Epoch of Empires

EoE User Manual

Yuheng Sun, Jingyuan Sun, Ruiyang Ji,

Lucheng Wang, Meiqing Li, Yuting Yan

2024.4.19

Team 19

Content

1. Introduction

1.1 Software Introduction

Our game is a Multiplayer Online Turn-based Strategy Game. This game allows 1-6 people to play at the exact match. At the start of the game, players must select a territory with unique attributes to build a country. Then, you must strengthen territorial power by implementing a reasonable population policy, conducting complex trade activities and adopting tactical warfare strategies. You can earn civilization points in the game by developing your territory through functions such as war, trade, and national management. You can also communicate privately with other players through the chat function. You can strategize by signing various treaties privately. Our game wants to give you more freedom. Therefore, before you enter the game, the room holder (the first player to enter the server address) can freely set certain parts of the game environment, such as setting the number of game rounds and the number of players for one game.

Our game includes various features such as trade, warfare, government management, and chat to provide a more comprehensive gaming experience. We hope these features allow you to experience the charm and fun of strategy games.

1.2 Target audience

Our game is almost suitable for everyone. We believe that even if you have never encountered similar strategic games before, you will be able to quickly understand and play our game easily. If you are an expert in strategic games or have strong logical abilities, we believe you will enjoy and feel a sense of

accomplishment through playing our game. However, to prevent addiction, we do not recommend that young children experience our game.

Our user manual perfectly caters to all players willing to experience our game. We will avoid using specific professional terminology in the process of writing the manual to increase its readability.

During the manual reading process, you can quickly navigate to the section you need to read by double-clicking the titles in the table of contents.
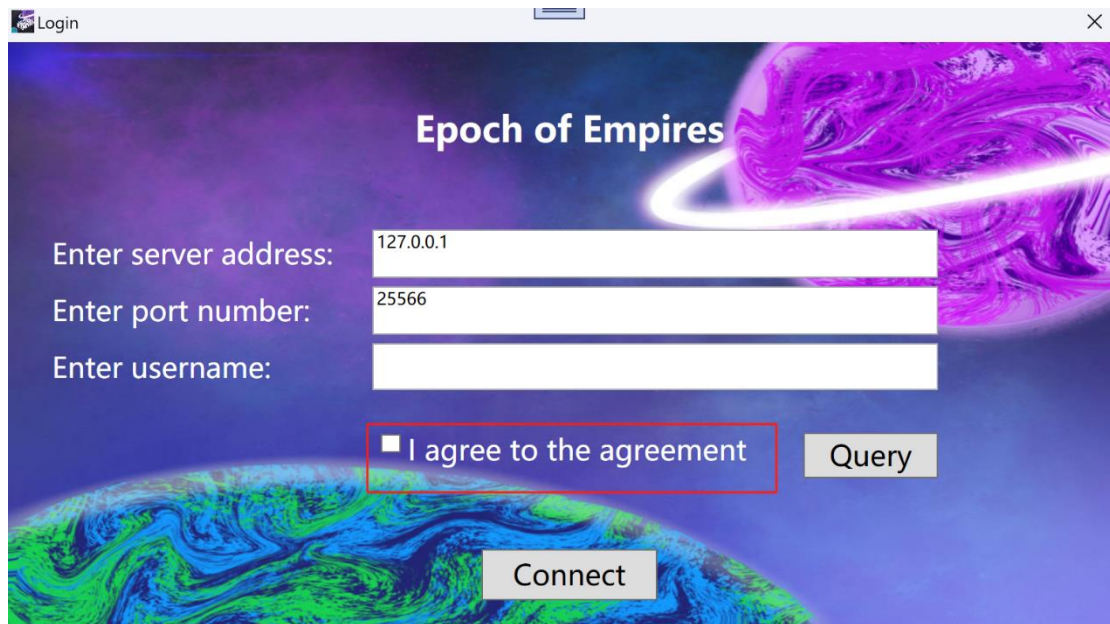
1.3 System requirements

It would help if you had a computer running a Windows system that can run .NET 8.0.

2. Getting Started

2.1 Install the game

First, you need to download our server software. You must complete the server configuration before running the server-side program. Or you can use our pre-configured servers to experience the game. See the configuration documentation for details. After confirming the server set, you can download the client program and run our game directly, then connect to the server using the IP address and port number.

2.2 Login operation


This is the first screen that appears after you launch the game ---- login window. In this interface, you need to enter the specified server address in the 'Enter server address' input fields, input the corresponding port number of the server in the 'Port Number' input fields, and enter your preferred name in 'Username' as your in-game name" input fields. It is worth noting that the server address and username are must-input fields. Otherwise, you will not be able to enter the next game interface. Although the port number is not a must-input field, if you do not input any number in the 'Port Number' input fields, it will be set to the default value of 25566. You can use the 'Query' button on the interface to view our game protocol, and you can only enter our game once you accept our game protocol. After completing all must-input fields, you can enter our game by clicking the 'connect' button. If we find that your username is the same as another player's username who already logged in when entering the game, we will provide you with a non-duplicated username.

