



**Castle Crush Whitepaper v2.1** 

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### 1. What is

### **Castle Crush?**

Castle Crush is a free-to-play iOS/Android game with **over 75 million lifetime downloads**.

A PC version is planned for development in 2023.

Players duel in 1v1 real-time battles using a deck of cards to crush their opponent's castle.

Matches last between 1 and 3 minutes and end with the destruction of a player's castle - there are no draws.

In the second quarter of 2022, Wildlife Studios will introduce a new phase to Castle Crush, adding new progression systems and mechanics enabled by blockchain technology.

Players that engage with the blockchain layer will coexist with the existing player community - Castle Crush will be one game for all players to enjoy together, whatever platform they play on.

Castle Crush is developed in partnership with Jungle Studios.





### 2. Core

# Gameplay

Players must crush their enemy's castle while protecting their own. In order to do so, players use cards in real-time (not turn-based), reacting to their opponent's strategy. Before the battle begins, players must choose a deck of 14 cards - this is covered in the deck-building section.

There are two types of cards: **Minion cards** and **Spell cards**.

When Minions get deployed on the battlefield, they move towards the enemy's castle and will attack whatever comes into range first - either an enemy Minion or the enemy's castle.

Spell cards take effect immediately and can alter the state of the battle in significant ways either evaporating an enemy Minion, healing a friendly Minion, bombarding the enemy castle directly, amongst many others.

The battle takes place on three lanes that connect the Castles together. Cards are deployed in one of the lanes and take effect immediately.

Every 7-10 seconds, players receive a new card. Players can hold up to 6 cards. If a player already holds 6 cards during the next card draw, the drawn card will be burned!





Once all cards in a deck have been drawn, the deck is reshuffled - this means players never run out of cards to draw.

Both Minion and Spell cards consume a resource called Mana Crystals (or just "Mana" for short). Mana regenerates continually (0.5 mana / second).

When the battle starts, the maximum amount of Mana available is only 2. Every time a card is drawn (every 7 seconds), the maximum Mana also increases by 1, up to a limit of 12 Mana.

In practice, this means every match has a clear early, mid, and late game phases. When the battle starts, only low-cost Mana cards can be played, and as the battle progresses, more powerful cards come into action. Players must therefore balance their decks to have cards in all Mana ranges.

Once the battle has been raging for 45 seconds, Mana regeneration gets doubled (1.0 mana /second). Card draws are also doubled, with players receiving not one, but two cards every 7 seconds.

Castles do not have defensive capabilities. If a Minion reaches the end of a lane, they will start attacking the Castle. The opponent will either have to neutralize Minions that reach their castle with a Spell, or protect the castle with a Minion card (Minions block Castle damage).

Castle HP is shared between all three lanes - this means players can decide to *ignore* one or even two lanes and rush their opponent in the remaining lane(s). Once castle HP reaches 0, the match is over.





# 3. Building

### a deck

As of early 2022, there are 68 different cards in Castle Crush.

In order to march into battle, players must build a deck of **14 cards**, including Minions and Spells.

Cards have 4 rarity tiers: Common, Rare, Epic and Legendary.

Each card can be placed up to twice in a deck, except for Legendary cards, which may only be placed once.

Players can save up to 5 favorite decks, but must choose one to enter the battle.





### 4. Card

# **Progression**

This section refers to the Card Progression systems in the base game. Please refer to **the**NFT section for additional card progression systems.

Every card in the game can be upgraded several times. When players receive a card for the first time, it will be level 1. Each upgrade adds 10% to Minion HP and Damage, and 10% for Spell Damage, with a few exceptions.

In order to upgrade a card, players must merge several copies of the same card and also pay an amount of Gold (an in-game currency). For instance, players must own 10 copies of the Storm Elemental to upgrade it from level 3 to level 4.

There are two main methods to obtain Cards. The first method is through the in-game Store: players can buy specific Cards using game currency (Gold), or by purchasing Chests with a credit card.

