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Cog 'em all GDD

A top down 3D tower defense game in a steampunk setting. Choose a faction to aid your defense: The Brass Army, the Valvebound Seraphs, or the Overpressure Collective. Each reshaping core mechanics with unique buffs, debuffs, and risk-reward twists. Level up between operations to unlock branching major perks and minor stat boosts, then craft kill zones with synergistic tools like slows and towers with AoE damage. Fast bombers, hordes of bandits, and colossal dreadnoughts stress your defenses as you balance economy, placement, and timing to keep your base intact.



AI Generated concept art of the game

Core mechanics

Players are tasked with defending their base from hordes of enemies. They earn currency (Gears) passively, or, for instance, by killing enemies. With this currency, they can build different types of towers (see more in [Tower types](#) for more details) anywhere on the map. These towers will deal damage to incoming enemies in range. But once towers are placed, they can't be moved, only destroyed, see more in [Building Towers](#). Another way of spending currency is by upgrading existing towers, which for example increases their damage, or fire rate (for more details on upgrades read section "*Upgrades*" in each tower type in [Tower types](#)).

Enemies have various types. Bandits with average health, damage and speed, but coming in large groups. Mecha bombers with lower amounts of health, but incredible speed which allows them to quickly get out of reach of towers. Heavy robots with strong punch and a lot of health, but slow so the player can unleash all of his arsenal's power.

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The player must strategize where along the enemy path to build, which type of tower to build or maybe upgrade existing towers. The core loop happens in game level called operation. They consist of many waves, each wave can have multiple enemy groups that will try to reach the player's base and destroy it. For more detail see [Operations](#) section.

Movement

Players only see a part of the map and thus must move around it. Either with standard controls WASD, or with clicking the right mouse button and dragging. Since the game is 3D, they can also rotate along the Y axis to see the battlefield from different directions, this is done by keys Q and E. Minimap with the overview of the whole map can help players decide where to spend their attention and also serves as quick navigation by clicking left mouse button in the section they want to go to.

Tower types

In order to better defend against different types of enemies, players must strategize on what types of tower to build. There are 3 types of towers:

Gatling tower

Standard tower with Gatling machine guns firing bullets at enemies. Mid range, mid damage. Good for general defense when players are still exploring characteristics of current operation layout. Targets only one enemy at a time.

Upgrades

Upgrading this tower increases its damage, fire rate and range.

Tesla tower

Tower with a close range. By striking an enemy with a direct electricity beam it also electrocutes other enemies in near distance from the struck enemy. Only targets one enemy at a time. Good on parts of the layout where there might be a high concentration of enemies, such as near the base, or in a tight curve.

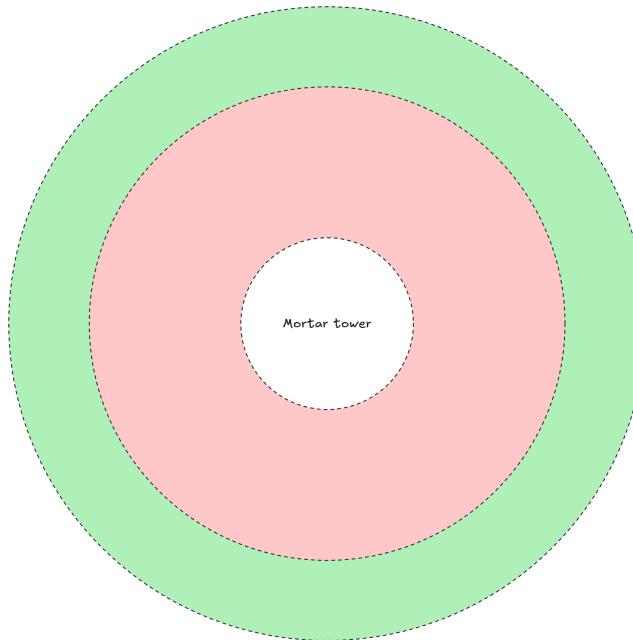
Upgrades

Upgrading this tower will increase its range, damage, number of additional enemies struck and strike rate.

Mortar tower

Mortar tower firing a shell, which deals AoE damage, at long distances. They can't depress to hit close targets, thus this tower has a ring-like range with a minimum range. Best described by the below image, where the middle is the tower, the red part is dead zone and the green area is where it fires. Best against slow targets, weak against fast moving ones, because they can be missed by the shell.

