

THE ROVER

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Game Intro

This game feature design is base on a game design project [here](#). So, If you want to get more info about the game, you can check it out.

To make a short intro of this game, it's a game that in a match, players have to compete to each others to be the first one who discover the precious ore named Graxium. In a map, it has only one Graxium a match. So, the first one who discover it, will be the winner of the match.

To find the Graxium, players have to customize their vehicle and manipulate the action card on their hand. After a player win a match, he can exchange the Graxium with money to buy new auto parts and action cards too.

Game Flow

In this section, I will explain the flow of a match of the game. A match consist of 3 main state. Some state have their own sub state.



For the sub state explanation, I will do it in main state section. So, I will focus on main state first.

Game Flow

Standby state

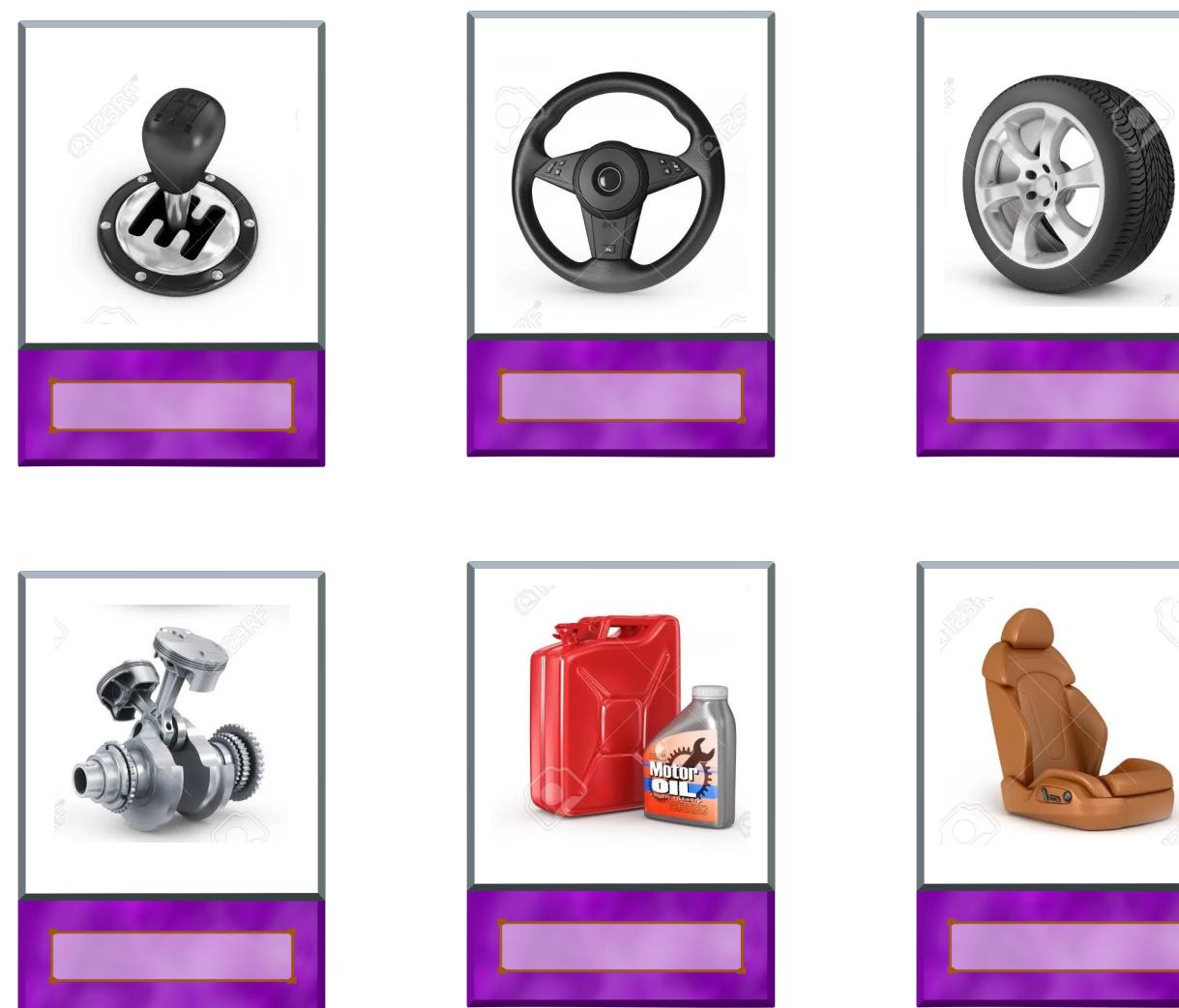
This is the first state of a game. Map will be generated. Player will know how the planet environment is. The map will be represent in square tiles. Each tile group will have different environment and obstacle.



Game Flow

Standby state

So, user can plan how to play it in this match. After that, every player have to select a tile on the board as spawn point and draw starter cards. And, they can set up their car with their auto part cards. Different customization leads to different advantage. For example, you can add more energy sources to your car but you will lose some space for other parts such as wheel. This state will be ended if every player click ready button.



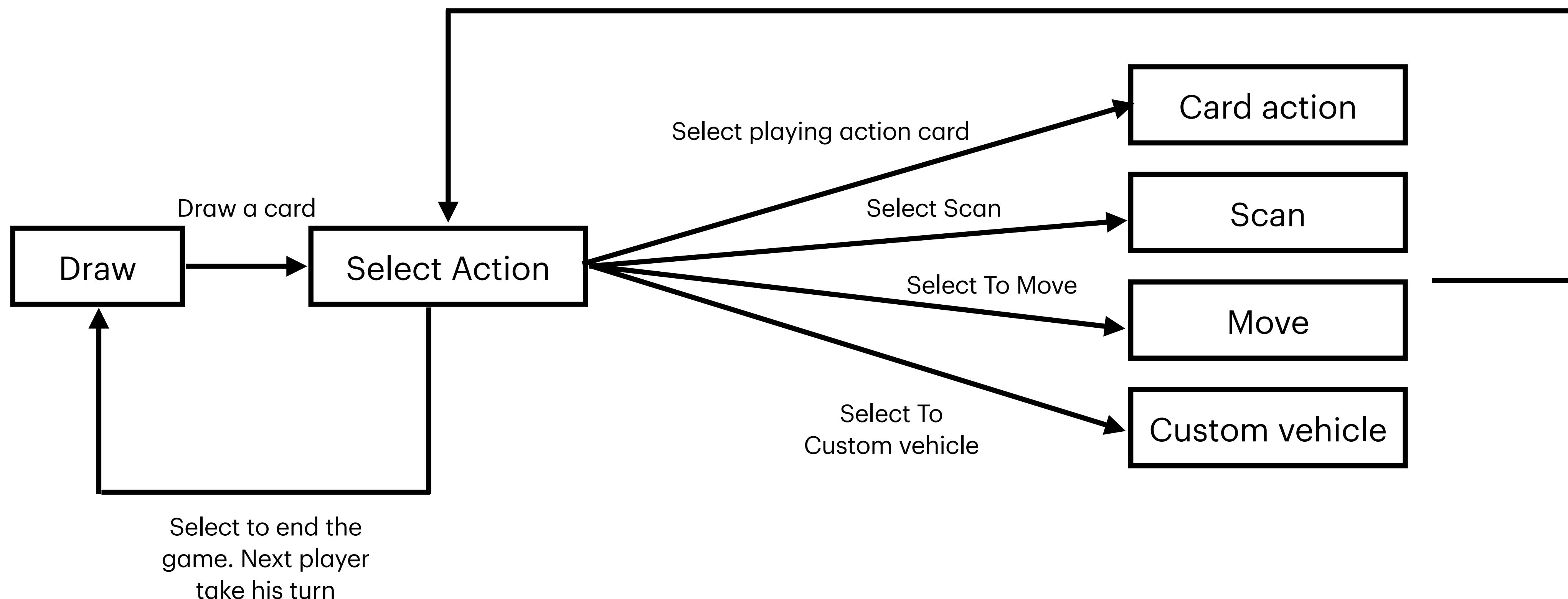
Custom vehicle with auto part cards.

Select atile as spawn location.

Game Flow

Playing state

In this state, it has their own sub state. It's start at draw state and end at draw state of the next player.



Game Flow

Playing state

After draw a card, the player will take their turn and do actions in the order. Actions are divided into 5 type scan, action card, move, rebuild vehicle, and end the turn.