The second method is through gameplay. When players win a battle, they will be rewarded with a Chest. Players can hold up to 4 Chests. Only 1 Chest may be opened at a time. Opening chests requires time - Silver Chests, for instance, open after 3 hours. Players may also open chests instantly by using gems, a hard currency (mostly purchased via credit card).

There are multiple Chests in the game - rarer chests, such as the Giant Chest and the Mythical Chest, drop less frequently from battle, but contain much greater rewards.

Chests may contain Cards, Gold and Gems.

Cards have a maximum achievable level through the merge system depending on their rarity:

• Common: levels 1-13 (14\*)

• Rare: levels 1-11 (12\*)

• Epic: levels 1-8 (9\*)

• Legendary: levels 1-5 (6\*)

\* Players can increase card level further by using the Forge.



# 5. Player

# **Progression**

# Players progress through the game through two systems.

The first is the Trophy system. By winning matches, players gain Trophies. Likewise, when they get defeated in battle, they lose Trophies.

Players will only get matched against other players with a similar amount of Trophies. This ensures fair matchmaking.

As players progress through certain Trophy milestones, they will unlock new Castles. Each Castle has a different theme/visual. Cards get unlocked as players progress through each Castle. For instance, when players reach 400 Trophies, they unlock the Undead Keep. When they do so, the Skeleton Horde, the Skull King, the Reaper and a few other Cards are unlocked.

Chests at higher level Castles will contain more gold, gems and Cards, encouraging players to always push to the maximum Trophy count possible.

The last castle, the Black Citadel, is unlocked at 3400 trophies. After that point, players will progress through Leagues. Reaching the first League unlocks the Forge.

The Leagues require the following amount of Trophies:

- Master I 3800
- Master II 4200
- Master III 4600
- Grand Master I 5000
- Grand Master II 5400
- Grand Master III 5800
- **Champion I** 6200
- **Champion II** 6600
- Grand Champion 7000
- **Legend** only one player may hold this title!

Once players join the Leagues, they will participate in 3-week seasons. Once a season ends, players lose some of their Trophies and will need to start climbing through the Leagues in the next season.

The second player progression system is the player's level. This level determines the HP of a player's Castle during battle. Castles get +10% HP per Player Level.

As players progress through the game and upgrade their cards, they will gain Player XP. Once the player fills up the XP bar, they will gain a level.



### 6. The

# **Forge**

The Forge is a high-level progression system that allows players to increase their cards' levels even further. It is unlocked at 3800 Trophies, when Players enter the Leagues.

There are two upgrade mechanics available at the Forge:

- Players can temporarily increase the level of a card by 1. This effect lasts 24h and can be used on any Card at any level.
- Players can permanently increase the level of a card by 1. This is only available for cards that have already reached the maximum level.

The permanent forge upgrade will therefore increase Cards to the following levels:

- Common: from level 13 to 14
- Rare: from level 11 to 12
- Epic: from level 8 to 9
- Legendary: from level 5 to 6

Forge upgrades (both temporary and permanent) require a currency called Crystals.

Crystals are obtained through Crystal Chests, which are awarded at the end of every 3-week season. The higher a Player's League, the more Crystals they will obtain in the Crystal Chest.

There are 5 types of Crystals: Common, Rare, Epic, Legendary and Magic. In order to use the Forge, players must use Crystals matching the Card's rarity - so a Common Crystal to upgrade a Common Card, a Rare Crystal to upgrade a Rare Card, and so on.

Performing a permanent card upgrade also requires 1 Magic Crystal.

Cards that are permanently upgraded through the forge can still receive a 24h powerup for an additional level.



### 7. Clans

Once players reach Level 3, the Clan System becomes available. Clans can have up to 50 players join.

Players in a clan are able to request and donate specific cards to each other. This system allows players to choose which card they want to upgrade next. Players that donate cards are rewarded with gold and with Player XP. There is a cap to how many cards a player can request, which refreshes every few hours.