2.3 Setup operation
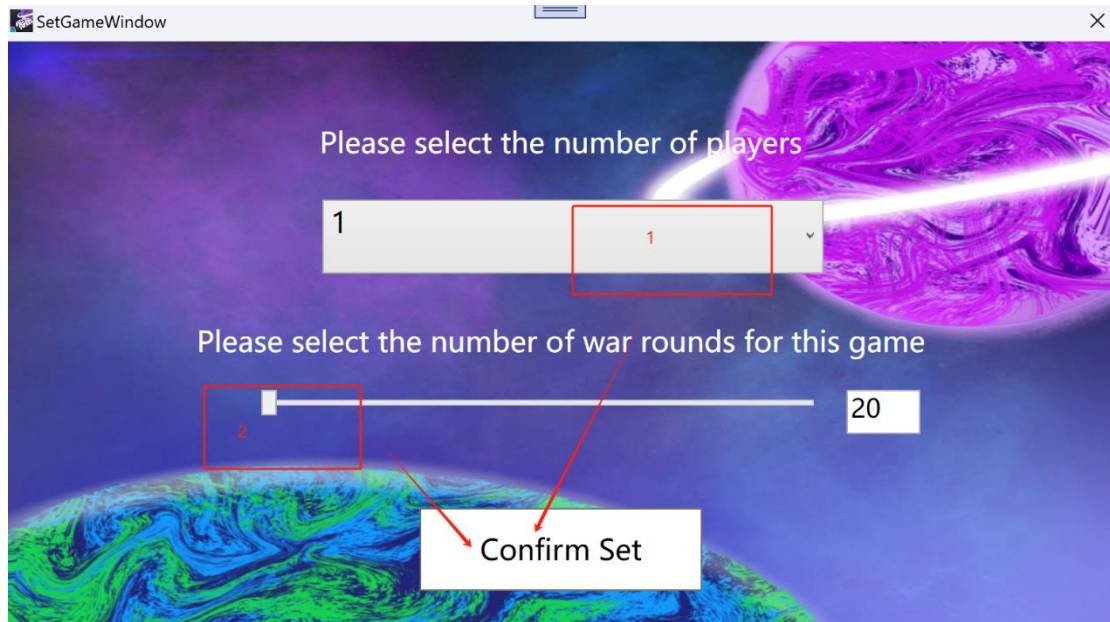
You will see the interface above if you are the first player to connect to the
server address you entered. In this interface, you will be allowed to set the
number of participants for this game and drag the slider to set the number of
rounds. After confirming your settings, you will create a room and see the
interface as shown below. Please note that once the settings are confirmed,
the room will be created, and after creating the room, the game settings
cannot be changed again.
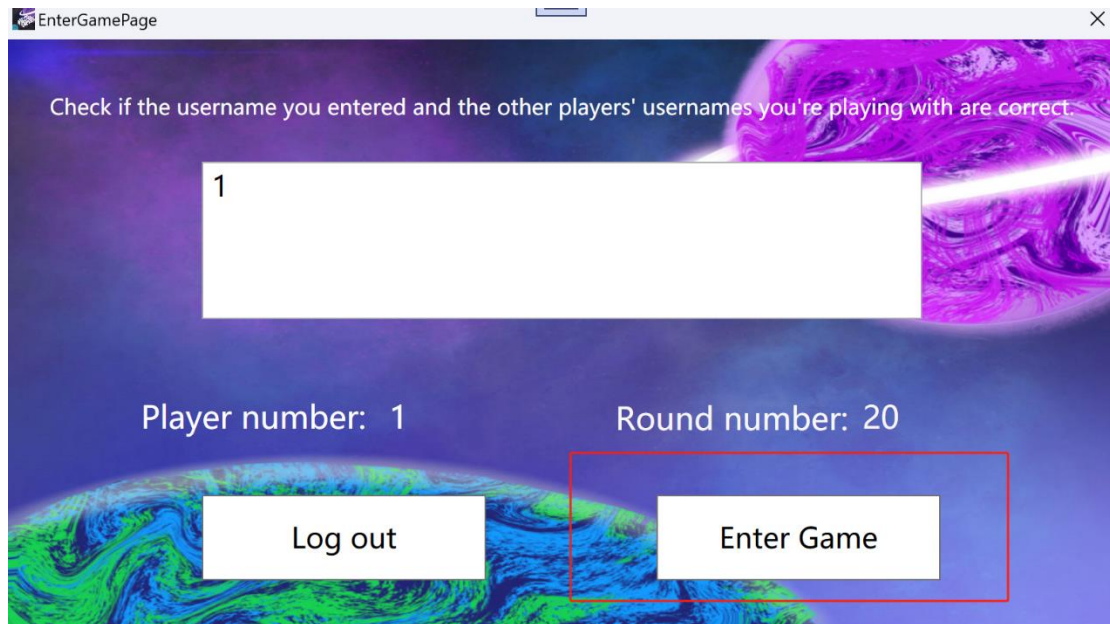
If you have already confirmed the settings of this game, or you are the person who only participates in this room, you will see the interface as shown above. In this interface, you will see the usernames of all players participating in this room and the game settings for this room. You can start the game by clicking this interface's 'Start Game' button. If you do not wish to continue the game for any reason, you can also click the 'logout' button to exit the game program. However, please note that once you exit this game, you cannot return this game.

3. Software Overview
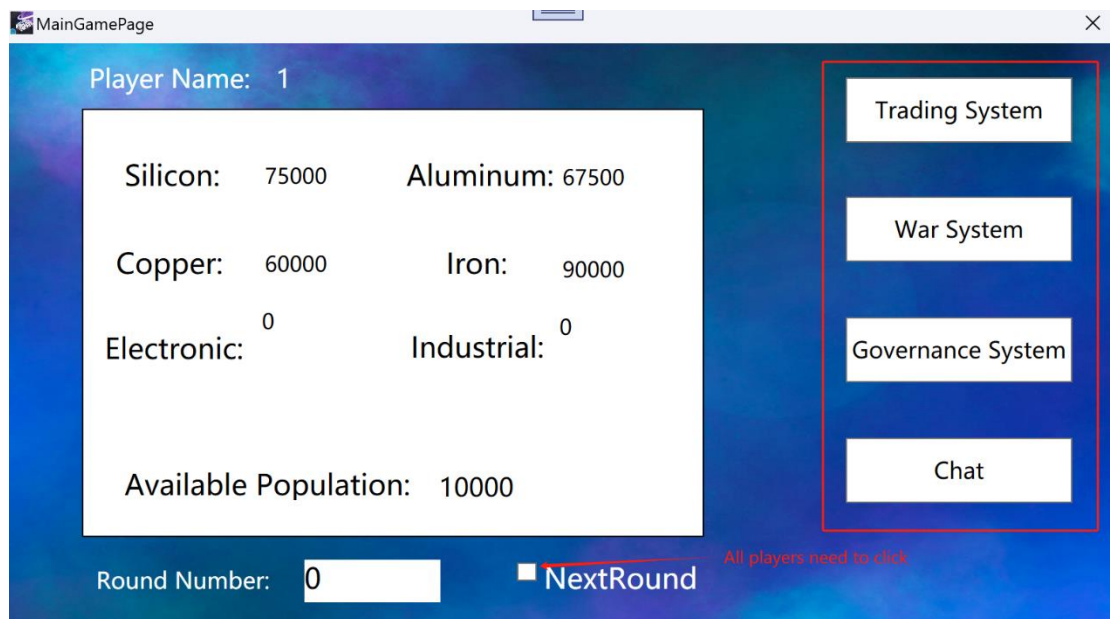
Once you enter the game, you will see the interface as shown above. This interface is our main in-game interface, called 'MainGamePage'. On the left side of this interface, there is a large display box where you can see real-time changes in the resources and population of your country. There are four buttons on the right side of this interface. Clicking these buttons will take you to the trading, war, government, or chat systems. Since sometimes the game may last for many rounds, we added a round counter at the bottom of the main interface to prevent you from making incorrect decisions due to forgetting the game duration. You can proceed to the next game round when all players have checked 'Confirm to the next round'. In real-time, we will update you on the current game round number at the round counter.