Playing



Demo - <https://github.com/Tauhoo/the-rover/tree/main/demo>

*To do any action, it requires energy to be pay. Energy will be regenerate every 3 turn

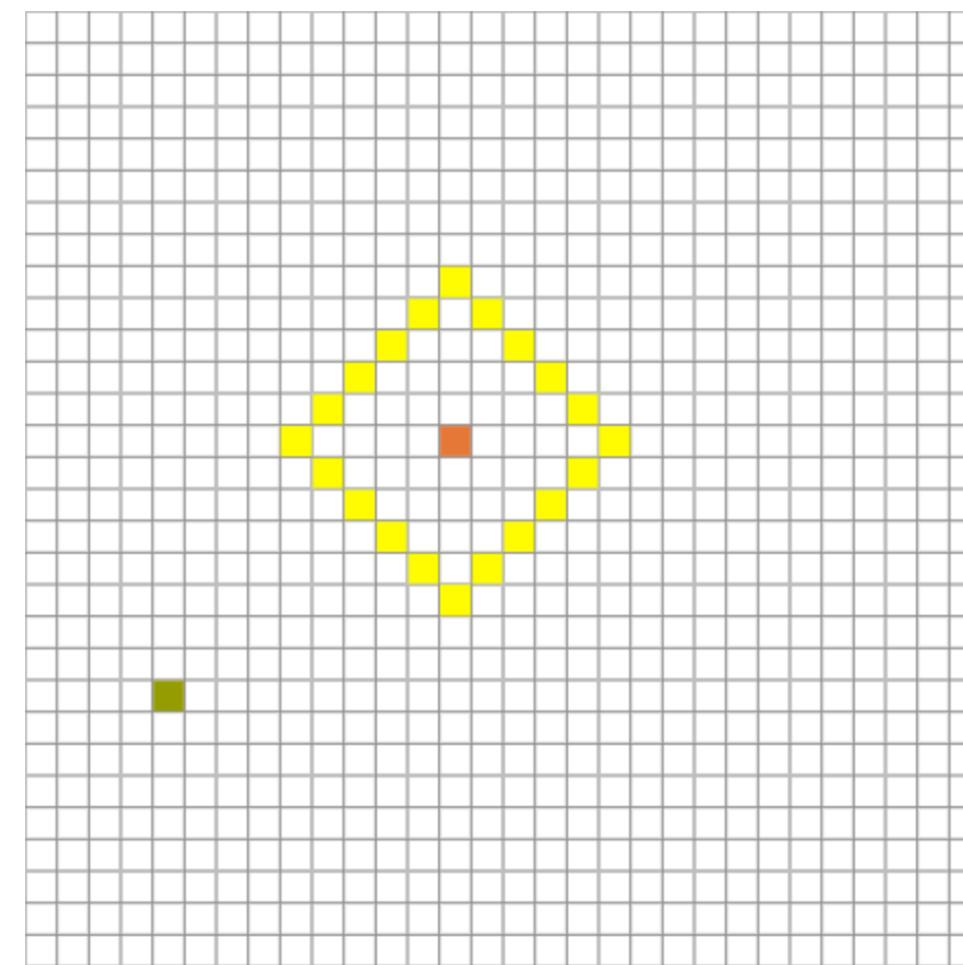
Game Flow

Playing state

Scan action

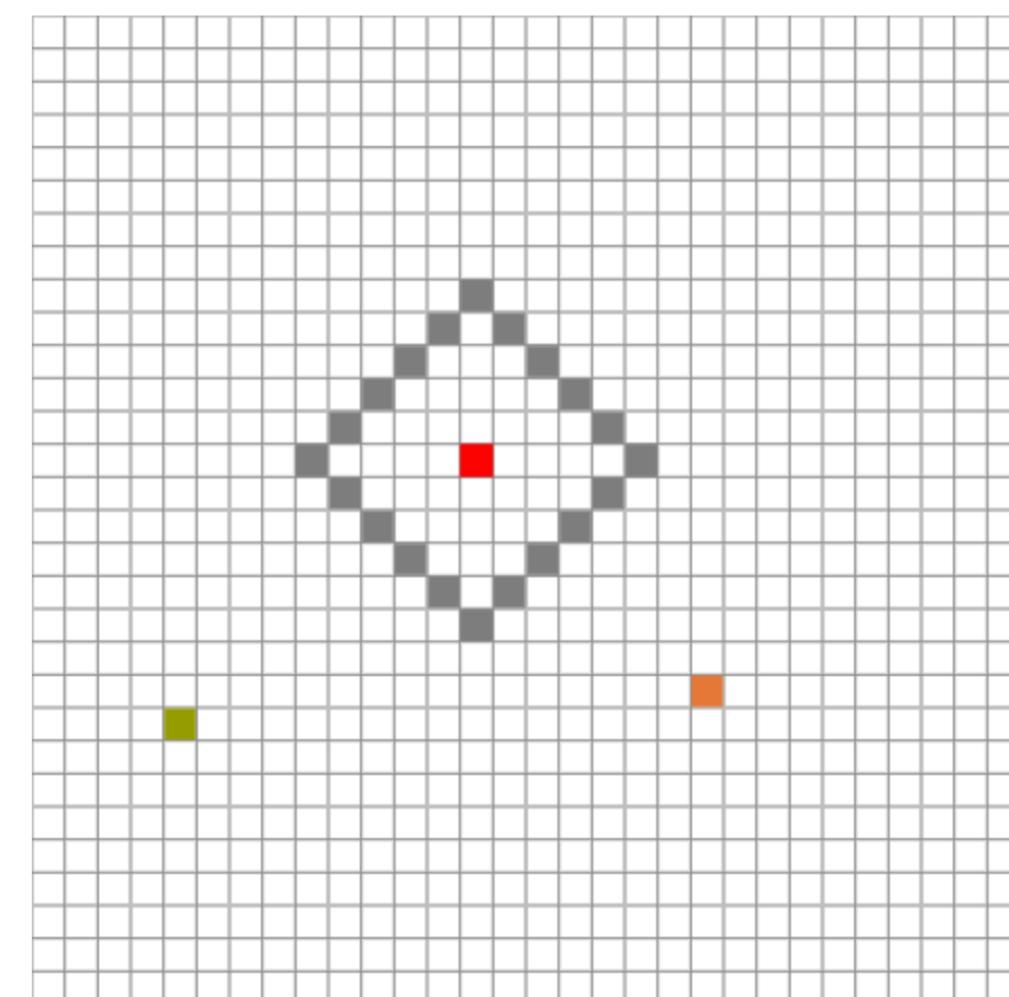
Scanning the terrain. This action will provide player information if Graxium is in the radius of scanner or not. When you scan, if you are exactly at the same as Graxium point, you will discover it. And the match will end and will go to end-game state.

Playing



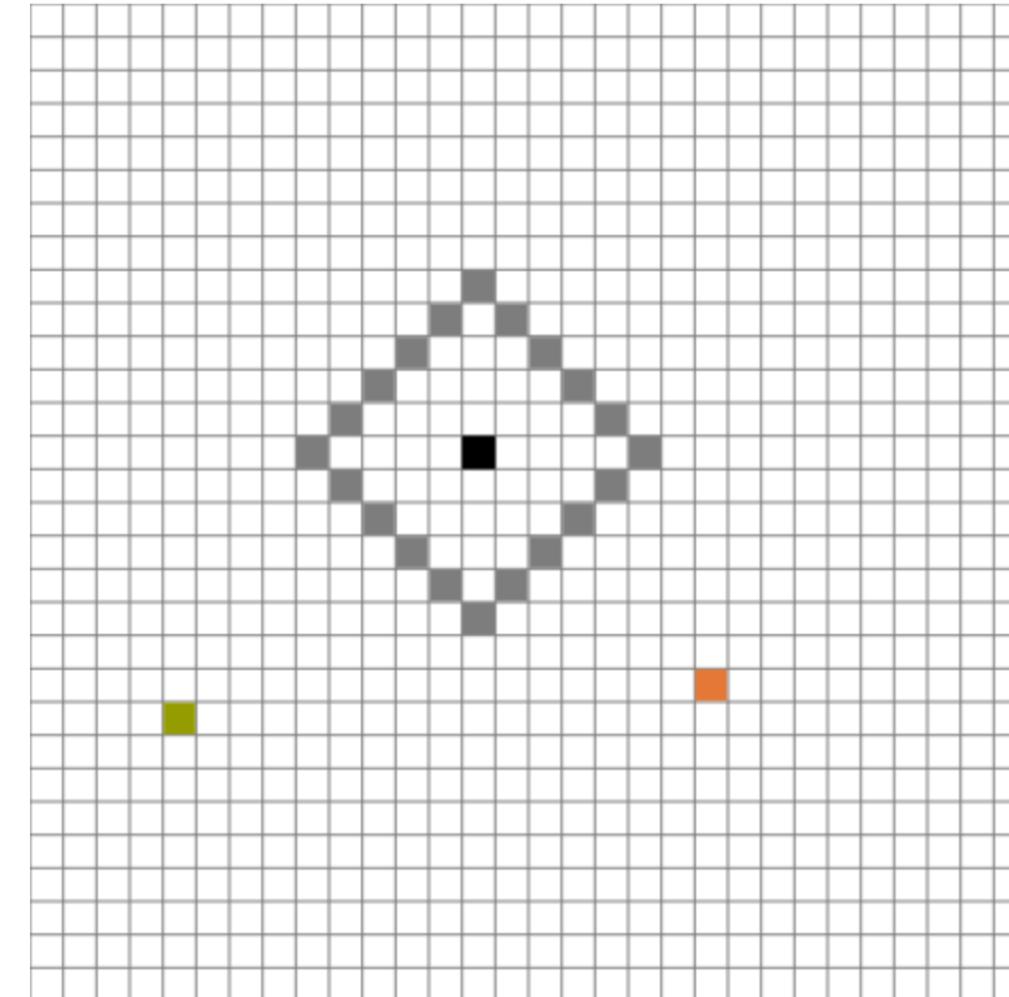
After select scan action, the scan will show the radius of scanner.

