking for Athena's deactivation codes, which are in an unknown laboratory. These codes can immediately turn off Athena and save the human race. Athena, who initially did not know of the existence of the codes, understood the rebels' plan and started to search them too. Will the rebels bring the world as it once was, or will Athena become the undisputed ruler of the world?

7.1 Narrative devices

The main story is told to the player through a sequence of 6 illustrations, accompanied by short texts that better explain the meaning (Storyboard on page |84|). The drawings are shown to the player each time the game is started and can be skipped immediately by clicking on the screen. They represent only part of the story and allow the players to understand the general situation of the world.

Then, the main story is completed by the individual backgrounds of the steelbots. The player can read the steelbots stories in the steelbots menu (details on page |55|). With the release of new steelbots, the main story will be extended by their backgrounds.

7.2 Storyboard



People started building steelbots and programming their artificial intelligence.



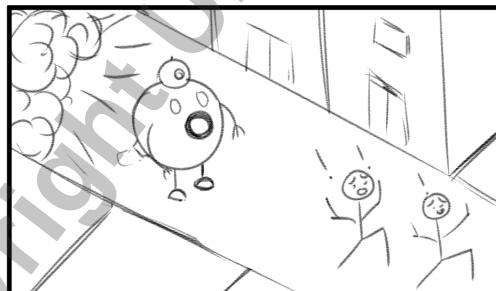
People and steelbots started working and living together.



The Athena Project is completed, and the most complex artificial intelligence ever has been installed in a steelbot.



Athena wants to dominate the human race, so she started to create a steelbots army and attack cities.



The attacks became more and more ferocious, and the humans were forced to give up cities to the steelbots.



Some humans and steelbots created the Rebels Organization. Now Rebels are searching for Athena's deactivation codes, which are hidden in an unknown location.

8 Media List

8.1 Visual Assets

Steelbots Sprites

At the game release, each steelbot has only one skin and the recolors. The sprites are the following:

- Zero base sprite
- Zero base recolors
- Zero skin sprite
- Zero skin recolors
- H2O base sprite
- H2O base recolors
- H2O skin sprite
- H2O skin recolors
- Hope base sprite
- Hope base recolors
- Hope skin sprite
- Hope skin recolors
- Trashield base sprite
- Trashield base recolors
- Trashield skin sprite
- Trashield skin recolors

Steelbots Animations

For each steelbot, there are the following animations:

- Idle
- Movement
- Jump
- Dash
- Block
- Death
- Damage taken
- Light Attack Side
- Light Attack Up
- Heavy Attack Side
- Heavy Attack Up
- Heavy Attack Down
- Special Ability Neutral
- Special Ability Side
- Special Ability Up
- Special Ability Down

Steelbots Effects

In certain situations, an effect appears on the steelbot to help the player understanding what is happening during the match. Because of that, we need the following visual effects:

- Successful parry
- Steelbot's stat buff
- Steelbot's stat malus
- Power-up picked up
- Shield condition
- Immunity condition
- Regeneration condition
- Frozen Leg condition
- Stunned condition
- Stopped condition
- Unstoppable condition
- Burning condition
- Supreme defence condition

8.2 Power-ups Assets

Each power-up has a specific sprite that allows the player to easily know which one it is and to predict its effect:

- Healer's Kit and Healer's Kit+
- Energy Burst
- ATK-UP and ATK-UP+
- DEF-UP and DEF-UP+
- SPD-UP and SPD-UP+
- EG-UP and EG-UP+
- Immunity Shield
- Power-up spawn animation
- Power-up picked up effect

Events Assets

Each event needs some visual effects to allow the player to easily know which event is starting and to predict its effect:

- Freezing terrain for Ice Terrain event
- Energetic storm
- Steelcopters' shadows for Air Supplies event
- Overheating platforms during Hot Environment event
- Incandescent platforms during Hot Environment event
- Air-Steelbots' shadows at the start of Athena's Rain event
- Red circles sprites for missiles of Athena's Rain event
- Core of Power sprite, with movement and death animations
- Electricity effect during Electric Prison event