4. Features and Functions

4.1 Trade System
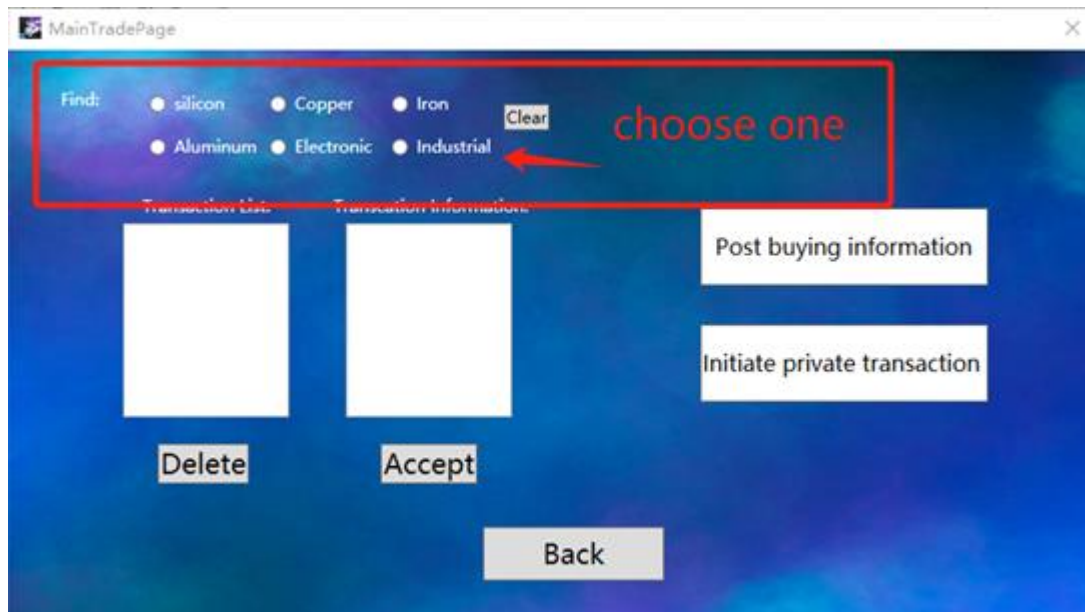
You will see a trading main interface when you enter the Trade System, as shown above. The left side of this interface shows the public purchasing requests you and other players have sent in this game. When you select a purchasing request from the Transaction List, the display box which is beside the Transaction List will show you the specific details of the selected request (Such as which player the transaction is from, which resource the player wants to purchase and what resource the player can provide). If you wish to delete the purchasing request you had posted but still need to be completed by other players, you can select the request from the Transaction List and then click the 'Delete' button to remove the transaction request from the list. If you wish to accept a request posted by other players, you can select the request from the Transaction List and then click the 'Accept' button to complete the transaction included in that purchasing request. When more purchasing requests are coming up, if you want to avoid searching requests through the Transaction List individually, you can also use the six buttons at

the top left of the page under the 'Find' button, each representing a type of resource. When you click on a button corresponding to a specific resource, the Transaction List below will display all purchasing requests for items related to the resource you selected, making it more convenient to choose a request.

The buttons for initiating trades are on the right side of the trading main interface. Our game's trading system includes two modes: The purchasing information list mentioned above and the functionality corresponding to the 'Post buying information' button on the right side belong to the public trading mode. The functionality corresponding to the 'initiate private transaction' button on the right side, along with the subsequently mentioned trade request popup, belongs to the private trading mode.

When you click the 'Posting buying information' button on the right side of the trading main interface, you will see the interface as shown in the image above. In this interface, you can input how many of those resources you need in the 'Select Buy Item and Number' input box. In the 'Select Sell Item and Number' input box, you can input the quantity of resources you can provide

to other players. After you have made your decision, click the 'Confirm' button, and your purchasing information will be published to all players in the game. In this interface, only natural numbers are valid input. After publishing the purchasing information, you will return to the trading main page.


When you click the 'initiate private transaction' button on the trading main interface, you will be taken to the 'Select trading partner and item' interface, as shown above. The functionality corresponding to 'initiate private transaction' allows you to initiate a private transaction with another player in the game. Hence, the display box on the interface's left side will show the players' names in the current game (excluding your username). After you select a player, same as above, you can how much resources you want to offer (or sell) to the other player, and you can also enter how much resources you want to obtain (or buy) from the other player. After the trade request is sent, you will be returned to the trading main interface. The player you selected to send the private trade request will see a popup on their game interface with the specific details of the trade. The player can choose whether to accept or reject the trade request, and the result of their decision will be promptly communicated back to you.