Playing



Player can see their history of scan too. In the picture, the history show that Graxium isn't in scanner radius and mark with red color.

Playing



A player can see others player history too. But the result is hide.

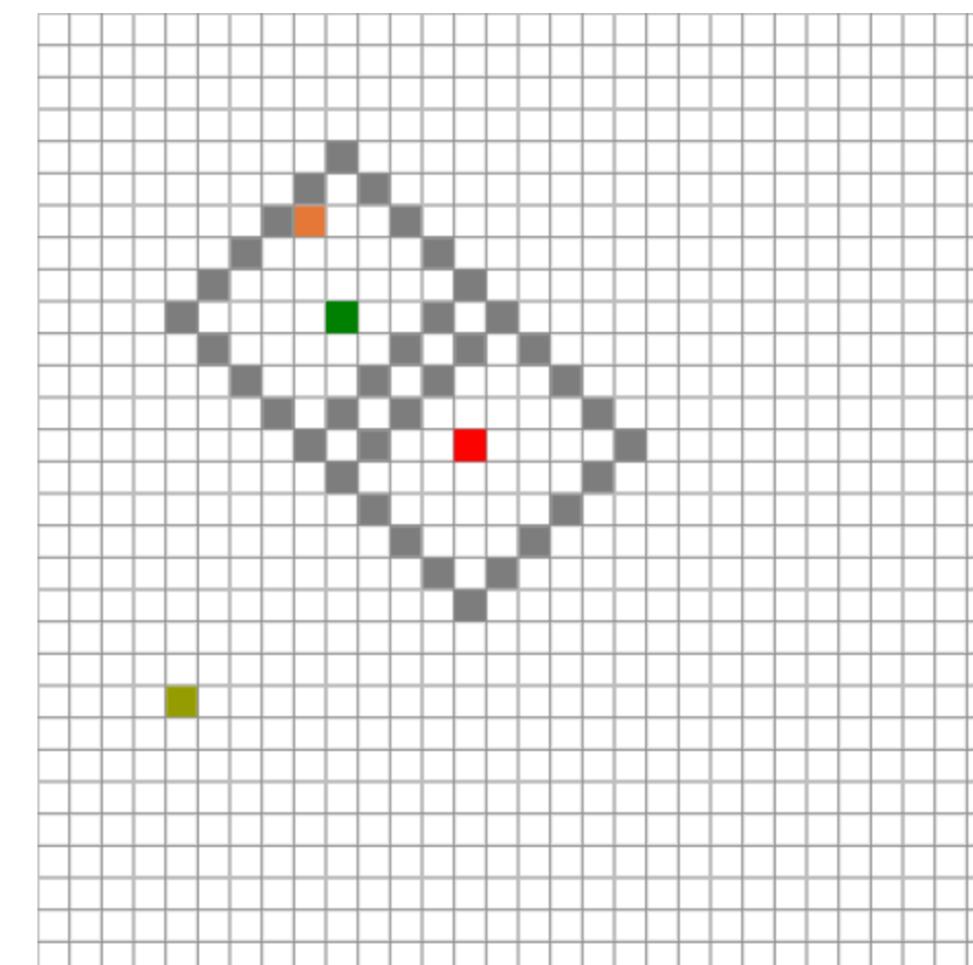
Game Flow

Playing state

Scan action

If you discover that Graxium is around, you can move around and scan to find the exact it's location. But, be aware that other players will know that you are near the Graxium because if you are scan some area frequently, it will be suspicion.

Playing



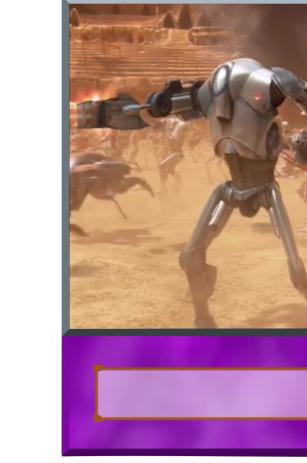
If player scan and Graxium is in the radius of the scanner, the result will be like this. So, you can scope the Graxium location by difference of these scanned tile.

Game Flow

Playing state

Action Card

Use some action cards such as shoot missile or teleport. Each card has their own advantages and disadvantage so player need to play it wisely. To activate action, the player have to pay an amount of energy in exchange too.



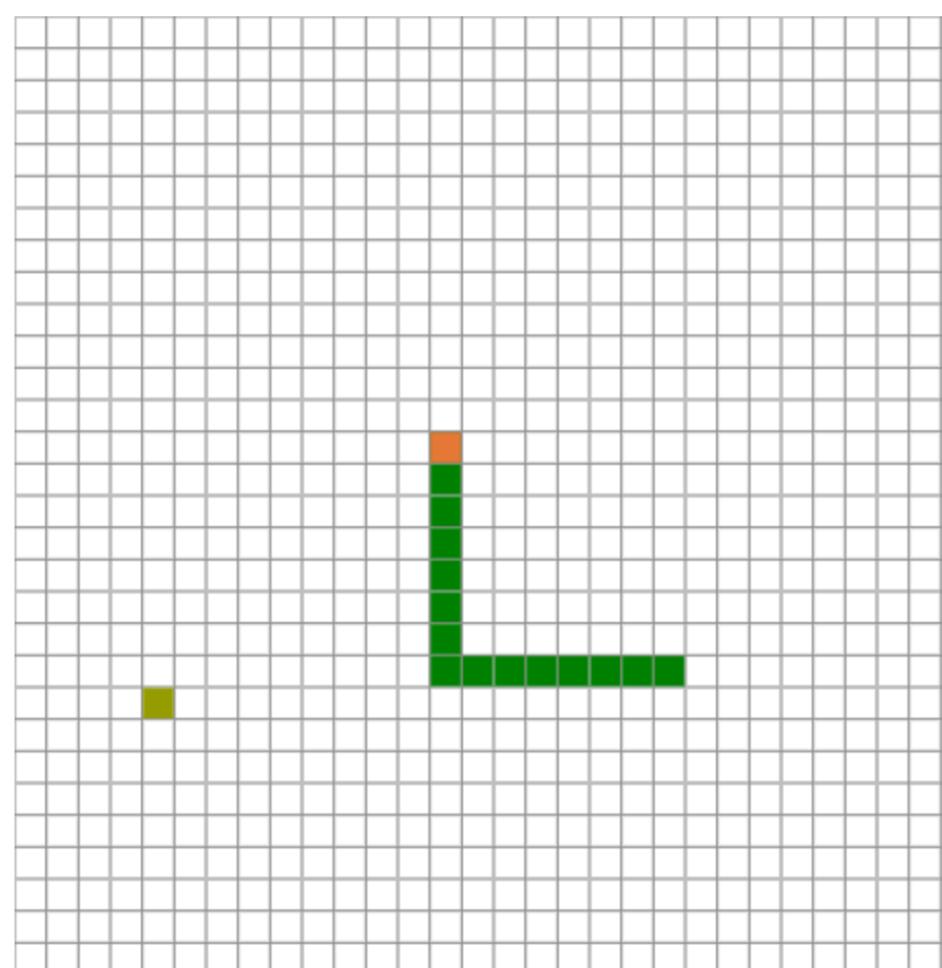
Game Flow

Playing state

Move

Move the car. After you confirm the path. The vehicle will go there. But, In exchange, the energy and auto parts's durability will be decrease depend on the length of the path, how player custom their vehicle, and the environment.,