Players in a clan can challenge each other in friendly battles, which are just for bragging rights.

Finally, there is a chat function within the Clan panel that allows players to interact with each other and to share video replays of their past battles! The replay feature is only available for clan members.

There is a clan leaderboard which can be accessed through the main screen.





### 8. Tournaments

### and Stickers

Tournaments are a competitive game mode that promise very **high rewards for skilled players**.

Cards used in tournaments have a mid-tier level cap, so skill is the only factor. Common cards are capped at level 9, Rares at level 7, Epics at level 4 and Legendaries at level 1.

Tournaments are open during 1 weekend every season (3-week long period). There are two types of tournaments: Grand Tournament and Master Tournament.

The Grand Tournament has a 10 gem entry fee, while the Master Tournament costs 100 gems.

In order to get the maximum prize, players must win 10 games in a row, with no losses. The higher the number of wins before the first loss, the more prizes players get (capped at 10 wins).

Once a player loses, they are eliminated from the tournament. However, they may opt to pay

gems to "revive" and keep trying to reach 10 wins. The gem cost for revival increases dramatically with each win and with each additional revival. There is a catch, though: if players get to 10 wins, they recover all the gems they spent (entry + all revivals).

During each season's Tournament, there is also a Tournament Leaderboard, which keeps track of players that win the most tournaments.

Apart from a significant amount of cards and gold (and their gems back), players also get a Sticker if they win a tournament. The Grand and Master Tournaments reward a similar Sticker, but the Master Tournament's Sticker is animated. Finally, the top tournament player in that season's leaderboard also gets an even more exclusive Sticker, with a golden background.

Stickers are the ultimate bragging rights.
They can be used during battle to taunt opponents. Players can decide the set of Stickers they will charge into battle with. A player may choose to mute Stickers from their opponents if they wish to.



### The Blockchain

# Layer

Our aim in adopting a blockchain layer in Castle Crush is to give more power to the players, enabling them with the ability to 1) own game assets; 2) buy, sell and trade those assets and 3) benefit from in-game rewards.

Castle Crush has a passionate and loyal player community, with over 200k daily active players, of which at least 40k play the game competitively, investing significant amounts of time and resources to compete at the top tiers of the game.

We aim to provide players with fun new game systems, while also allowing players to trade cards amongst themselves with full control over their assets. We are, in short, integrating game features with player-owned assets.

In order to accomplish this, we are adding two new components to Castle Crush:

- NFTs, which exist as immutable tokens on the blockchain but are usable in the game as Minions and Spells.
- Ascension Crystals, a fungible blockchain-based token that operates with the NFTs.

These components will be explained in more detail below.



### 10. Ascension

# **Crystals (\$ACS)**

Ascension Crystals (\$ACS) are a fungible token on the Avalanche blockchain.

tournaments), and finally by selling NFTs. They are spent by players to mint (acquire) and upgrade cards and to participate in in-game events.

Players get \$ACS from daily in-game rewards, seasonal rewards, other in-game activities (e.g.

#### \$ACS will be issued according to the following distribution:

Allocation	Amount	% of tokens
Player rewards (Daily + Seasonal)	850,000,000	85%
Marketing	100,000,000	10%
Team	50,000,000	5%
Total	1,000,000,000	100%

### Daily rewards, Seasonal Rewards, Marketing and Team



\$ACS for Marketing and Airdrop will be minted during a 24-month period, starting on the first month.



\$ACS allocated for the Team will be minted during a 24-month period, starting on the 13th month. This means the Team will not receive any \$ACS during the first year.

All \$ACS used by players in any capacity will be transferred to the treasury.



### 11.Ascended &

### **Founder Cards (NFTs)**

Players are able to upgrade their cards to new heights by Ascending them - Ascended Cards exist as NFTs in the blockchain.