The above explains how to use the trading system and all the functions of the trading system in the game.
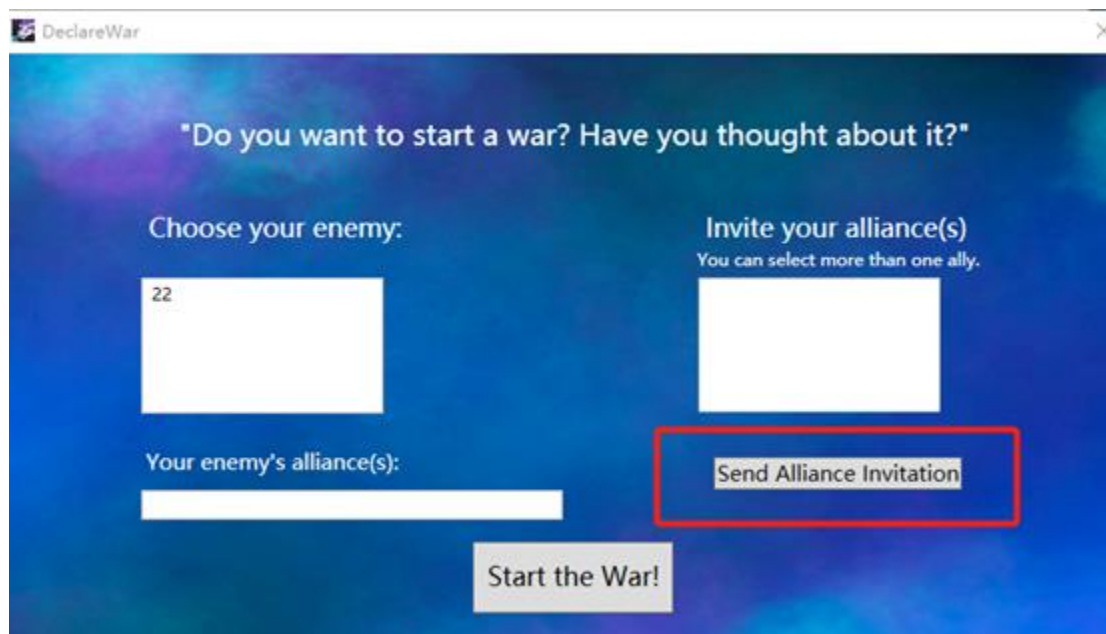
4.2 War System

When you click on the 'War System' button on the ' MainGamePage', you will be directed to the war system's main interface. In this system, you can initiate wars against other players and plunder resources.
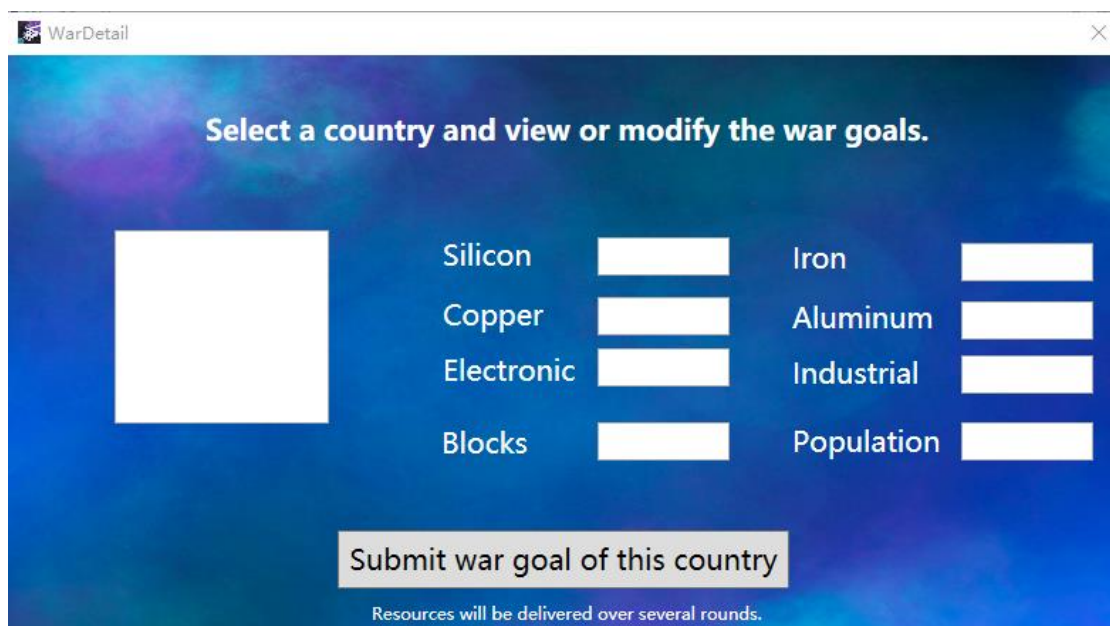
In our game, if you wish to initiate a war with other players as the aggressor, you must first select a war target during peacetime (what resources you aim to plunder from the opponent through the war). You can enter the war target selection interface by clicking on the 'All war goals' button on the main interface of the war system. The right side of this interface shows all the resources you can plunder from other player's countries in the game. You can select the target player whom you want to plunder resources in this game from the player list on the left side. After you select the player and input valid numbers of the resources you wish to plunder, you can click the 'Submit war goal of this country' button. Then, your declaration of war target will be successfully submitted. For blocks, players can only declare the quantity of the blocks. The type of blocks you may receive will be determined in the subsequent module for distributing shares among players.

After selecting your war goals, you can initiate a war with other players by clicking the 'Declare a war' button on the main interface of the war system. In the war initiation interface, you can select your enemy and alliances. If you wish to know whether there are alliances of your enemy, you can first select a player from the list on the left side of this interface, and then the alliances of

this country you had chosen will be shown on the interface. Suppose you invite other players to join your allies and participate in the war together. In that case, you can select the player you want to ally with from the list on the right side of this interface and then send an alliance invitation request. Once you have selected the enemies and allies and confirmed everything is correct, click the 'Start the War' button to initiate the war. If the war is successfully initiated, you will be automatically taken to the army resource allocation interface to allocate the army for the first round.

In this interface, you can allocate your army. You can see the current number of armies you need to allocate. Then, you can allocate troops and quantities for your next round of war as required. Please note that if the quantities of the army you input are less than the army number you need to allocate, our game will consider you have lost the ability to continue the war and will lose this war.

If neither side of the war has allocated the enough number of armies for the next round of warfare, then the current conflict will end peacefully.