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Upgrades

Upgrading this tower increases the AoE radius, range, damage, fire rate and projectile speed.

Building towers

Players can build towers whenever during the operation. They can only build towers for which they have sufficient balance of Gears. Players can place them anywhere on the map, even far away from paths (this is clearly a player's skill issue, so sorry not sorry, don't be stupid) Once a tower is built, it can't be moved. It can only be destroyed, which yields the tower's non-full buy amount, plus non-full amounts of each upgrade it has, back to the player's balance.

Enemies

Players will encounter various types of enemies. Each of them has different weaknesses and strengths, which forces players to use different tactics on them.

Rivet Bandit

Balanced enemy, with medium amount of health, medium damage and average speed. However, their strength is in their numbers, they will come in vast groups.

Suicidal Bombers

These suicidal mechs are built with deadly intention. They carry a large payload of explosives, which can deal a critical amount of damage to the player's base. Fast and agile, they often outrun waves in front of them, causing towers to miss them as they are still targeting slower enemies in the outrun waves. But in order for them to be fast, they must be light, meaning they have no protective armor and don't have much health.

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Brass Dreadnought

These hulking machines crawl forward with a broad profile and slow pace, but their layered plating makes them nearly unkillable. If a single Dreadnought breaks through, it can level the player's base in just a few strikes.



AI generated concept art of Brass Dreadnought

Operations

Operation is cleared if players defend their base against waves of enemies. This means that the health of their base will be greater than 0 after the last wave. Otherwise, players lose and must retry it.

Each operation consists of a number of waves, and each wave has a number of groups of enemies that will be spawned. Before each wave players have time in which they can think with a straight head, without the heat of battle. This preparation time isn't special from a game mechanics perspective, it only gives players time to breathe and to evolve their strategy. After clearing a wave, players earn Gears.

After defending their bases from all enemy waves, players successfully clear the operation, earn experience points and can go to the next operation.

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Meta mechanics

Player progression outside of the core game loop consists of leveling up and upgrading Factions. Before each operation, players choose one of the three Factions, and they will be playing as that Faction. Each Faction has different buffs/debuffs which apply during the operation. Also each of them has a unique skill tree that players progress through by clearing them.

Factions

Factions are groups which help the player defend their base during the core game loop. They reshape the game's core mechanics. They apply global buffs/debuffs, and alter economy and pacing, creating distinct strengths, weaknesses, and playstyles. Picking a faction changes players strategy, e.g. by giving enemies a movement speed debuff, which makes them a better target for Mortar towers.

Leveling faction

After clearing an operation the faction receives experience points. These are then added to the faction's level bar. When the bar is filled, the faction levels up. Upon leveling up, players are granted skill points, which can be spent in the faction's skill tree, which enhance different aspects of the operation, for instance increasing base fire rate on gatling towers.

Skill trees

Each faction's skill tree contains minor skills which are simple stat buffs/debuffs, like increased fire power, decreased costs, or bigger range. Then there will be major skills, which are transformative perks that unlock new tower behaviors, alter core mechanics, or create powerful synergies at meaningful trade-offs.

Major skills are presented in mutually exclusive sets (typically 2 or 3 choices, take a look at the "Choice Node" in the below image taken from WoW talent system). When a set is unlocked, the player must pick exactly one option from that set, forcing a strategic commitment and shaping the faction's playstyle for the remainder of the game.

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WoW's talent system, source [Wowhead](#)

The brass army

Led by General Magnus Brasshart. A disciplined war machine focused on relentless firepower and attrition, overwhelming foes through sheer offensive pressure.



AI generated concept art of General Magnus Brasshart

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The Valvebound Seraphs

Led by Lady Vivienne Gearveil. Guardians who control the pace of battle, safeguarding the line with precision crowd control and restorative support.



AI generated concept art of Lady Vivienne Gearveil

Overpressure Collective

Led by Jax Furnacebane. Volatile steam engineers, which sacrifice safety for explosive power spikes and chaotic battlefield effects.