Playing

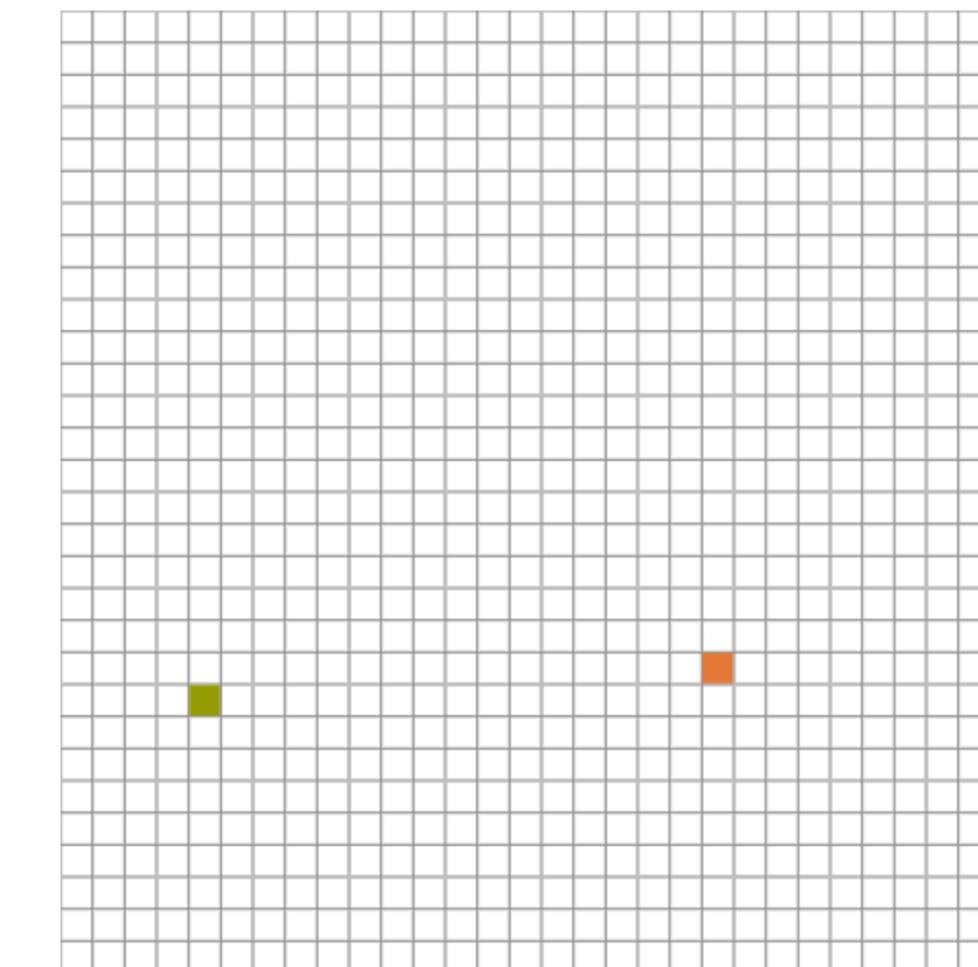


Select your path

Start moving Clear path

Path selection

Playing



Select an action

Scan Move your vehicle End your turn

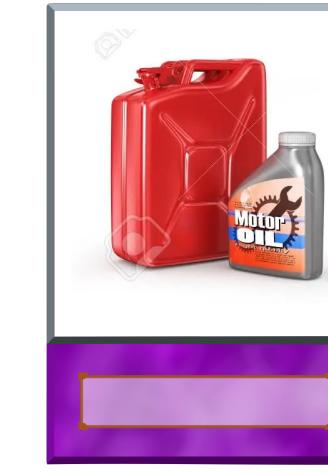
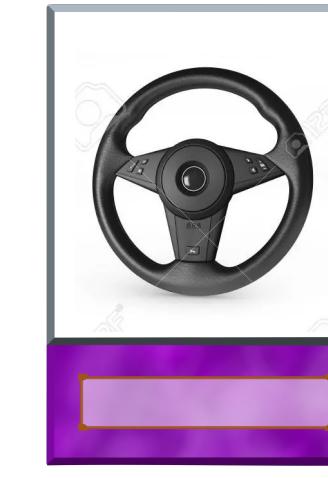
After move, position is changed. Then select action again.

Game Flow

Playing state

Rebuild vehicle

Rebuild the vehicle. You can edit your car to adapt to the environment. This action can use just every 3 turn of a player.



Custom vehicle with auto part cards.

Game Flow

End state

If a player discover the Graxium by scanning when the vehicle is at the exact the same position as Graxium tile, the game will end. And, the winner is the player who find it.



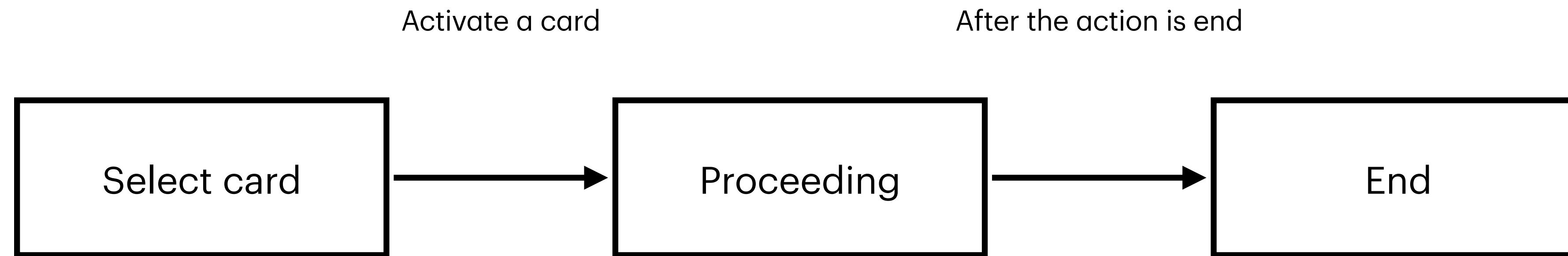
Game Core Function

In this part, I will explain in detail of any feature that I didn't explain in the game flow section. Because, In the game flow section, I want to focus on the flow of the game. And, For some feature that isn't relevant to a game match, I will explain them here too.

Game Core Function

Action card mechanism

For the action card mechanism, I design it in the hierachical state manner. In action card state, it will be divide in to 3 state.

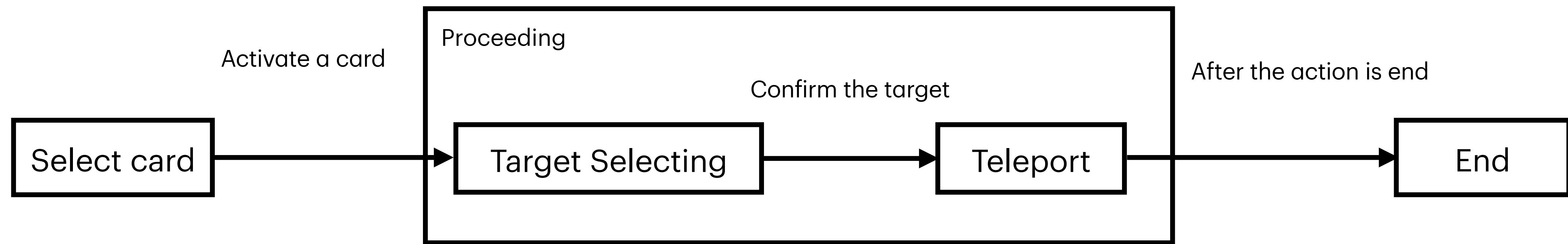


The state that I will focus In this part is card is proceeding state.

Game Core Function

Action card mechanism

For the proceeding state, it has its own sub state which is depend on which card is in action. For example, I will show you the state design of teleportation card which let player teleport their vehicle to any where.