NFTs recognized in the game come in two varieties: regular Ascended Cards and special Ascended Cards called Founder Cards, both of which have higher stats and unique in-game skins and animations. Founder Cards qualify for additional rewards and benefits (see here).

#### These will be the maximum card levels:

Rarity Tier	Base Max Lvl	Forged Max Lvl	Ascended/Founder Lvl
Common	13	14	15
Rare	11	12	13
Epic	8	9	10
Legendary	5	6	7

There are 68 different types of Ascended NFTs.

#### Ascended Chests contain 1 NFT with the following drop rates:

Tier	Probability
Common	55.2%
Rare	27.6%
Epic	13.8%
Legendary	3.3%

Players can mint (acquire) Ascended NFTs by redeeming \$ACS on the blockchain after leveling up their cards to a certain level, as displayed in the table below.

Card Rarity	Current Card Level	\$ACS Cost	Card Level after Ascension
Common	14	200	15
Common	13	500	15
Rare	12	400	13
Rare	11	1000	13



Epic	9	800	10
Epic	8	2000	10
Legendary	6	1600	7
Legendary	5	4000	7

The blockchain-based smart contract that generates NFTs will require players to pay \$ACS and upload their base card. The smart contract will recognize the in-game card to create an Ascended NFT from that base card. Once the Ascended NFT is recognized in the game, the original card will be destroyed and the player will not get their original card back.

Both Ascended and Founder cards can be further upgraded on the blockchain with \$ACS. Upgrading an NFT will increase the card's reward rate, but will not increase stats within the game.

Obs: cards contained in Founder Chests cannot be Ascended from non-NFT cards into NFT cards.

#### Ascended/Founder Upgrade Costs (\$ACS):

Upgrades	Common	Rare	Epic	Legendary	Founder
Ascended +1	400	800	1,600	3,200	6,400
Ascended +2	800	1,600	3,200	6,400	12,800
Ascended +3	1,600	3,200	6,400	12,800	25,600
Ascended +4	3,200	6,400	12,800	25,600	51,200
Total	6,400	12,800	25,600	51,200	102,400



### 12. Ascension

### Points (AP)

### Players will earn \$ACS daily by obtaining AP.

\$ACS is emitted based on reporting of in-game activity. Players obtain AP by winning matches with NFT cards. A card will generate a fixed amount of AP each day for the first win only (using a deck with that NFT). AP generation will be increased according to the tier of the card, the league the player is in and their clan ranking. The multiplier effects for these variables are detailed below.

#### AP earned per card:

Tier	Base Ascended	Ascended +1	Ascended +2	Ascended +3	Ascended +4
Common	1	2	4	8	16
Rare	2	4	8	16	32
Epic	4	8	16	32	64
Legendary	8	16	32	64	128
Founder	24	48	96	192	384

#### League AP bonus:

Player League	League Bonus
Master I	+15%
Master II	+20%
Master III	+25%
Grand Master I	+30%
Grand Master II	+35%
Grand Master III	+40%
Champion I	+45%
Champion II	+50%
Grand Champion I	+55%
Best of season	+110%



#### Clan AP bonus:

Clan Rank	Clan Bonus
1	+25%
2	+20%
3	+15%
4-20	+10%
21-100	+5%
101-200	+2.5%

As an example, if a player has a base Ascended Legendary NFT (8 AP), she is Grand Master III ( $\pm$ 40% bonus) and part of a clan ranked #20 ( $\pm$ 10% bonus), she will have earned 8 \* (1 + 0.4 + 0.1) = 12 AP on that day. At the end of each day, these points will be converted to \$ACS tokens as detailed in the Daily Rewards section.



# 13.Daily

### **Rewards**

As players accumulate Ascension Points (AP), an \$ACS prize pool for the whole server is created to be distributed to players at the end of the day. Each AP contributes 2.5 \$ACS to the global daily pot, capped at 415,000 \$ACS per day.