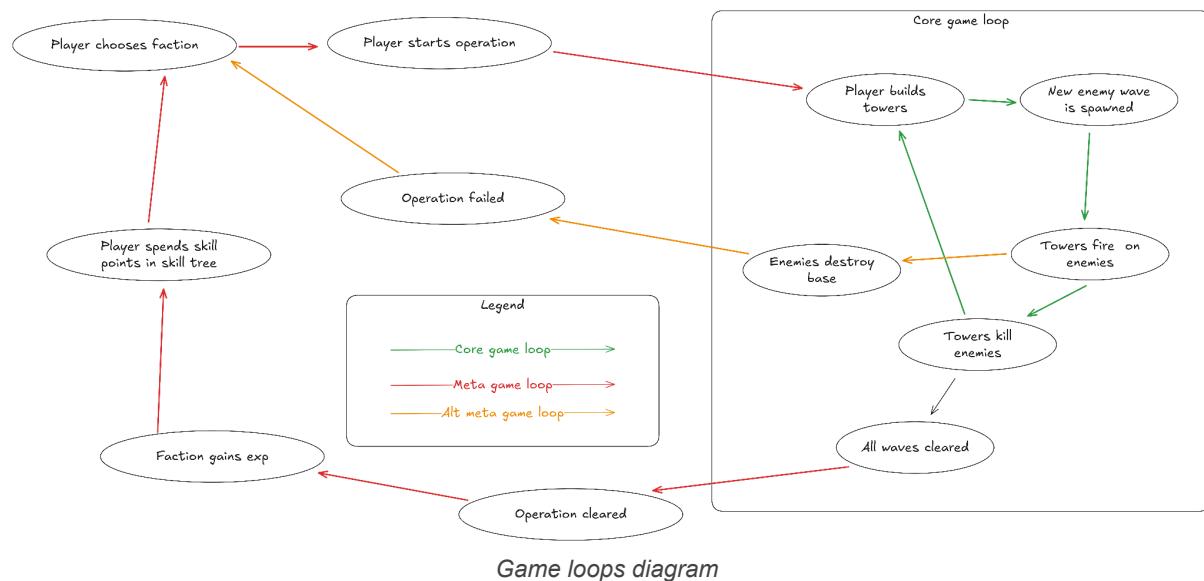
Jax Furnacebane concept image, source [Wikipedia](#)

Core game loop

Core game loops consist of players building towers, which kill enemy waves. Players earn gears with which they can upgrade or buy new towers. If all enemy waves are killed, players clear the operation, however, if enemies destroy their base, they have failed and must retry the operation if they want to proceed in game. See game loops diagram below for more details.

Mecha game loop

Long term meta game loop giving players meaningful progression is achieved through factions' skill trees. After clearing an operation, a faction is rewarded with experience points, which are then added to its level bar. After filling the bar the players level up the faction and are rewarded skill points, which can be spent in the corresponding faction's skill tree. See game loops diagram below for more details.