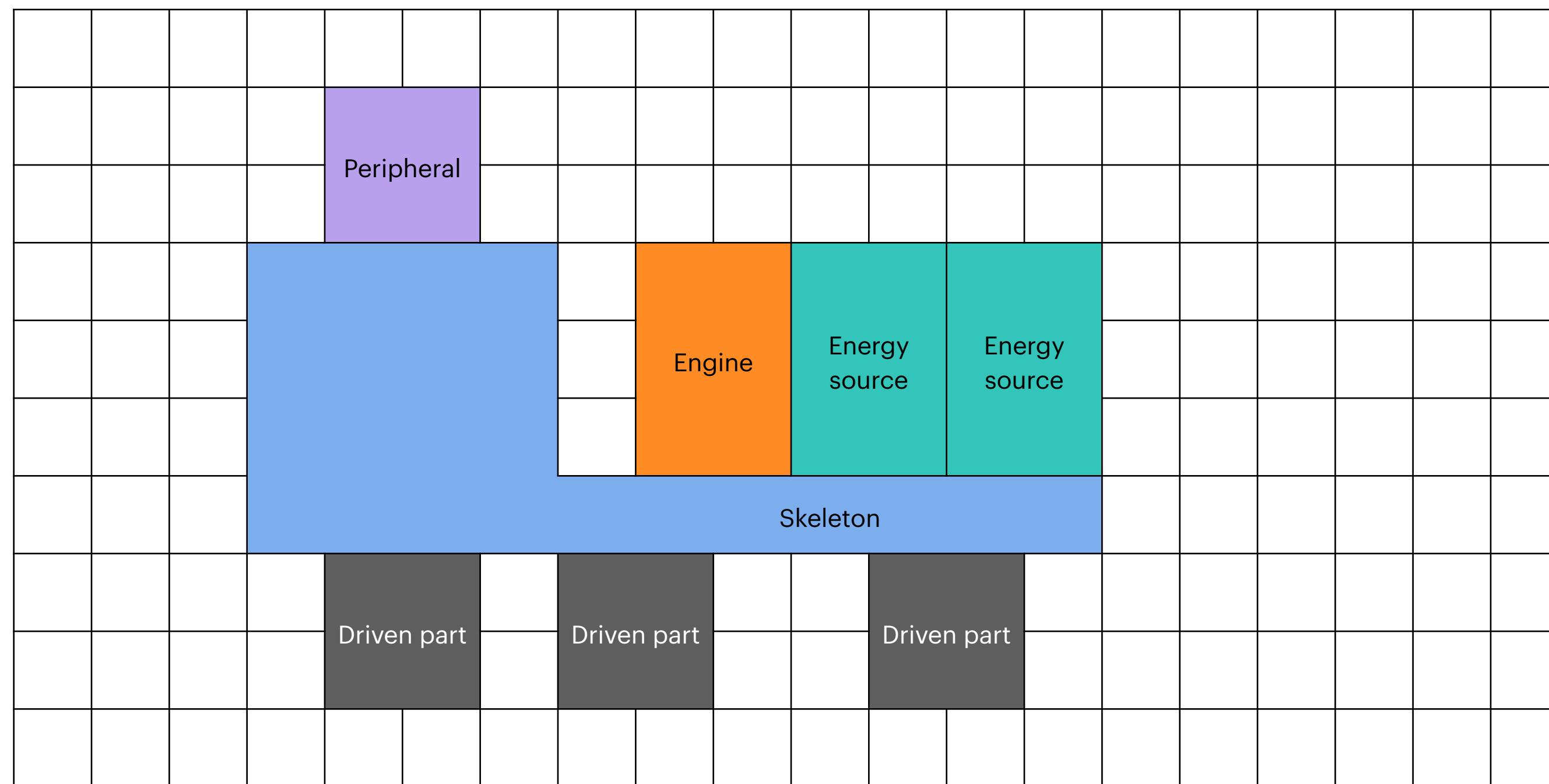
The sub state in side of the proceeding state will depend on the activated action card. Different card will lead to different state design.

Game Core Function

Vehicle customization

As I said in game flow, player can custom their vehicle. So, I will explain the mechanism here.

Each player will have 2 type of card auto part and action. To custom the vehicle, Each play will use their auto part cards and combine them in to a car.



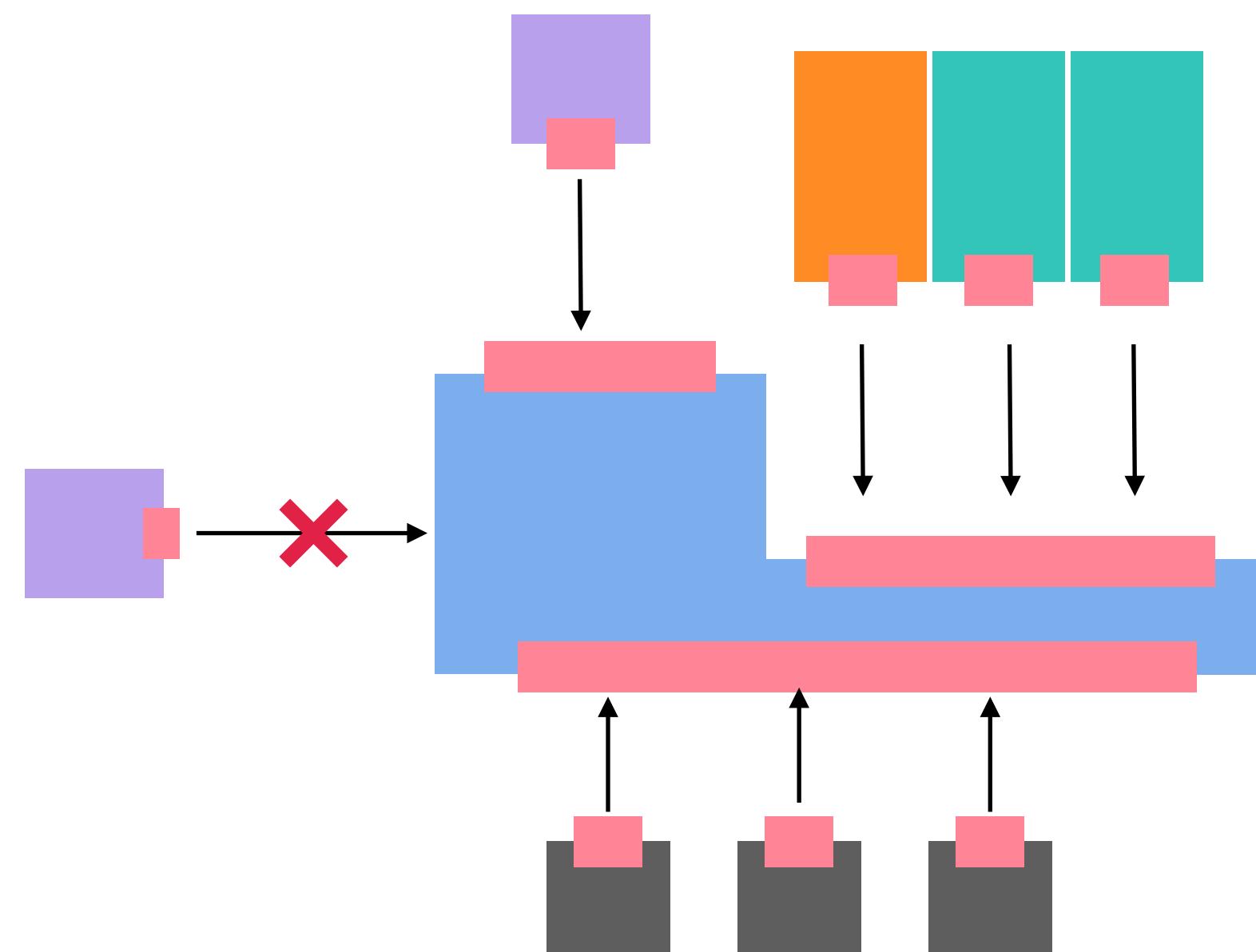
The above is craft table. Each of car auto part will require space for them to be placed. And, each of them have their own connector. Every part of connector must be connect.

Game Core Function

Vehicle customization

Connector

Each auto part will have their own connector (pink area in the picture). You can connect 2 auto parts together by connect their connector together.



Game Core Function

Vehicle customization

Auto parts

In this game, there are 5 type of auto parts. Each has its own abilities and special effects.

1. Driven Part

With out this part your vehicle can not be moved. This part will increase your speed state. So, you can go more far in a turn.

Moreover, Some driven part type may have their own limitation and benefit. For example, the wheel speed increasement will be 0 if the environment is in water. So, you have to use bilge instead.

Game Core Function

Vehicle customization

2. Energy source

Every action in this game need energy payment. So, with out this part you can't do anything. The more you put energy source your energy capability will be increased.

3. Engine

With out this part, the wheel won't work. This will have driven power value which will be use to multiply the speed. For example, your speed is 10 and driven power value is 1.2, then your real speed will be $10 \times 1.2 = 12$. So, If you don't have engine, driven power value is 0, and your speed will be 0.

4. Skeleton

This part don't have any capability. But, A skeleton part will have many connector. So, you can have many auto parts connect to it.

5. Peripheral

This is special part. They have their unique special effect. For example, you can add a scanner amplifier part to increase scanner radius.

In conclusion, player can design a vehicle to match their play style. For instance, If your play style is focus on action card. You may don't need wheel. You can just add many energy sources. And, play many cards without moving in a turn. You can also change your play style every 3 turn too.

Game Core Function

Vehicle Stat

If you want to be good at this game, you have to know these vehicle properties. Different value of them can lead to different result in the same action.

1. Speed

This part use to define limited path length when you try to move the vehicle in a turn. It can be increased by driven part type and engine type auto parts.

2. Driven power

This part use to calculate speed. It can be increased by engine type auto parts.

3. Energy point

This value will be decrease every time player try to do any action. Player can't do an action if this value isn't enough. And, it will be refilled every 3 turn. And, it's capability can be increased by energy source type auto parts.

Game Core Function

Vehicle Stat

If you want to be good at this game, you have to know these vehicle properties. Different value of them can lead to different result in the same action.

4. Skeleton Durability

This value can be decrease with different way such as other player action cards or the environment. If this value equal 0, every skeleton in your vehicle will be remove and you can do any thing. This value will refilled every 3 turn.

