

FRAM

Game Design Document

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Executive Summary

Fram is a blockchain perfect information abstract strategy game. The target audience for Fram are people who are interested in other abstract strategy games, people who are interested in gridiron football, or those who have an interest in blockchain gaming. The game was inspired by both chess and gridiron football, and gameplay incorporates elements of both games. The main gameplay objective is for the player to move their crowned piece into their assigned goalzone.

Fram was conceived as a community-driven game, incorporating several aspects that enable the game to grow with the community that plays it. A key aspect of Fram as a game is its composability and modularity. In contrast to other abstract strategy games, players are able to customise the game in a variety of ways, including the pieces used, the roles of either player, and the board played on. This composable and modular nature allows players to play the game in different ways, and implement their own features into gameplay, which can be shared with and played by other players.

This contribution-oriented focus is powered by the use of blockchain technology and decentralised aspects. Fram uses a pair of decentralised autonomous organisations (DAOs) as avenues to propose new content to be added to the game's official canon, that can be used to shape how the community plays the game. The use of tokens that can be accrued within the game, and the tokenisation of the pieces themselves, forms an incentive mechanism that rewards players for proposing new content and contributing to the direction of Fram as a game.

Fram is still in the design / conceptual phase, and has yet to start development.

Game Overview

Modularity and Composability

Before discussing the tangible details of the game itself and how it is played, it is important to explain the modular and composable nature of the game of Fram. One of the core aspects of Fram is the involvement of the player community in shaping the game itself. This involvement takes the form of proposing new pieces available to be played with, as well as new board layouts and formations to be played on, which will be discussed later in the Web3 section of this document. Due to this nature, the following description of the Web2 aspects of the game is only the initial implementation, and will be subject to the influence and evolution of the game's community.

It is quite possible that there will be newer aspects of the game of Fram that will extend beyond what is mentioned in this document. This will mean that the contents of this document may not account for a complete overview of the game at a future date. This modular and composable nature of the game is an intended feature of Fram, and aligns with the vision of Fram becoming more than just a board game, but rather an ecosystem of user-generated content and a community that fosters and inspires innovation; a game for the players.

Rules

Fram is a sequential two player game played on a board of hexagonal tiles, with one player playing on the offensive team and the other on the defensive team. One of the pieces on the offensive team holds the crown and is designated the crowned piece. The crown itself is not limited to its initial piece for the duration of the game, and one of the moves that the offensive player can make is to pass the crown to another piece, which will be discussed further below.

At some location on the board are one or more goalzone tiles, which represent the board's goalzone. The objective of the offensive team is move their crowned piece into the goalzone and the objective of the defensive team is to prevent them from doing so. The defensive team can prevent the crowned piece from entering the goalzone by capturing it or rendering it unable to move or pass the crown.

Pre-Game Setup

Before beginning the game, both players must come to an agreement on the following three aspects of the game:

Total Number of Pieces

Initially, the maximum number of pieces available for each player's team is determined by how many startingzone tiles are available to them on their side of the board. Despite this, the players can agree to restrict the maximum number of pieces for each team to a lower amount by mutual agreement.

Total Value of Pieces

Each piece in Fram has a designated value. This value is an indication of how powerful the piece is in the game, and will be discussed further later. Both players must agree on what the maximum total value that all of each team's pieces must accumulate to.

Number of Different Pieces

Additionally, the players can also agree upon a minimum number of different pieces that are included in each player's team. This could be to prevent the pieces on one person's team all being of one or a few variants, to ensure balance.

Once these have been decided, the players will then decide who will be the offensive team, and who will be the defensive team. After this, both players select which pieces they will use in secret. Once both players have selected their pieces, they will reveal them to their opponent, and place them into whatever formation they choose on their allocated startingzone tiles.

Gameplay

The game is played by each player sequentially taking turns performing actions. A player can perform one action for one of every different type of piece they currently have in play per turn. They cannot perform an action for two of the same type of piece in one turn, unless they are entitled to an additional move, as described below. The different actions a player can do are as follows:

Move a piece

A player moves a piece by removing it from the tile it is currently on and placing it on another tile. Only one piece can occupy one tile at a time, so a player cannot move a piece onto an already occupied piece.