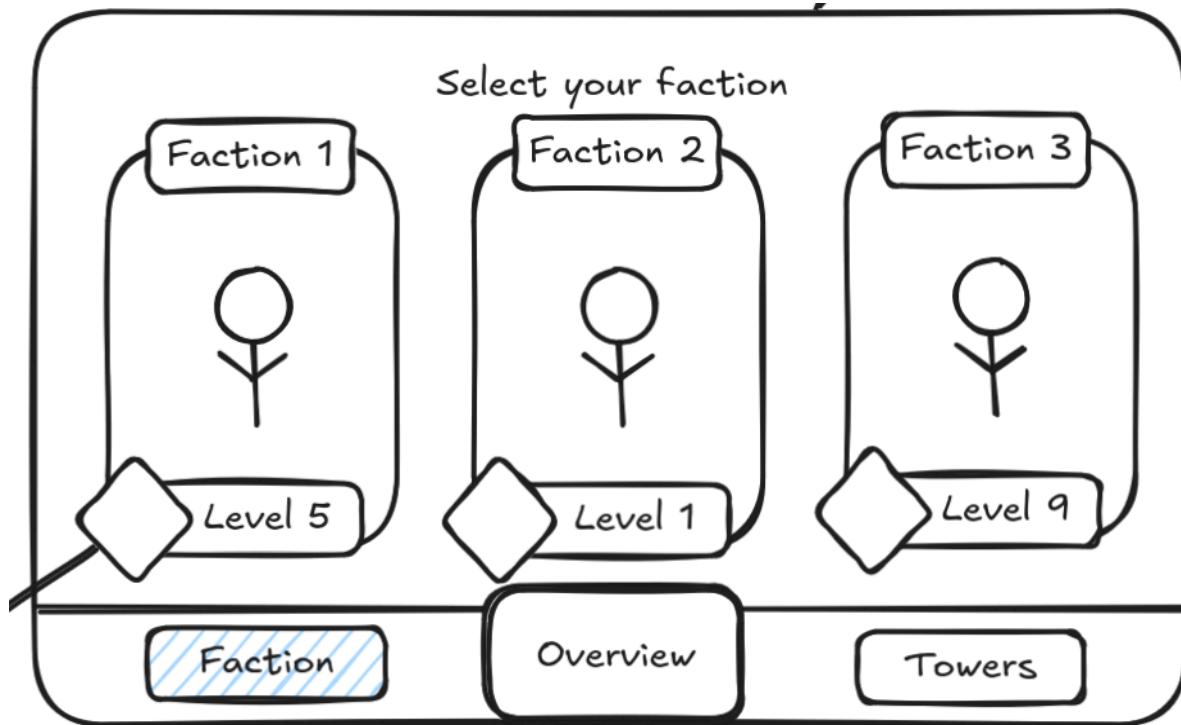
Controls

Players will only see a portion of the map, so they will have to move around. To move the camera they can use WASD, or click and drag with the right mouse button. Rotating along the y axis will be controlled with Q and E. Zooming in and out will be controlled by the mouse wheel.

UI flow

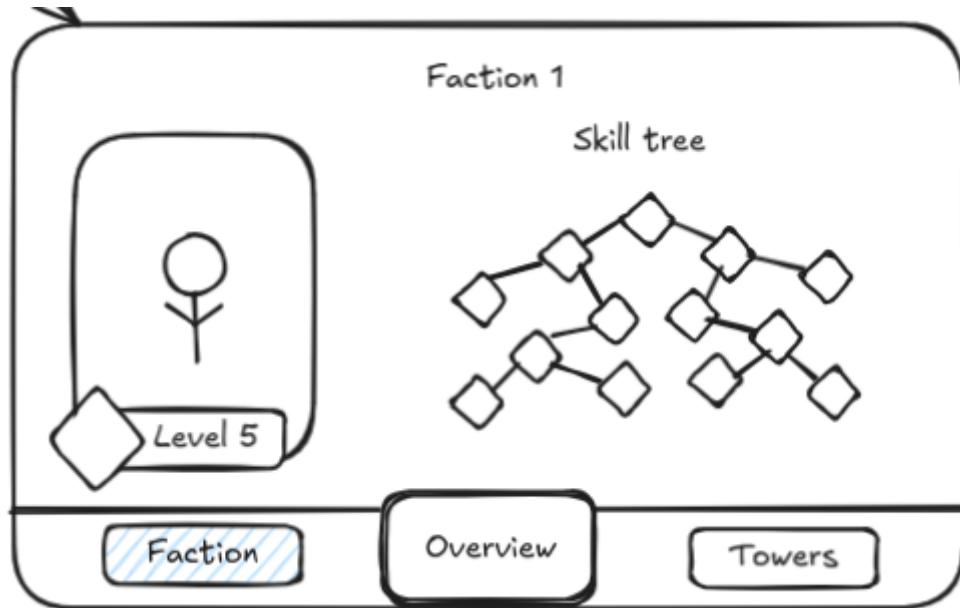
The UI starts with the main game menu and can either start a new game, load previous one, or quit. When players start a new game, they are navigated to the "Choose Faction" screen, which contains [Factions](#) and players must choose which Faction they want to progress in.