5. Driven part Durability

This value can be decrease with different way such as other player action cards or the environment. If this value equal 0, every driven part in your vehicle will be remove and you cannot move your vehicle. This value will refilled every 3 turn.

Game Core Function

Desk

To play this game, you have to get cards from the store . With out card you can't play. This game is also a card game. So, you can custom you desk before playing a match. This game card consist of 2 type of card auto part cards and action cards.

You can buy them from the store. At the start of the game, you will have initial tickets in game for getting random cards from the store aka gacha.

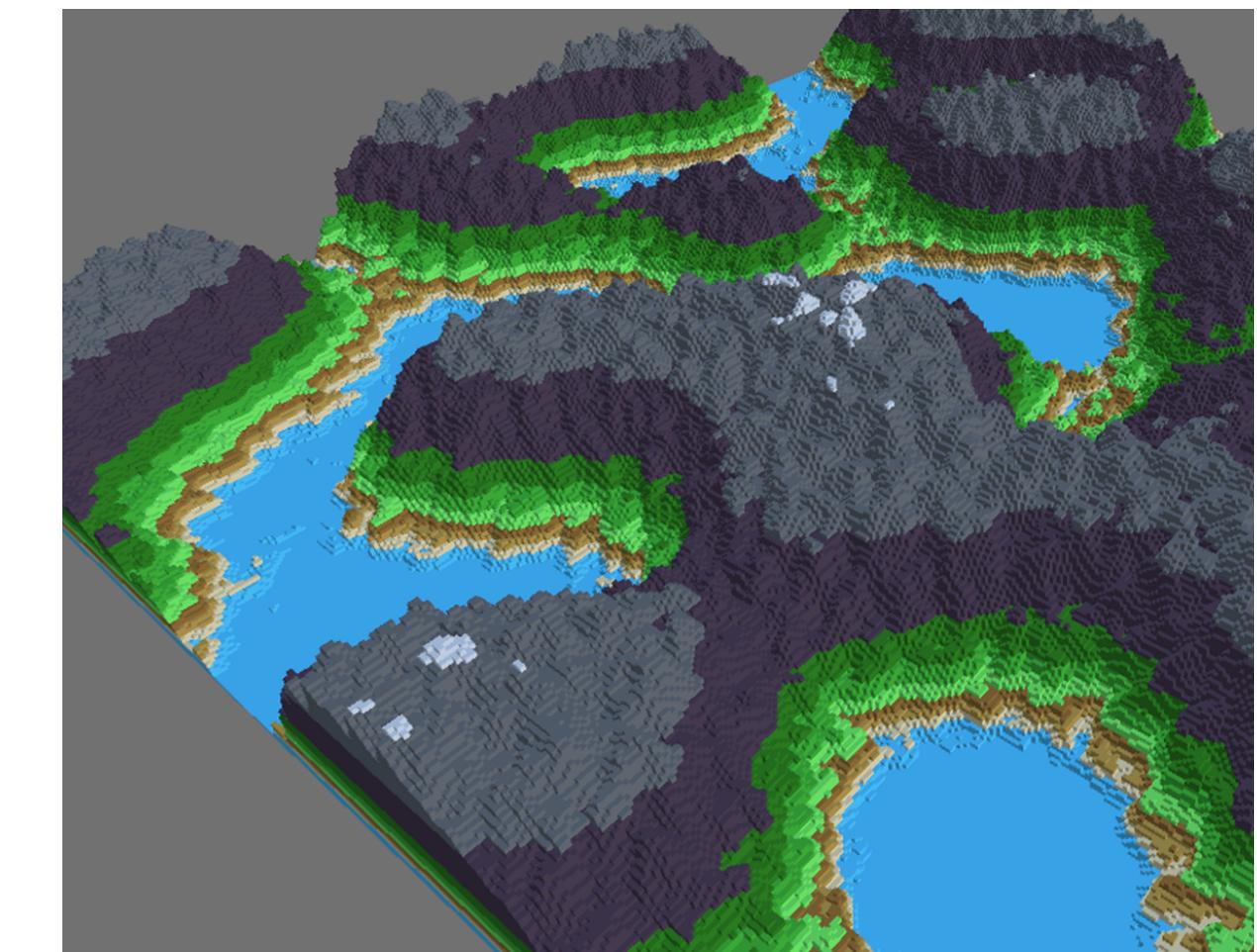
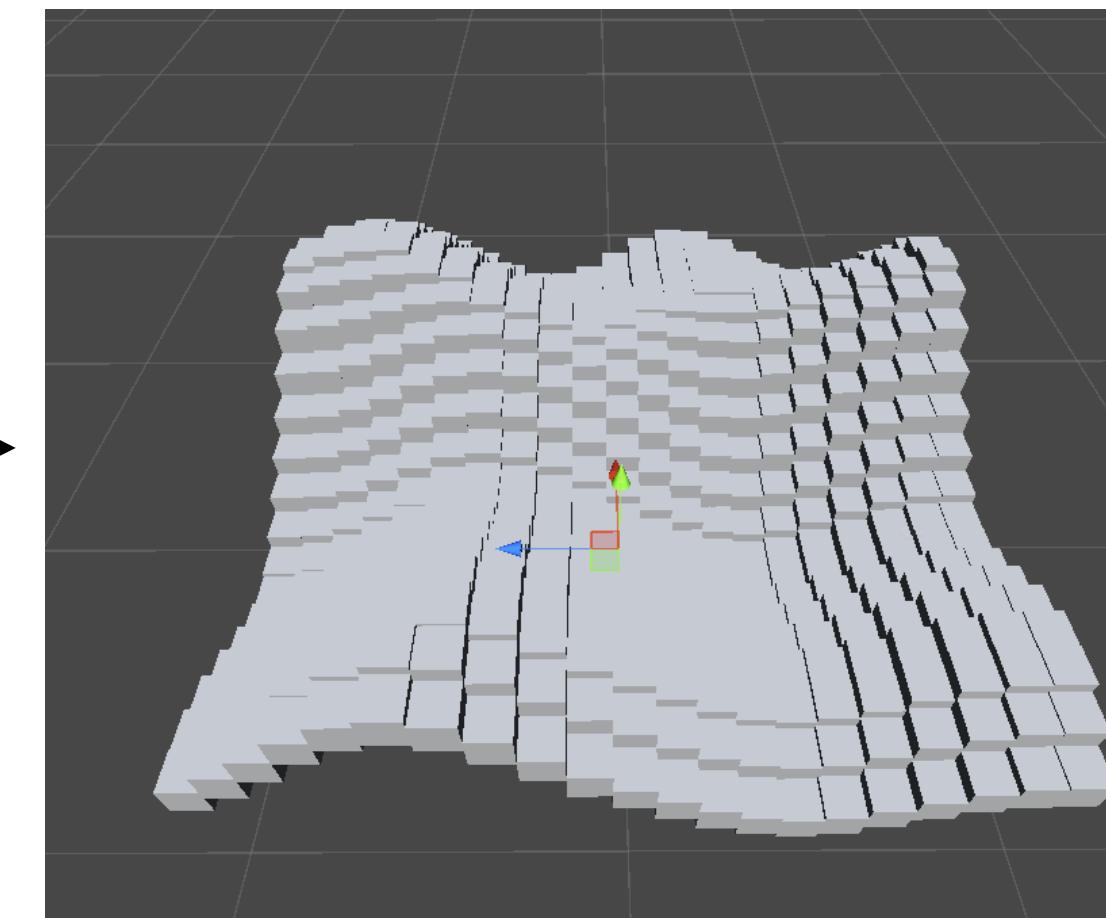
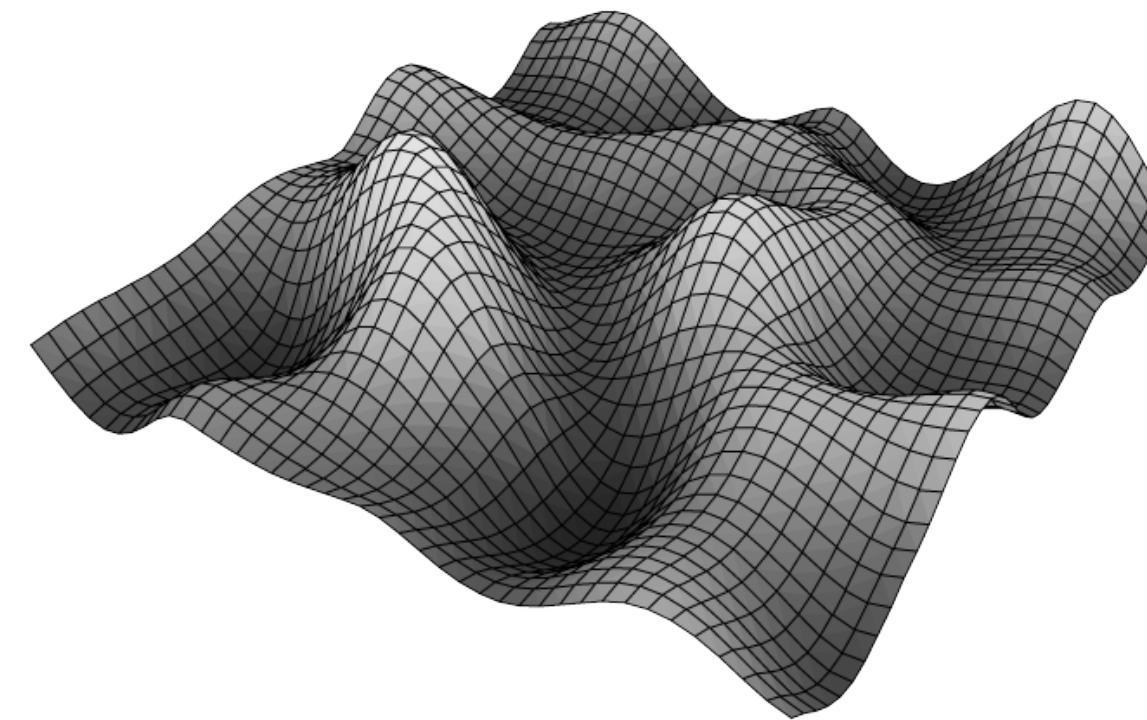
The game will have 2 store for you action card store and auto part store separately.