Capture a Piece

A player can move a piece onto a piece occupied by an opponent's piece to capture it. When a piece is captured, it is removed from the board and cannot be played further. A player cannot perform a capture arbitrarily; capturing a piece is only available under the following circumstances:

Offensive Piece is the Crowned Piece

A defensive piece can capture an offensive piece if the offensive piece is the offensive player's crowned piece.

Offensive Piece is Adjacent to the Crowned Piece

A defensive piece can capture an offensive piece if the offensive piece is directly adjacent to the offensive player's crowned piece.

Defensive Piece is Adjacent to the Goalzone

An offensive piece can capture a defensive piece if the defensive piece is directly adjacent to any of the goalzone tiles on the board.

Capturing a piece under these circumstances cannot be done arbitrarily, and they must also conform to the capturing rules of the individual piece, in order to constitute a valid capture.

Pass the Crown

This option is only available to a player whose team possesses a crowned piece. A player can transfer the crown from the piece that initially wore it to another of their pieces. Different pieces have different rules regarding how they can pass the crown, which will be discussed further in the Pieces section.

Perform an additional action

Some pieces have the ability perform an additional action, under a given set of circumstances. If such a circumstance has occurred, when it is the player's turn they can perform this additional action, as well as the single action for that piece that they are entitled to when it is their turn.

The order of actions that the player can perform if multiple are available to them is up to their discretion, pending the rules of the individual pieces that are able to perform actions. This additional action may be mandatory or optional, according to the rules of the individual piece.

If a player is in a situation when they are able to perform multiple actions, they must perform them within either their current turn or next immediate turn if it is their opponent's turn, and cannot hold off on undertaking them at a future turn. They must also indicate to their opposing player when they have finished performing all actions available to them in their turn, which ends their turn.

Board

The board that Fram is played on consists of a series of connected hexagons called tiles. As discussed previously, only one piece can occupy one tile. There are three variations of tiles:

Standard tiles

These tiles are able to be occupied by a single piece within the game. Beyond this, they have no further impact on the game.

Startingzone tiles

These tiles indicate where pieces can be placed at the start of the game. Once the initial pieces have been placed at the start of the game, these tiles have no further impact on the game, and operate the same as Standard tiles.

Goalzone tiles

Goalzone tiles constitute the board's goalzone. Both players' pieces can move onto goalzone tiles. Similar to the previously discussed tiles, only one piece can occupy a goalzone tile at a time. Additionally, defensive pieces cannot move into the goalzone if there are no offensive pieces in the goalzone. The maximum number of defensive pieces allowed in the goalzone is equal to the number of offensive pieces in the goalzone.

If it is the defensive player's turn, and they have more of their pieces in the goalzone than the offensive player, they must end their turn with the same number or fewer pieces in the goalzone. Their turn is not considered legal unless they do so. If there are no legal moves to move a defensive piece outside of the goalzone in these circumstances, the piece is automatically placed at the next closest available tile, regardless of that piece's movement rules.

Once the crowned piece moves into any of these goalzone tiles, the game is over and the offensive team wins. A non-crowned piece moving onto a goalzone tile has no additional effect, and is considered the same as a non-crowned piece moving onto a standard tile. Beyond standard goalzone tiles, there are two further sub-categories of goalzone tiles:

Opposing Goalzone tiles

In a game where each player has their own goalzone, there will be two different variations of goalzone tiles, which constitute each player's goalzone. If a player moves their crowned piece onto any of their designated goalzone tiles, they win the game and the other player loses. Moving a crowned piece on the opposing player's goalzone tile has no effect, and is considered the same as a non-crowned piece moving onto a standard tile.