If neither side of the war has allocated enough armies for the next round of warfare, then the current conflict will end peacefully. When one side surrenders, the war will end after the current round and enter the distribution phase. The distribution part will use the war statistics mentioned later and the damage inflicted by each player to determine how many blocks and resources each player will receive. For the victorious side, the more significant the war losses, the greater the share of loot they will receive, and vice versa. Based on the lower losses, we will allocate more resources to the losing side. We will use a random allocation to obtain blocks from the defeated side and then distribute them to the victorious side (the quantity distributed will also be proportional to the contribution to the war).
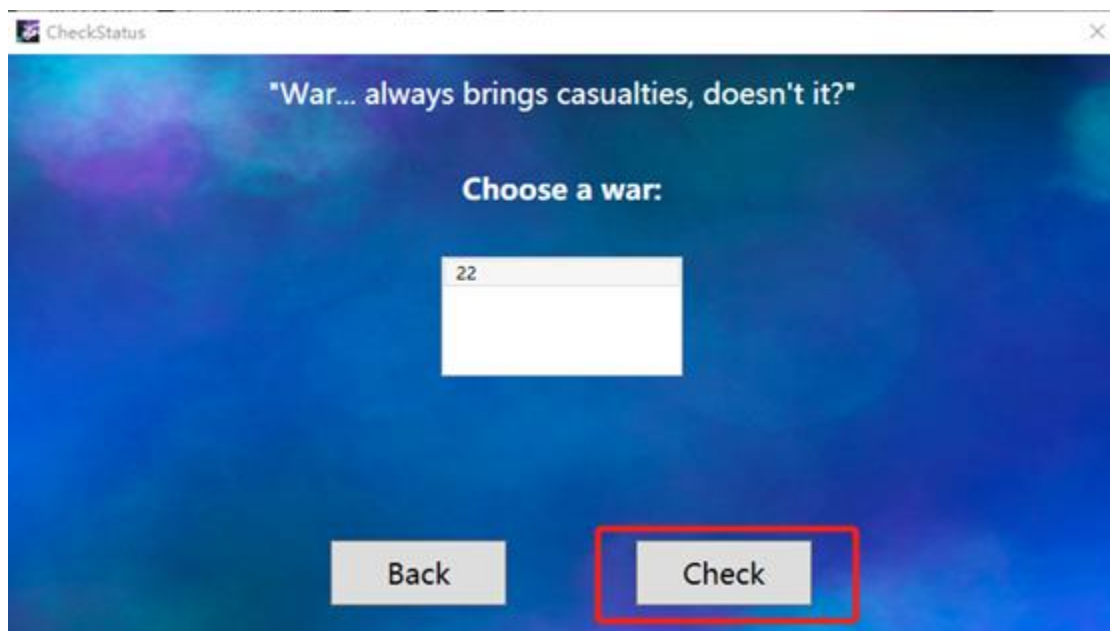
Our game allows for multilateral warfare. Thus, if you are at war with more than one player at the same time, you can click on the 'Check Status' button on the main interface of the war system to check the wars you are currently involved in. In this interface, you can select a war from the list and click the 'Check' button to enter the war information viewing interface.

This interface shows information about the specific war that you had chosen on the last interface. You can see the current number of armies and the losses suffered by both you and the enemy in the previous round of war. In this game, we will calculate casualties directly based on the armies entered by both sides, and any remaining armies will be returned to your available army at the end of each round.
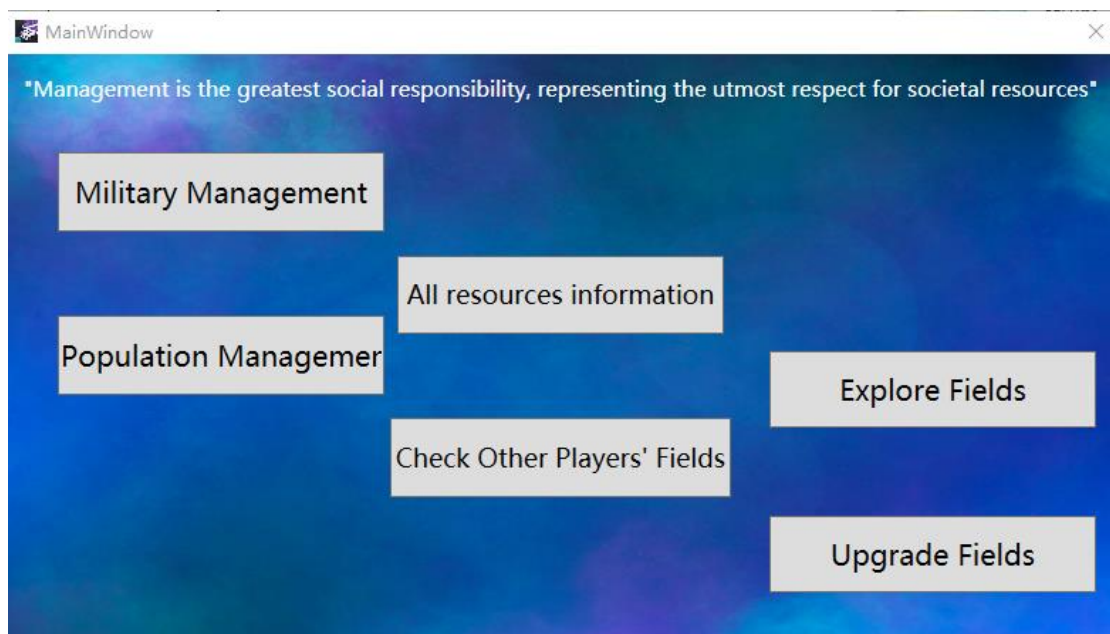
You can click on the 'Abrogate a Treaty' button on the main interface of the war system to enter the interface shown above. You can select the treaty you want to tear up in this interface. Once you tear up the protection treaty, you can initiate war against the other party in the next round.