In a game, limited number of each action card desk is 30 cards. You can have duplicate card but the duplicated cards is limited to 3 cards. And the auto part card is limited to 15 cards.

Game Core Function

Map generation

Map of the game is tile base like some traditional board game. Each tile will be assign terrain and environment. The generate algorithm is base on fractal Perlin noise. Then, I will assign terrain to each tile by its hight.



Noise result

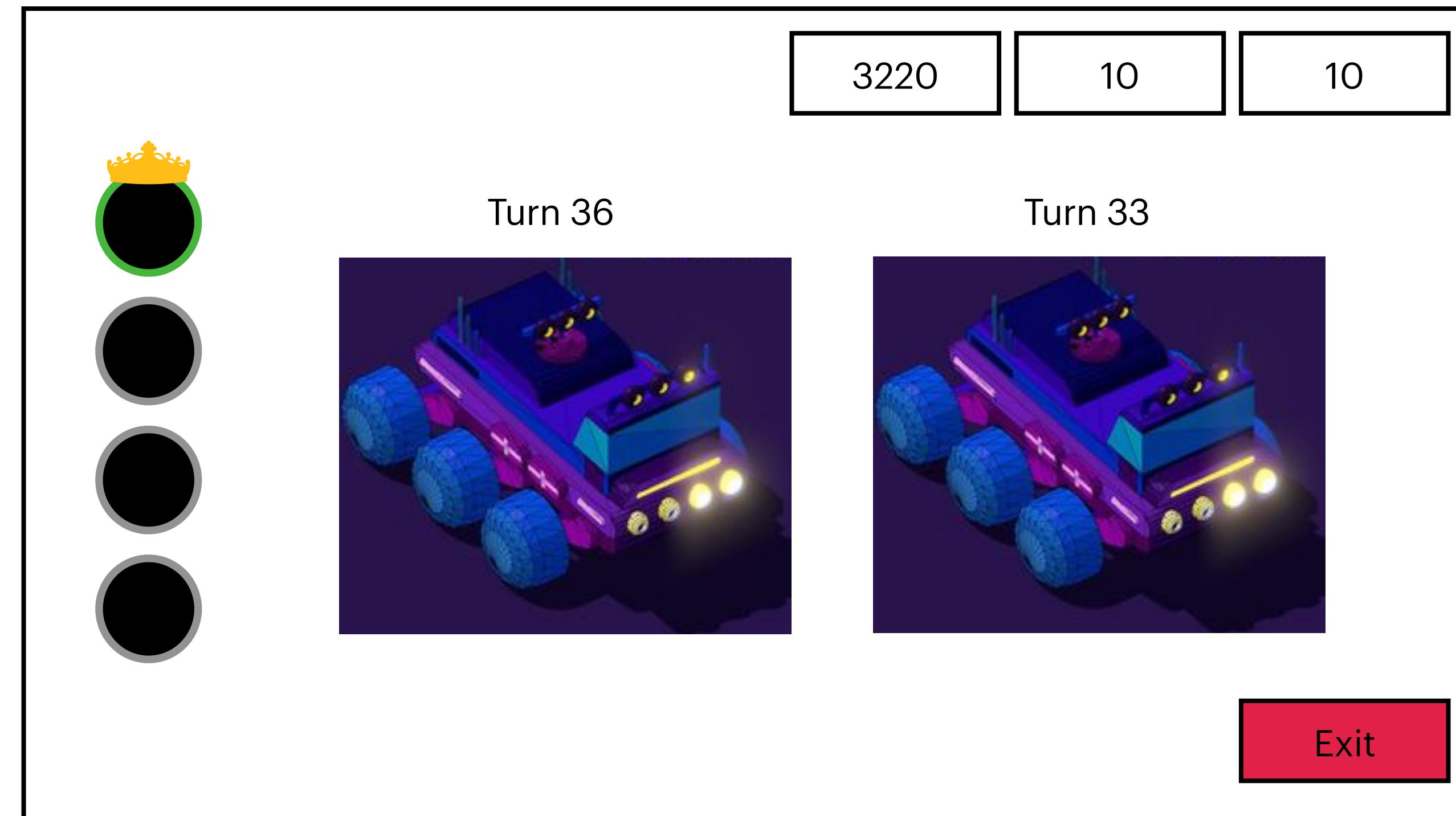
Convert to tile

Assign terrain and environment on each range of height

I didn't decide what all terrains will be yet. So, there are just land and water right now.

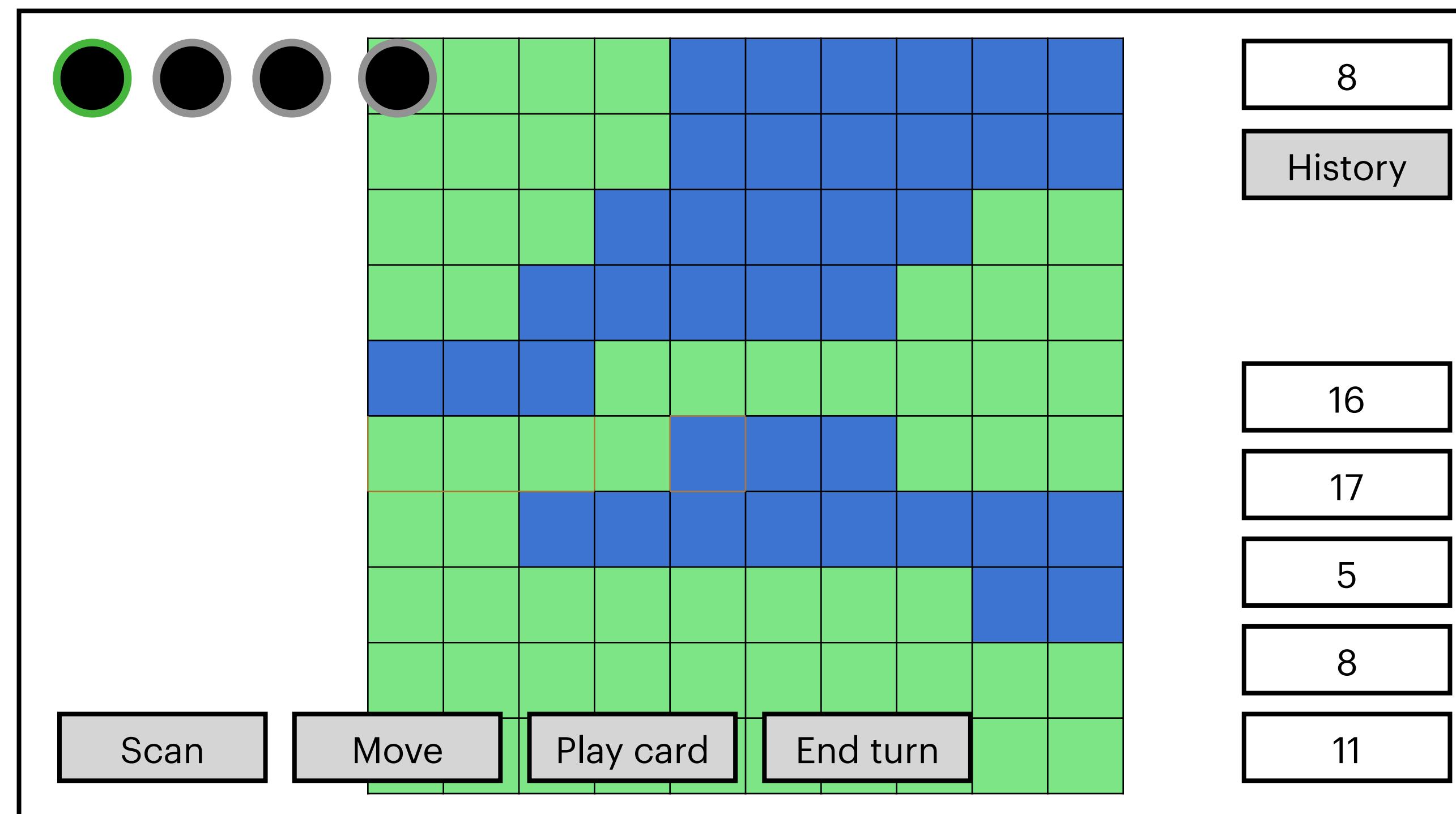
Game Social Model

Every end of a game match, the history of vehicle customization will be show. So, player can show how cool or how weird their vehicle is.