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Select your faction screen

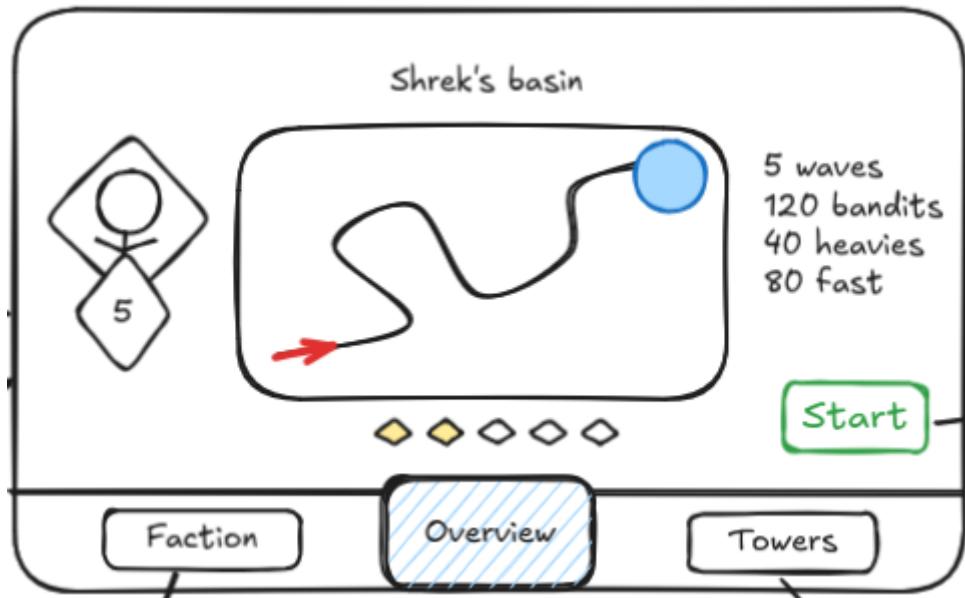
From this screen, players can go to the skill tree of each faction, in which they can spend skill points, see what skills they have unlocked, or try different builds.



Faction's skill tree screen

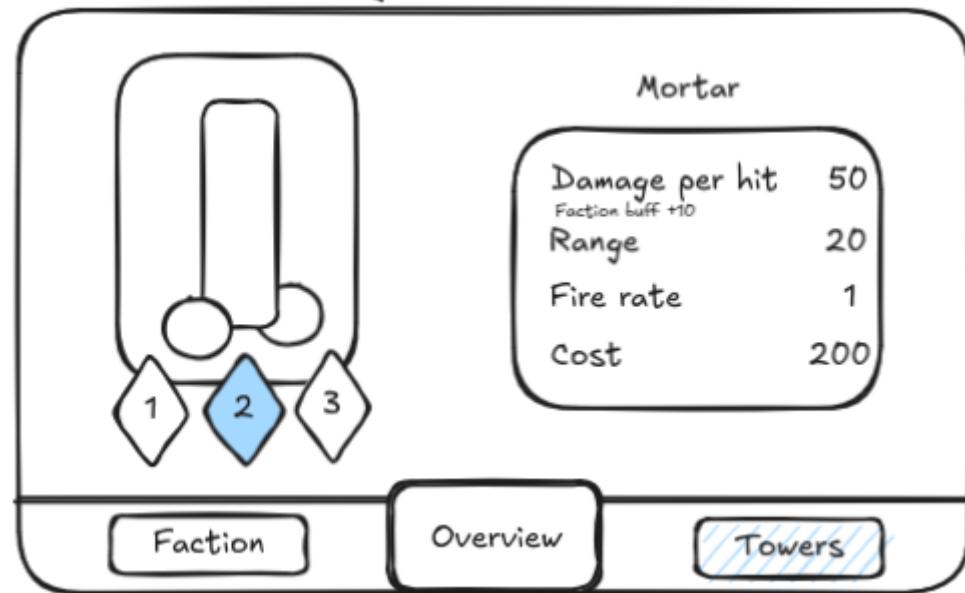
After selecting the faction, players are navigated to the main overview screen where they can see what is the next operation they must clear with the picked faction. In this screen they can see the operation's layout and what enemies they will have to defend against.