The daily pot will be distributed proportional to the number of AP accumulated by a player in a day. The distribution is done at the end of each day.

Example 1: Player A obtains 10 AP that day by winning matches with their NFTs. That same day, the server-wide AP added up to 100,000,

so the daily pot is 250,000 \$ACS. At the end of the day, Player A receives 25 \$ACS (10 / 100,000 \* 250,000 = 25).

Example 2: Player A obtains 10 AP. That same day, the server-wide AP adds up to 300,000, which would represent a 750,000 \$ACS pot -however, the pot is capped at 415,000 \$ACS. Therefore, Player A will receive 13.8 \$ACS (10 / 300,000 \* 415,000 = 13.8).

In total, we expect there to be a maximum of 320k cards in circulation after 16 months through direct sales in the marketplace plus in-game Ascension. Each card will generate on average 39 \$ACS per month to players in the long run as can be seen in the table below. The actual amount will depend on the card the player has, the skill of the player (their League) and the clan ranking.

#### **Estimated number of NFTs and Tokens generated:**

	Months since Launch															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
NFTs '000 (Sales)	13	23	33	43	53	63	73	81	94	104	114	124	134	144	154	161
NFT '000 (in-game)	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160
Tokens /month /card	282	218	195	150	121	101	87	78	68	61	56	51	47	44	41	39

Considering an average price to Ascend cards in-game of 450 \$ACS, this provides an expected return of 8.67% per month (39 tokens per month / 450 mint cost) once all cards have been released (month 16).



#### **NFT Cycles**

Cycles govern how NFT rewards will be calculated.

- One cycle lasts 24 hours. Cycles begin and end at midnight UTC.
- It is the unit of measurement for the daily rewards.
- During each cycle, a given NFT can generate Ascension Points (AP) one time and one time only.
- If a player rents or buys an NFT, they will only be able to see it in-game and receive AP from it on the next cycle (starting midnight UTC).
- If a player begins a cycle holding a certain NFT, they will be able to use it during that whole cycle even if they sell it during the cycle. However, as explained above, the new owner will only be able to use that card on the following cycle.
- When a player or guild decides to rent their card, they must specify for how many cycles that rent will be valid. If the rental says "5 cycles" it will be 5 cycles, and the owner can't cancel the rental before 5 cycles.
- Daily \$ACS multipliers will consider clan ranking and player leagues based on a photo/snapshot taken at the end of the cycle. Multipliers will *not* be calculated for each match win. Example:
  - Player has 2 NFTs, wins with one of them while they were Grand Master I, wins with the other while they were Grand Master II, and ends the day as Grand Master II. We will calculate the "base AP" for each NFT and use the end of day snapshot to calculate the multipliers (clan and individual). In this case, the player will receive a Grand Master II multiplier for both wins.



### 14.Seasonal

## **Rewards**

The top players in the game will be rewarded with a certain number of tokens at the end of each season regardless of whether or not they own an NFT card.

The clan multipliers above apply to these rewards as well.

League	\$ACS/Player
Grand Master II	50
Grand Master III	150
Champion I	450
Champion II	600
Grand Champion I	900
Best of season	1800

#### Clan bonus:

Clan Rank	Clan \$ACS Bonus
1	+25%
2	+20%
3	+15%
4 - 20	+10%
21 - 100	+5%
101 - 200	+2.5%



### 15. Ascended

### **Card Releases**

Founder Chests contain one of the following cards: Dragon, Storm Elemental, Skull Queen, Phoenix, Necromancer and Black Witch.

Generation 1 Ascended Chests contain one of the following cards: Dwarf, Archers, Extra Crystal, Pirate, Boneyard, Protection, Valkyrie, Dark Angel.

An additional 2000 Founder Chests will be minted for 40.000 \$ACS each. This supply will be put for sale during the second semester of 2022 and will remain for sale until the supply is depleted. The same six cards will be available in the Founder Chests.