4.3 Government System

If you click the 'Government System' button on the 'GameMainWindow', you can enter the government system and see the management main interface, as shown above. The government system includes six sub-functions: create soldiers, view your country's existing resources, explore blocks, manage the population, view block information of all players, and upgrade your fields.
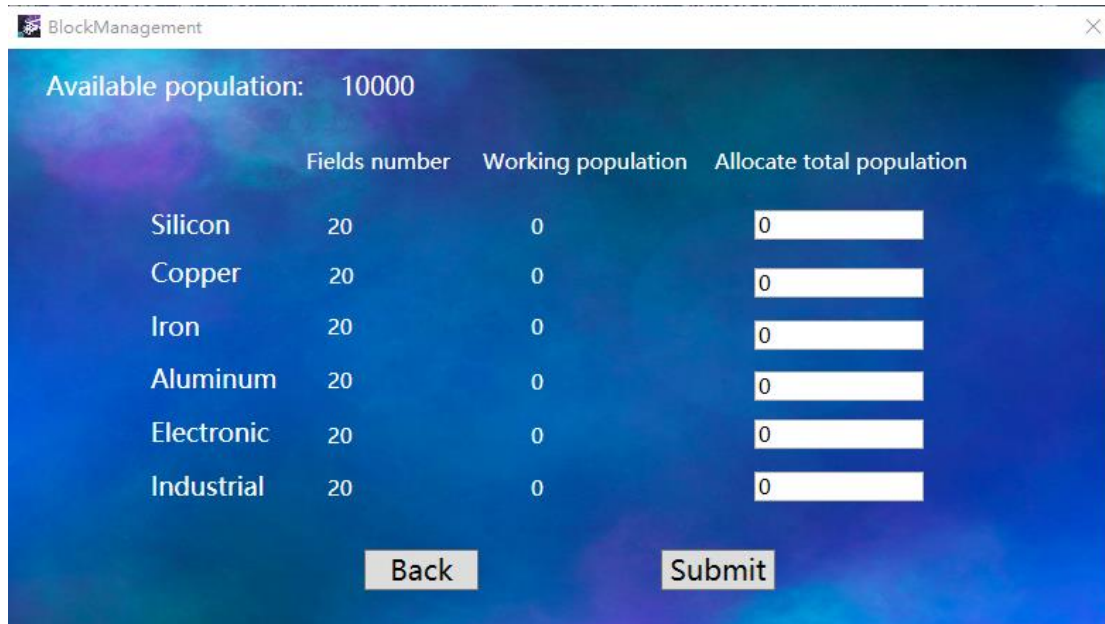
You can see the above interface after you click on the 'Military Management' button on the government system's main interface. In this interface, you can view your current army and its quantities, and then you can fill in the number of armies you wish to train according to your needs, but the number should be larger or equal to 0. Please note that training an army will use your available population or your available population and resources.

After you click on the 'All resource information' button on the main interface of the government system, you can see the interface shown above. In this

interface, you can see your country's resources, armies, and block number information.
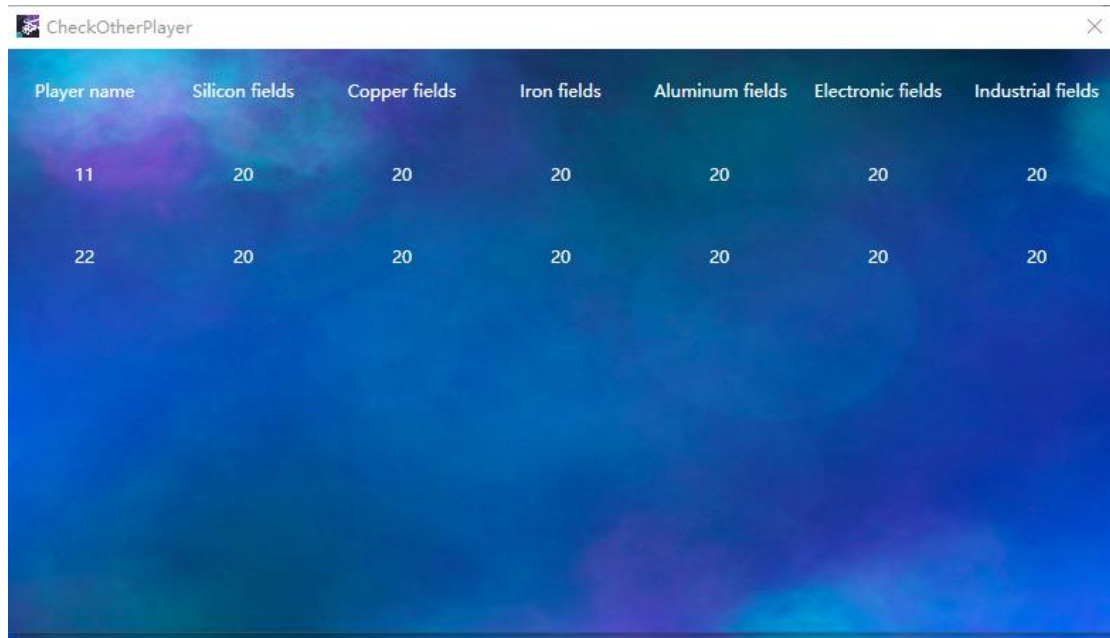