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Operation overview screen

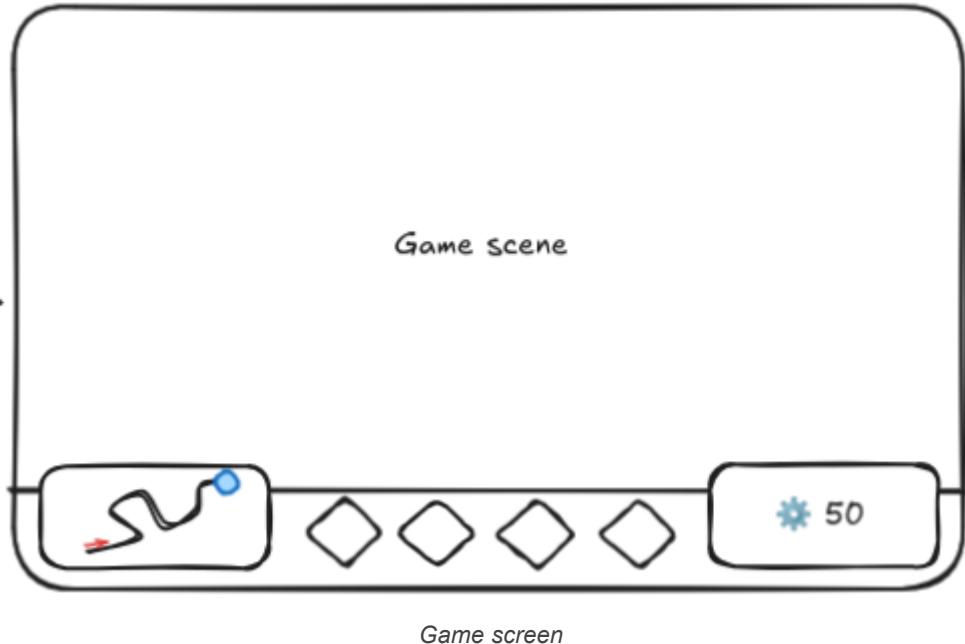
Before starting the operation, players can go to the “Towers” screen where they can see stats, buffs and debuffs on the different tower types and how these stats change when a tower is upgraded.



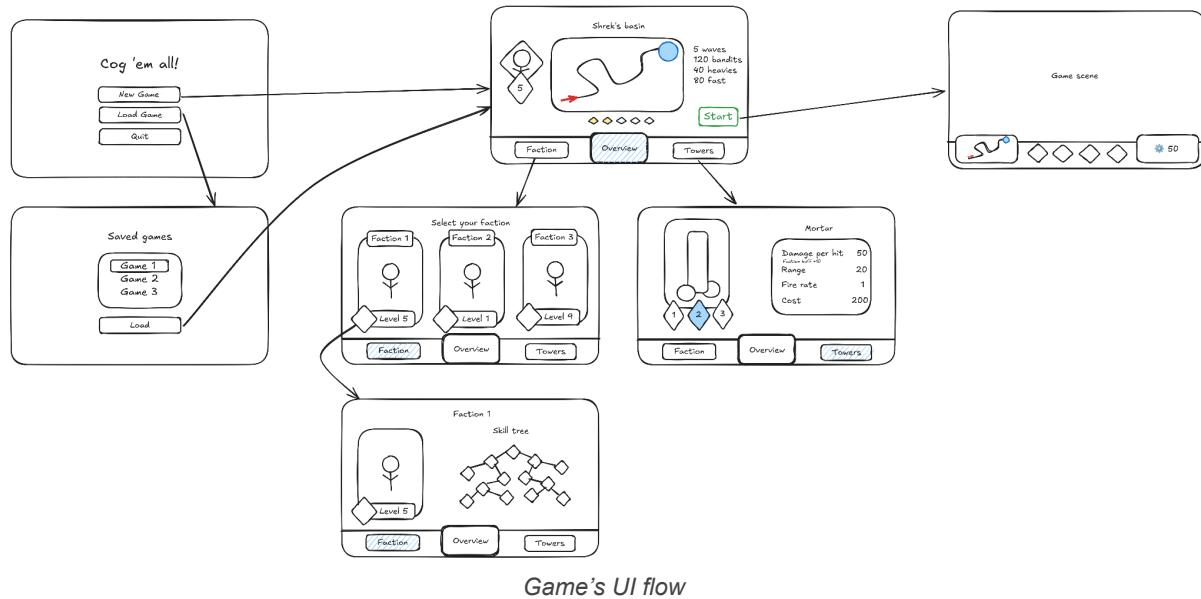
Towers detail screen

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Upon pressing the “Start” button, players are loaded into an operation and the game UI consists of HUD overlay with buttons for building towers, minimap and gears counter, and the game scene where the actual gameplay will happen.



The whole UI flow is depicted in this diagram.



The feel of the game

We want players to have a meaningful progression which they feel is earned by their skill and time they have spent playing. We think we can achieve this with the Faction's leveling system, where players go through the operation in order to achieve skill points, which affect how they play and strategize. Operations in later stages of the game should feel much different from early stage ones. Skill trees will have few different build paths players can choose and we aim for each to have a noticeable impact on the core game loop.