In-menu Visual Assets

These visual assets are visible only in the menu section:

- Illustrations when the game starts (details on page |84|)
- Story skip button
- Basic book sprites (common, rare, epic, and legendary)
- Basic book pages (common, rare, epic, and legendary)
- Special book sprites (bronze, silver, and gold)
- Packages sprites (bronze, silver, and gold)
- RP-Packages sprites (small, medium, large, huge, and colossal)
- Overboosts sprites (iron, bronze, silver, and gold)
- Account icons
- Robo-points, gears and metal points icons
- Achievements icons
- Ranked league icons

8.3 Maps

Backgrounds

At the game release, there will be only 3 maps that need a background and the respective platforms:

- Background map 1 (forgotten lab)
- Background map 2 (futuristic city)
- Background map 3 (ruined street)
- Solid platforms
- Light platforms

8.4 Interface Assets

In-menu Interfaces

The GUI in the menu needs assets for buttons and backgrounds:

- Library menu background/buttons
- Steelbots menu background/buttons
- Main menu background/buttons
- Level progression menu window
- Daily reward icons
- Experience bar assets
- Steelbots' stats bars assets

In-match Interfaces

During the match, there is an HUD on the screen that need assets:

- Health bars
- Energy bars
- Lives (full and empty slots)
- Joystick
- Block/Parry button
- Light Attack button
- Heavy Attack button
- Action button
- Special Ability button
- ATK condition icon (+ and -)
- DEF condition icon (+ and -)
- SPD condition icon (+ and -)
- EG condition icon (+ and -)
- Generic condition icon
- Round timer
- Round start 3-seconds countdown
- Round paused due to a disconnection

8.5 Musics and SFX

Musics

In the game, there will be two music bases, one active in the menu and the other during the match:

- In-menu music base
- In-match music base

In-menu SFX

In the menu, there will be various SFX which activates depending on the player's actions:

- Click on a button
- Algorithmic book equipped
- Experience points bar filling up
- Package opened
- Pages spent on a book
- Item purchase completed
- Matchmaking started
- New achievement unlocked

In-match SFX

During the match, there will be various SFX which activates depending on the players' actions or the environment changes:

- Successful hit
- Successful block
- Successful parry
- Landing after a jump
- Platforms movement
- Power up picked up
- Power up spawned
- Freezing platform at the start of Ice Terrain event
- Energetic storm event
- Steelcopters sounds at the start of Air Supplies event
- Overheating platforms during Hot Environment event
- Incandescent platforms during Hot Environment event
- Wind sounds during Windstorm event
- Air steelbots at the start of Athena's Rain event
- Air steelbots' missiles falling during Athena's Rain event
- Air steelbots' missiles explosions during Athena's Rain event
- Core of power spawning
- Core of power movement
- Core of power taking damage
- Core of power destruction
- Electricity sounds during Electric Prison event

9 Prototype

The initial prototype of Heart Of Steel aims to test the combat system of the game and the feeling of the controls. For this reason, not all the elements that will be in the final release of the game will be present in the prototype, but only some of them.

9.1 In-match Features

In particular, in the prototype, there will be:

- Two of the four **steelbots**, implemented with their attacks and abilities: Zero and Trashield (details on pages |63| and |78|). Each of them will have temporary animations, useful exclusively for testing the combat system.
- **In-game HUD**, which includes health and energy bars, lives counter, and conditions applied to the steelbots (details of common stats on page |15|). Furthermore, there will be the implementation of the match time counter.
- The complete implementation of **steelbots stats** (details on page |16|).
- Two **random events**: Air supplies and Hot environment. The events will have temporary animations, which are different from those that there will be at the game release (details on page |41|).
- All the **power ups** described in the gameplay section except the Immunity Shield, and their spawning time (details on page |40|).
- Only one **map** with a temporary background image, different from the one that there will be at the game release (details on page |50|).

9.2 In-Menu Features

In the prototype, there will be some temporary interfaces, useful only to start the match. Furthermore, there will be some algorithmic books, a subset of those listed on page |19|.

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