After understanding the current quantity of resources in your country, you can consider whether to continue producing a specific type of resource. You can click the 'Population Management' button on the management main interface to enter the resource management interface. In this interface, you can freely allocate your available population to resource blocks to produce corresponding resources. Since you cannot directly obtain secondary production resource blocks through block exploration, you can only obtain new secondary resource blocks by upgrading your primary resource blocks. If you want to upgrade a primary production resource block, click on the 'Upgrade Fields' button on the main interface to enter the upgrade block interface.
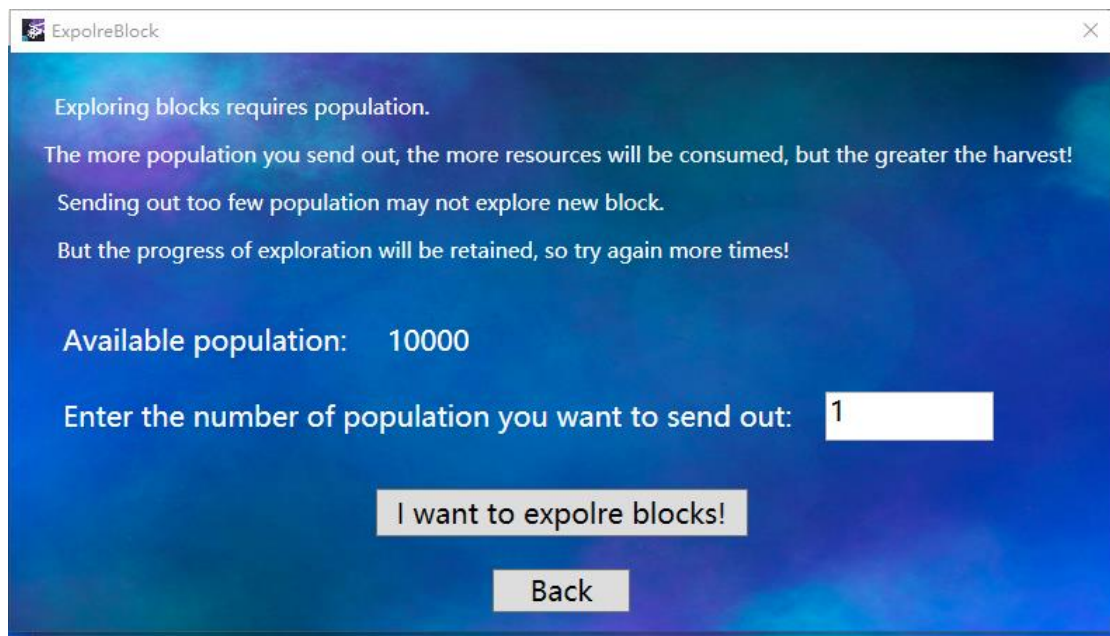
Player name	Silicon fields	Copper fields	Iron fields	Aluminum fields	Electronic fields	Industrial fields
11	20	20	20	20	20	20
22	20	20	20	20	20	20

After you click the 'Check Other Player's Fields' button on the government system's main interface, you will see the interface shown above. In this interface, you can see the current number of blocks all players own.

Exploring blocks requires population.
The more population you send out, the more resources will be consumed, but the greater the harvest!
Sending out too few population may not explore new block.
But the progress of exploration will be retained, so try again more times!

Available population: 10000

Enter the number of population you want to send out: 1

I want to expolre blocks!

Back

In our game, you can obtain primary resource blocks not only through war but also peacefully obtain them through block exploration. You can enter the resource block exploration interface if you click the 'Explore Fields' button on

the resource management main interface. In this interface, you must input how many populations you wish to dispatch to explore the resource block and then click the 'I want to explore blocks!' button. Noticing the input number must be larger or equal to 1. The block exploration resource will be returned to you in the next game round. However, if the number of new resource blocks you got from block exploration returned 0 for several rounds, it may indicate that no blocks are available for you to explore in the current game.
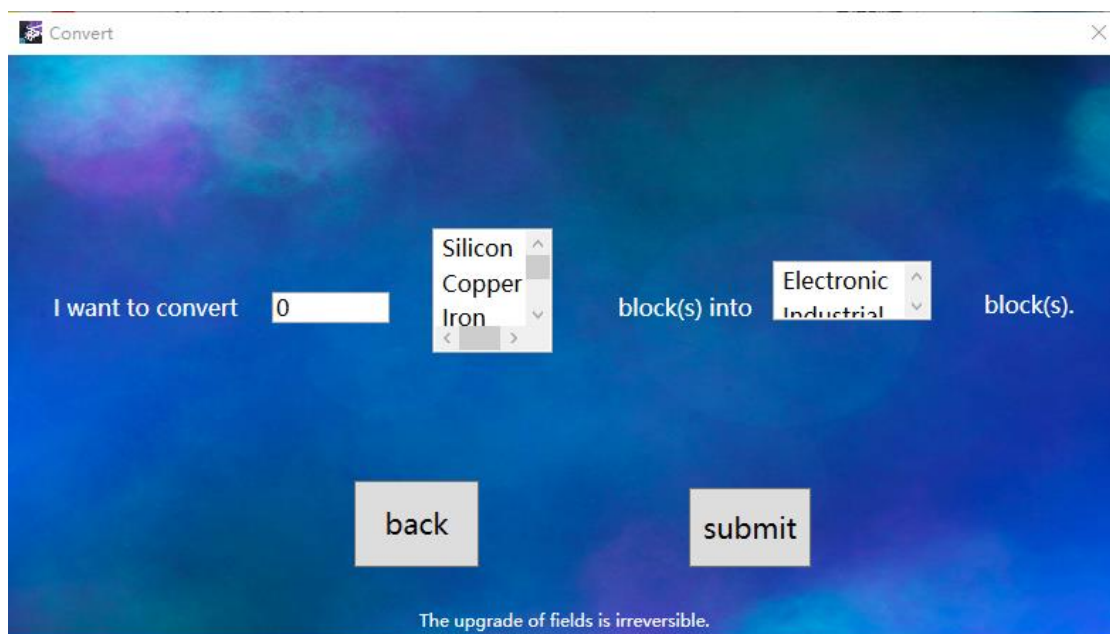
If you want to upgrade your primary resource block into secondary resource blocks, you can click on the 'Upgrade Fields' button on the management main interface and see the interface shown above. In this interface, you can input the number of blocks you want to upgrade to a secondary resource block in the text box, and then you can choose which primary resource block you want to upgrade to a secondary resource block. Please note that one primary production block can only be upgraded into one secondary resource block, and the secondary resource block cannot be transferred back to primary resource blocks. Additionally, primary resource blocks cannot be converted to other primary resource blocks, and secondary resource blocks cannot be

converted to other secondary resource blocks. Also noticing that only natural number is valid input.