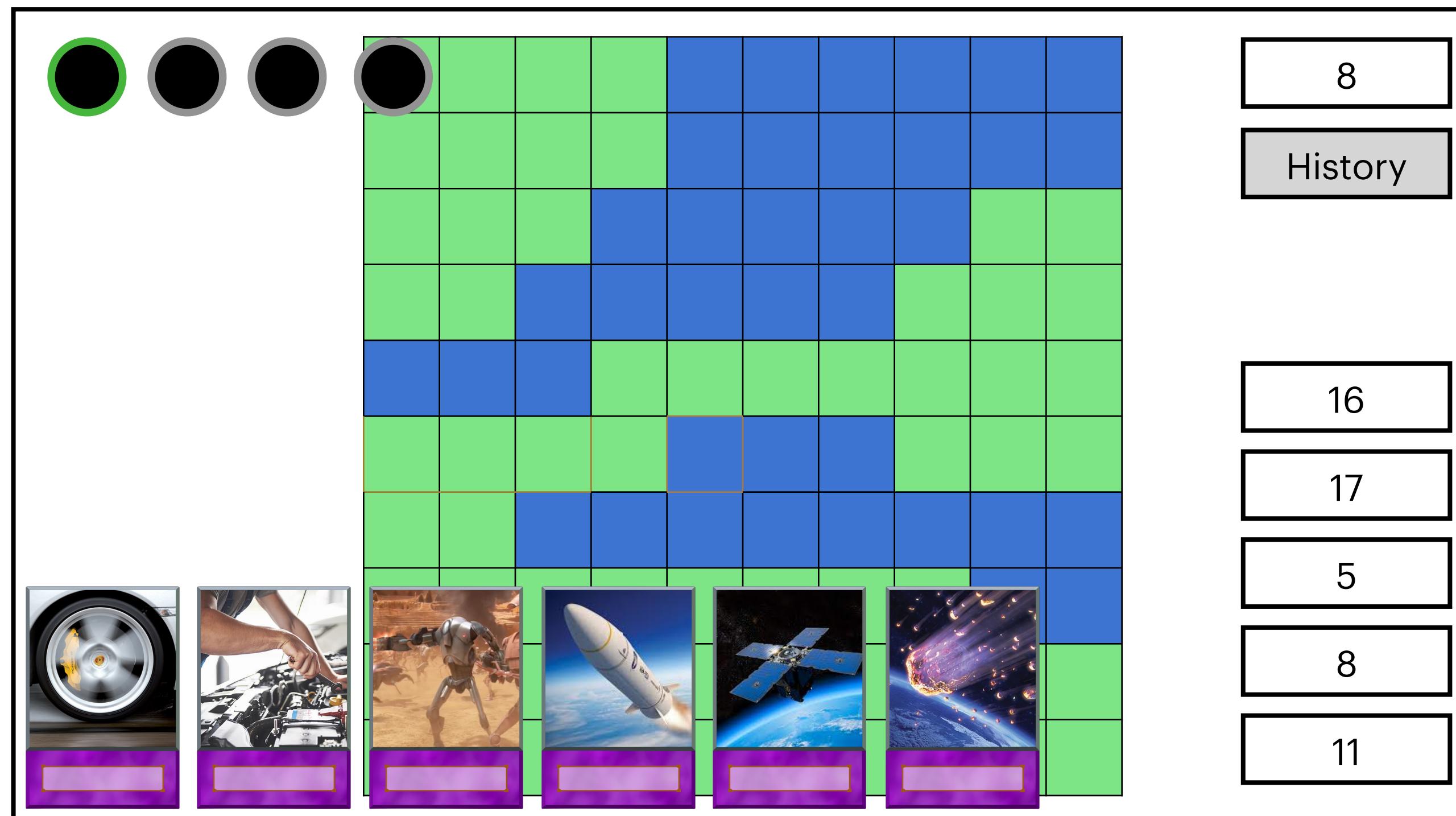
GUI Examples

1. Game GUI when select action



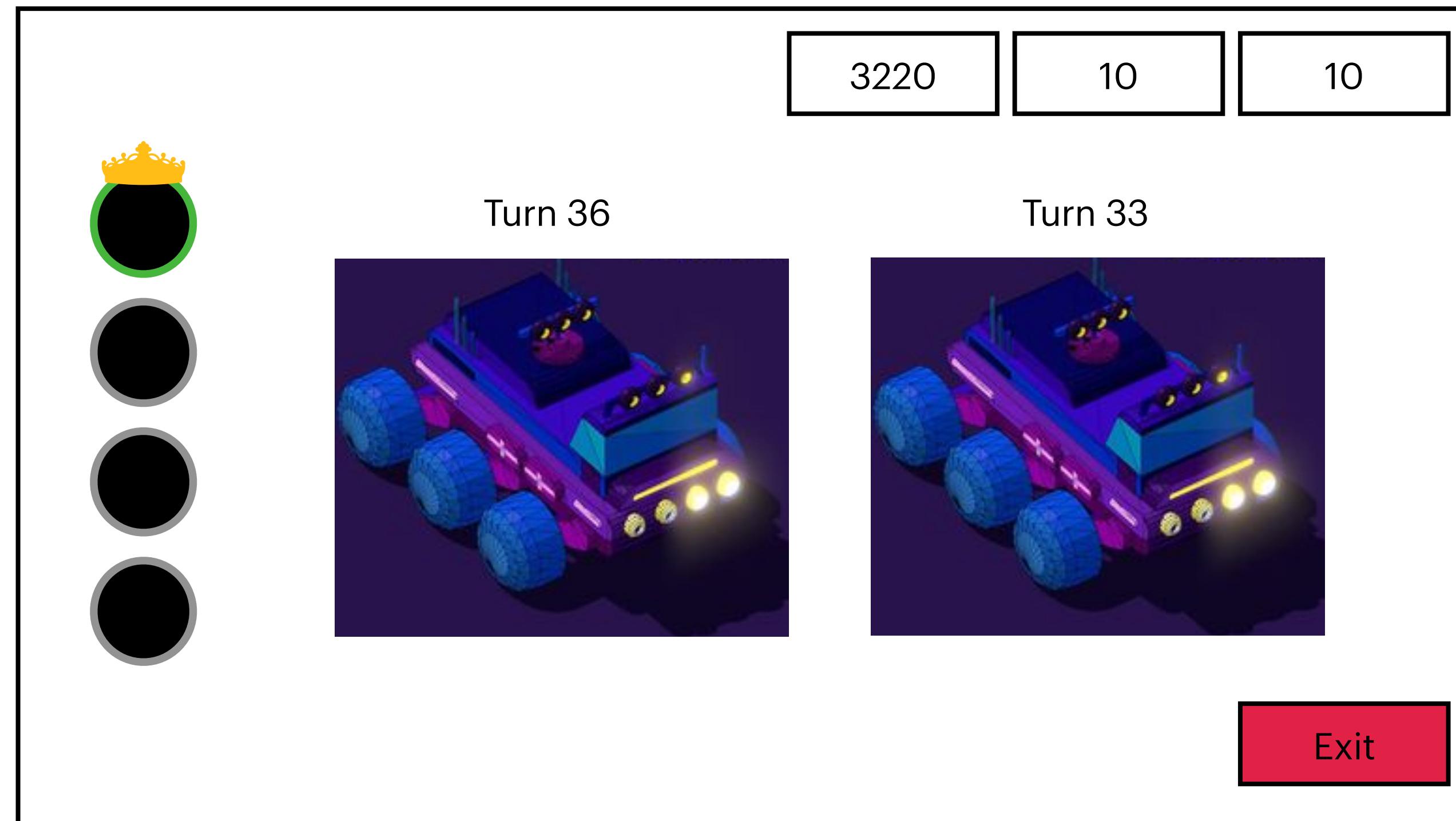
GUI Examples

2. Game when play card



GUI Examples

3. End game GUI



GUI Examples

4. Vehicle customization GUI

