**Elimination Chess Scheme**

1. Game overview

Platform：PC

Controler：mouse

Game type：3D Eliminate chess

Camera：orthogonal

2. Game rules

a. Infinite mode

**Goal：Eliminate the chesses on the board to earn points and get asa many points as possible.**

* The board has six tracks : three rings and three symmetrical axes that are 60 degrees each other. Chess pieces can be moved along six tracks.
* There is a collision block between the chesses.
* Two pieces of the same type and contact together can be eliminated.
* At least one piece that has just been moved must be eliminated after movement, otherwise the move is invalid.

b. Level mode

**Goal：Eliminate all chesses from the board。**

* The board has six tracks : three rings and three symmetrical axes that are 60 degrees each other. Chess pieces can be moved along six tracks.
* Chesses that are in contact with each other and on the same track can move along the track together. There is a collision block between the chesses.
* Two pieces of the same type that are in contact with each other or on the same track and are not blocked in the middle can be eliminated.
* At least one piece that has just been moved must be eliminated after movement, otherwise the move is invalid.

3. Game course

a. Infinite mode

* A fixed number of randomly positioned chesses are generated on the board at first.
* Players click through the mouse, select the chesses to move, eliminate.
* Each move will randomly generate chesses on the board, the number of which will be determined by the difficulty.
* Each elimination will earn basic points, and continuous elimination will increase the points earned.
* The game ends when elimination is no longer possible on the board.

b. Level mode

* The board will be full of pieces at first, the player through the mouse click, select two can eliminate the pieces to eliminate.
* Players click through the mouse, select the chesses to move, eliminate.
* Until all chesses on the board are eliminated, the game win.
* Each level pass, the board on the chess type will increase, the more chess types, the more difficult the game.

4. Game core

The core concept of the game is "elimination" and "self-locking".

a. elimination

* By eliminating chesses and creating removable space on the board, the more mobile the game is, the larger the movable space, the more test the player's spatial imagination and logical prejudgment ability.
* Rules that must be eliminated after movement limit the player's free movement behavior, so that every step must be thought about, and there can be no invalid movement steps.

b. self-locking

* Block and co-movement in the rules of the game constrain the scale of movement, only linked chesses can move together, on the contrary, if there is a separate chess, only this chess step by step can be eliminated, otherwise it will become an obstacle on the mobile path.
* After moving in the rules of the game, it is necessary to eliminate the setting of the previous moved chesses, so that the game has a dead end, such as ABAB type, Players are prone to death before they can be untangled by one-step movement and no longer notice this.

5. Game Level

* The overall difficulty of the board is determined by the number of board rings, the larger the number of rings, the more chesses, the greater the overall difficulty.
* The difficulty of the game in the same game is not static. The initial elimination will be relatively simple, with the number of pieces eliminated, due to the self-locking situation led to the increase of obstacles to the increase of chesses, the difficulty of elimination will gradually increase, that is, in the same game with the reduction of pieces, the difficulty of the game will rise.

6. Technical difficulties

* Six-track movement
* Intelligently calculate chesses that can be moved together in all directions.
* After the move, the chesses need to be automatically reset to the point in place.
* The mouse controls the movement of the pieces
* Intelligent judgment eliminates pieces