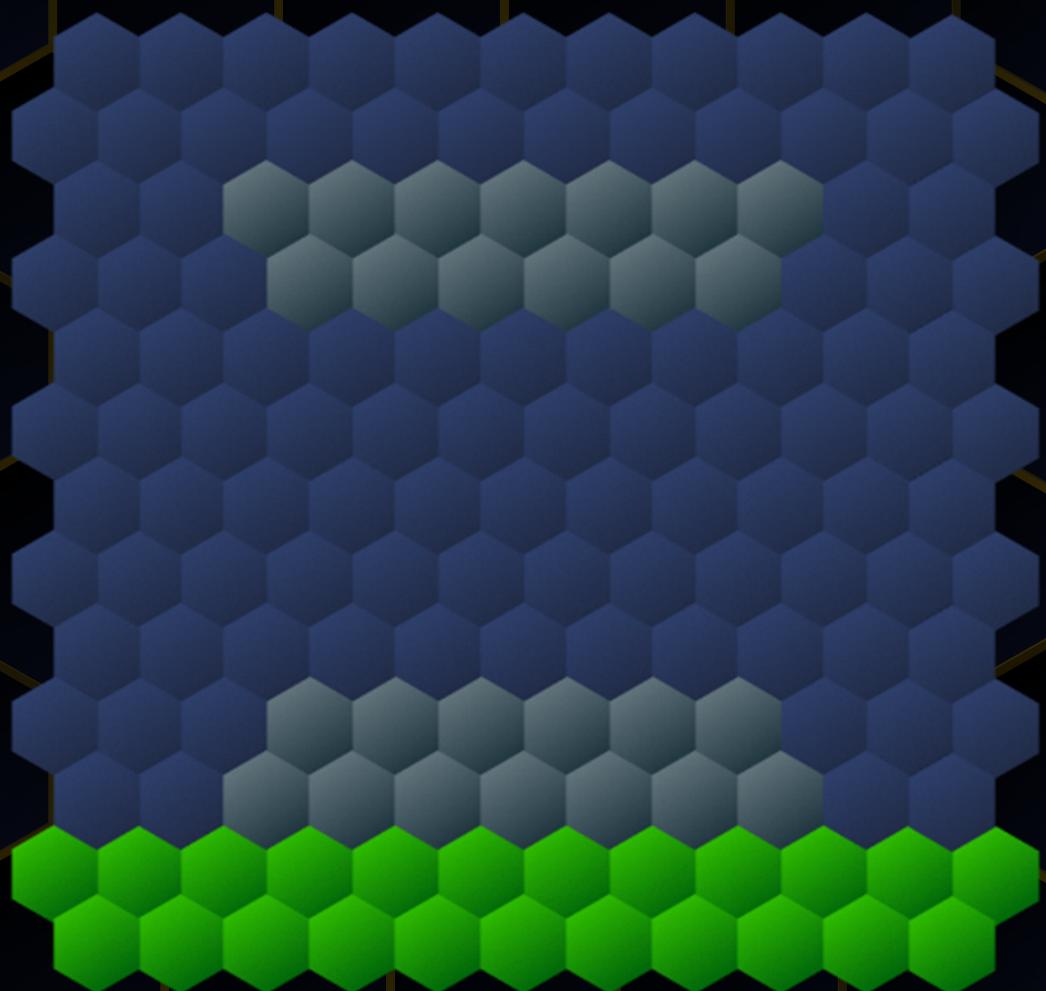
Mutual Goalzone tiles

In a game where both players have a crowned piece, but there is only one goalzone, that goalzone will be identified through mutual goalzone tiles. In such a game, the first person to move their crowned piece into any of the mutual goalzone tiles wins the game.

Board Variations

Default

The following is the default board for a game of Fram. It contains 26 startingzone tiles (13 for each player, and 23 goalzone tiles, equating to 149 tiles in total.



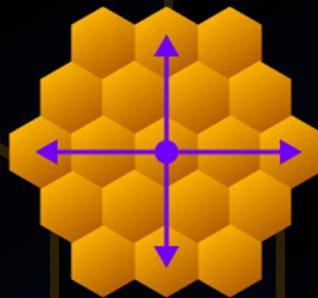
Pieces

Movements

Before discussing the different pieces in the game, it is important to understand the terminology regarding the different types of movements within the game. The following is an explanation of this terminology:

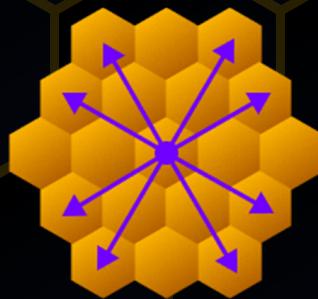
Orthogonal

An orthogonal move is movement in a direction that is 90 degrees above, below, left, or right of the current tile.



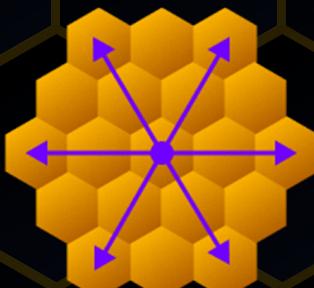
Diagonal

A diagonal move is a movement in a direction across either a vertex or edge that is not orthogonal.