Generation 2 Ascended Chests will contain all 54 remaining cards that are not contained in Founder Chests or Gen 1 Ascended Chests. Gen 2 Ascended Chests will cost 4000 \$ACS each. These chests will have unlimited supplythey will, however, be capped by the amount of \$ACS we distribute as rewards. Every 50.000 Ascended Chests sold, the price to acquire chests will double the price in \$ACS.

All chests will be minted in Castle Crush's page:

https://marketplace.castlecrushgame.com/

Additionally, players will be able to Ascend cards with \$ACS.

Founder Card holders will have a 20% discount on purchases of the 2nd batch of Founder cards, as well as Gen 2 Ascended Chests.



### 16. Founder

### **Benefits**

# Founder Cards carry extra in-game benefits.

First, Founder Cards will only be among the most relevant cards in the current game meta, making them the most sought after cards for high level players. For instance, the Dragon, a late-game card with a huge impact on the battlefield, will be one of the Founder cards.

Second, Founder cards generate significantly more AP than other cards (see here).

Third, Founders will have discounted prices (20% off) when buying Gen 2 Ascended Chests or the second batch of 2000 Founder Chests.

Additionally, every 12 months, 10% of all \$ACS and \$AVAX in the treasury will be distributed back to Founders based on the number and Rank of their Founder Cards.

Some economic and game balancing decisions could periodically be put for voting by Founder card holders.

Founders cards that get upgraded will grant the holder higher earning and voting power. Each upgrade will double the Founder Card's voting power according to the table below.

Founder Level	Weight
Base Ascended	1
Ascended +1	2
Ascended +2	4
Ascended +3	8
Ascended +4	16



### 17.The

# **Treasury**

In order for the community to benefit from revenue from card trading between players, Wildlife waives the right to all secondary market trade fees.

All \$ACS used by players will revert back to the treasury (buying cards, upgrading, etc.).

Additionally, every time a player sells a card to another player, the secondary marketplaces

will retain 4% of the purchase as a fee and will periodically transfer these funds to the treasury.

Every 12 months, 10% of funds (both \$ACS and \$AVAX) from the Treasury will be automatically distributed to Founder Card holders. The distribution will be proportional to the number and level of the cards that players have. The distribution will consider a single snapshot at the end of each 12-month cycle.

\* \* \*



### Changelog v2.1

- 1. Information on liquidity added to the Player Rewards section. This is due to confusion on what liquidity meant in this context.
- 2. Ascended Chests increase in price every 50.000 chests sold.

### Changelog v2.0

- 1. PC version development pushed to 2023.
- 2. Card progression system better explained maximum card levels are now clearer in the Card Progression section.
- 3. Ascension of non-NFT cards into NFT cards better explained cards contained in Founder Chests (for example, the Dragon), can not be Ascended from non-NFT into NFT cards.
- 4. Chest sales have been simplified. Instead of selling monthly Ascended Chests with a limited pool of cards each month, we will open a "Gen 2 Ascended Chest" sale that will last indefinitely and which will contain all 54 cards not contained in Founder Chests or Gen 1 Ascended Chests. Gen 2 Ascended Chests will cost \$4000 ACS each and will be sold in our marketplace. There will be no limit to supply.
- 5. The remaining 2000 Founder Chests will be sold for 40.000 \$ACS each on our marketplace. The sale will last until supply is depleted.
- 6. Founders will now receive \$ACS and \$AVAX every 12 months from the Treasury (10% of total Treasury holdings).
- 7. Ascending cards (upgrading a non-NFT card into an NFT card) is no longer limited to only the month when the card was available in an Ascended Chest. This means a player will be able to Ascend cards whenever they wish to. Ascension will be performed in our marketplace.
- 8. Founder Card holders will have a 20% discount when purchasing the 2nd batch of Founder Chests or Gen 2 Ascended Chests.
- 9. NFT cycles explained in the Daily Rewards section. Cycles govern how daily rewards are calculated.