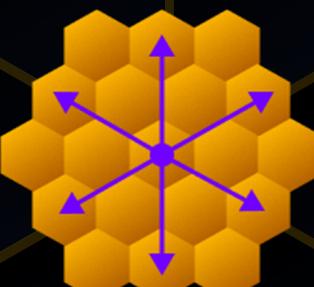
Edge

An edge move is a movement in the direction of any edges connected to the original tile.



Vertex

A vertex move is a movement in the direction of any vertices connected to the original tile.



The following represent pieces that are available to be played in the game of Fram:

Launcher

Value

Movement

Passing the Crown

7

The Launcher can move one tile in any direction. The Launcher can optionally move two tiles in any orthogonal horizontal direction.

The Launcher can pass the crown to any other offensive piece on the board regardless of distance, as long as no opponent's piece is adjacent to the piece that the Launching is intending to pass to.

Capturing	The Launcher can capture a piece one tile in any direction.
Additional Action	If the Launcher passes the crown, it is entitled to additionally move one tile in any direction.
<i>Blocker</i>	
Value	1
Movement	The Blocker can move one tile in any direction.
Passing the Crown	The Blocker can pass the crown across one tile in any direction.
Capturing	The Blocker can capture a piece one tile in any direction.
Additional Action	<p>The Blocker is entitled to a specific additional move under two circumstances:</p> <ul style="list-style-type: none">• If the Blocker is jumped over by another piece, the Blocker is entitled to mirror the movement of the piece that jumped over it in the same direction and same method.• If the Blocker is passed the crown, the Blocker is entitled to either pass the crown or move one tile in any direction.

Edge Runner

Value

Movement

3

The Edge Runner is allowed to move two tiles across any edge from its current tile. The Edge Runner may jump over another piece in its way to do so.

Passing the Crown

The Edge Runner is allowed to pass the crown two tiles across any edge from its current tile. The Edge Runner may pass the crown over another piece to do so.

Capturing

The Edge Runner is allowed to capture a piece two tiles across any edge from its current tile. The Edge Runner may travel over another piece in its way to do so.

Additional Action

The Edge Runner does not have any additional actions.

Vertex Runner

Value

Movement

3

The Vertex Runner is allowed to move two tiles across any vertex from its current tile. The Vertex Runner may jump over another piece in its way to do so.

Passing the Crown

The Vertex Runner is allowed to pass the crown two tiles across any vertex from its current tile. The Vertex Runner may pass the crown over another piece to do so.

Capturing

The Vertex Runner is allowed to capture a piece two tiles across any vertex from its current tile. The Vertex Runner may travel over another piece in its way to do so.

Additional Action

The Vertex Runner does not have any additional actions.

Swinger

Value

Movement

5

The Swinger may move one tile in any direction. The Swinger may optionally move any number of tiles orthogonally horizontal to its current tile. The Swinger is not allowed to jump over other pieces to perform this movement.

Passing the Crown

The Swinger may pass the crown one tile orthogonally horizontally to its current tile.

Capturing

The Swinger can capture a piece one tile in any direction.

Additional Action

If the Swinger is passed the crown, the Swinger is entitled to an additional movement action.

Strider

Value

Movement

7

The Strider may move up to two tiles across any edge or vertex of its current tile in any direction except for orthogonally up and down. The Strider may jump over another piece in its way to perform this movement.

Passing the Crown

The Strider may pass the crown one tile orthogonally behind itself.

Capturing

The Strider can capture a piece that is within its movement range as described above.

Additional Action

If the Strider jumps over another piece, it is entitled to another of its movement actions.

Web3 Tokens

Fram as a decentralised application employs the use of several non-fungible, semi-fungible, and fungible tokens in its system. The different tokens used in Fram are as follows:

Utility Token (FRAM)

FRAM is the utility token for the game of Fram, and is primarily used as the in-game currency. FRAM can be exchanged within the game's marketplace to purchase tile tokens as well as piece tokens. FRAM is accrued by winning games of Fram. The amount of FRAM that a player earns after winning the game is equivalent to the difference in ratings between the two players and the expected outcome of the game based on this rating difference.

Governance Token (FRAV)

FRAV is the governance token for the game of Fram, and is primarily used to participate in the game's various DAOs. Players must spend the governance token to cast a vote within the game's DAOs. FRAV can be returned to the player, if they cast a negative vote on a proposal and that proposal fails, as is discussed further in the DOAs section of this document. FRAV is accrued in the same way as the FRAM token, by winning games of Fram. Similarly, the amount of FRAV that a player earns is equivalent to the difference in ratings between the two players and the expected outcome of the game based on this rating difference.

Tile Tokens

The tile tokens are available to be exchanged for FRAM by the player from the game's marketplace, and are able to be used by the player to construct a new board, which can be proposed to the Board DAO described later in the DAO section. There are different subsets of tile tokens, representing the different types of tiles represented previously, including standard, startingzone, and the different goalzone tiles.

Piece Tokens

Each distinct piece within Fram has several different rarities. These rarities have no impact on the gameplay of Fram itself, and only possess an aesthetic value. They are intended to be collectible items for players to acquire by exchanging them for FRAM. The value of each rarity is determined by its supply, as each further rarity of each piece has a further limited supply. Each rarity of each token is equivalent, but different rarities are not equivalent to each other. Hence the rarity tokens are semi-fungible, with the exception being the highest level of rarity, of which there is only one, which makes it non-fungible.

When selecting pieces to play in the game, if you possess a rarity token of a piece you wish you use in the game, you may choose to use your rarity token in place of the standard piece. You may only substitute the number of standard pieces in the game with the number of rarity tokens in your possession. For example, if you want to use four of one piece, and you own three rarity tokens of that piece, you may substitute three of the pieces you will play in the game with your rarity tokens, whilst the remaining piece will be a standard piece.

If you play with a rarity token as a piece, and that piece is captured within the game, you do not lose possession of that token. The following are the rarities used for the piece tokens in Fram, along with their supply:

- Opal (1)
- Amethyst (100)
- Emerald (1,000)
- Ruby (10,000)
- Sapphire (100,000)
- Amber (1,000,000)

DAOs

Fram contains two DAOs which allow players to propose new content to be added to the game. As discussed above, participation in the DAOs, both to propose and vote, requires exchanging the requisite amount of FRAV token into the DAO. For both DAOs, each proposal will last one week, and the number of votes in favour or against the proposal after this time period determines if the proposed content will included in the canon of the game.

The results of each proposal will not be revealed until the proposal's time period has expired, in order to prevent disingenuous votes where members of the DAO would vote on which option is likely to succeed purely to reap the benefit of the outcome. Participants will also be able to submit a written addendum attached to their vote to explain their rationale to all other members of the DAO, which will also be anonymous. Should a proposal in either DAO fail, the FRAV paid by all participants in the proposal will be distributed amongst the users who voted against the proposal.

Piece DAO

The Piece DAO will allow users to propose a new piece to be added to the canon of the game. When proposing a new piece, the user will have to provide the following:

- The name of the piece
- The list of actions that the piece can take

The list of actions that are available to the user for a proposed piece will come from a finite list of available moves. Based on what the user selects from this list, the value of the piece will be generated, along with an image that represents how the piece will look in the game. There will possibly be a limit to the number of different actions that a proposed piece can do, in order to prevent pieces that are too overpowered from being proposed. A record of each piece's list of actions will also be recorded, and a user will not be allowed to propose a piece which has the same list of actions as another piece already existing in the canon.

If the proposal for the new piece passes, the user who proposed the piece will be minted the Opal rarity version of the piece, and anyone who voted in favour of the proposal will receive the Amber rarity version of the piece. If more people voted in favour of the proposal than the limit of an Amber piece, then the Amber pieces will be distributed to the users who voted in favour of the proposal first.

The DAO will also keep a track of who voted against a proposal for a new piece, and will prevent users from proposing a new piece that has the same configuration as the proposed piece they voted against. This is to prevent users from disingenuously voting against a proposal to have it fail, only to propose it themselves in order to receive the non-fungible version of that piece.

Board DAO

The Board DAO will allow users to propose a new board to be added to the canon of the game. When proposing a new board, the user will have to provide the following:

- The name of the board
- The layout of the board, in terms of the tiles used

There will be a minimum number of tiles required to propose a new board, in order to prevent users from spamming the DAO, as well as to enforce playing other game modes and participating in the community. A record of each board, including its layout of tiles, will be recorded, and a user will not be allowed to propose a new board which matches a board that already exists in the canon of the game.

If the proposal for a new board passes, the user who proposed the board will receive a very small amount of FRAM every time a game of Fram is played on their board.