4.4 Chat System
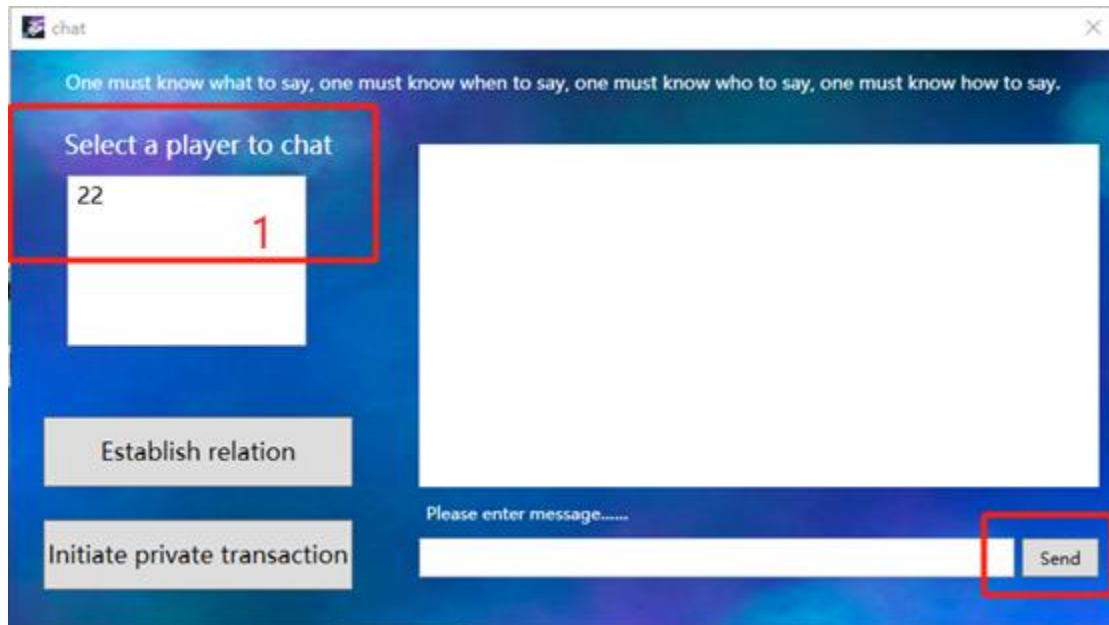
When you click the 'Chat System' button on the 'GameMainWindow' interface, you can enter the main interface of the chat system. The player list is on the left side of the main chat interface, where you can select the player to make a conversation. Once you have selected the player, the messages between you and the selected player will be shown on the right side. After entering text in the input box and clicking 'send', your input text will be sent to the specific player.

In the main chat interface, you can sign a treaty with the selected player by clicking the 'Establish relation' button. After clicking this button, you will see three types of treaties on the left side of the interface, including two unilateral protection treaties and one common protection treaty. You can only choose one of the three treaties. If you need more clarification about the details of each treaty, you can click the 'View' button below to view the introduction of the treaty. On the right side of the interface, if you are the player who needs protection from other players, you can choose to send some resources to the player you have selected to increase the probability of the other players agreeing to the treaty. If you are the player who protecting other players, you can choose to receive some resources from other players to provide protection. After you submit the treaty, the player who you selected will receive your request and decide whether to accept the treaty.

Protective Treaty

1. When the protected party is declared war upon, the protecting party automatically becomes its ally and joins the war.

2. When the protecting country is declared war upon, the protected country does not automatically become ally.

3. The protected country can offer resources in exchange for protection.

4. It should be noted that if both players simultaneously issue the same type of independent treaty and both agree, it will automatically transform into a common defense treaty.

Common Defense Treaty

1. In a common defense treaty, regardless of which party is declared war upon, the other party unconditionally becomes an ally and joins the war.

2. No resources need to be provided.

This interface is our treaty introduction, and this explanation can help you quickly understand those treaties. We remind you that when the protected player cannot provide enough resources to maintain the protection treaty, it will automatically become invalid. When both players sign unilateral protection treaties for each other's countries, the treaties between the two players will automatically upgrade to common protection treaties; then, no resources will be required to maintain the treaties.

5. Troubleshooting

1.   If your country has no resources or population available before the end of the game, you will be forced to end the game. If you want to continue experiencing this game, you can start a new game.

2.   If you are disconnected from the server during the game, we are sorry that you may be unable to return to the current game. We will consider you to have surrendered and lost the game.

3. If you have feedback on our game, please email us. We sincerely appreciate the valuable feedback you provide.

6. Glossary

6.1 Blocks

The blocks are places where resources are produced. Allocating the population to the blocks can increase the resources.

6.2 Primary resource

Primary resources are produced from primary resource blocks. Primary resources are mainly responsible for sustaining population survival consumption and are consumed as war targets.

6.3 Secondary resource

Secondary resources are produced from secondary resource blocks, consumed as resources for producing armies.

6.4 Army

	Value	Mechanized attack power	Mechanized defense capability	Battle attack power
Battle army	1	0	0	1
Informative army	5	1	2	0
Mechanism army	6	2	1	0

Battle Army is affordable to produce and can create stable damage in war.

Information Army is primarily used to defend against attacks from Mechanism Army, and can also create some mechanized attack power. However, the production cost of Information Army is relatively high, and sometimes they cannot make stable damage in war.

Mechanism Army is expensive to produce but can make the highest attack power. However, they will be constrained by Information Army in the war.

Therefore, you need to allocate the quantity of those three types of armies wisely to maximize the damage your army inflicts and minimizing the damage you receive. If you invite other players to participate as allies in the war, we really recommend you to communicate with our teammates.

6.5 Warfare statistics

In our warfare, the Informative defense provided by both sides' Informative Armies neutralizes the mechanized attack power of the enemy. As for the remaining mechanized attack power, our setup is as follows (All of our attack power will be converted into battle attack power for calculation.):

One Mechanism Army can be converted into six points of battle attack power. Two points of battle attack power can eliminate one Battle Army or one Informative Army, and six points of battle attack power can eliminate one Mechanism Army.

In our game, we stipulate that the Battle Army absorbs 68% of the attack power, the Informative Army absorbs 21%, and the Mechanism Army absorbs 11%. When insufficient remaining armies exist, the attack power will be transferred from the Battle Army to the Informative Army and from the Informative Army to the Mechanism Army. If the Mechanism Army are still

insufficient to absorb all the attack power, then any excess attack power will not be adequate again.

6.6 Unilateral protection treaty

A unilateral protection treaty refers to the unilateral protection treaty you send to other players. If you have signed a protection treaty with another player, then when the player you selected is in a war with other players, you will participate in the war as an ally. If you have signed a protected treaty with another player, when you engage in a war with other players, the player with whom you signed the treaty will participate as an ally to protect you.

6.7 Common protection treaty

The Common Protection Treaty refers to an agreement that you need to protect and receive protection from the player with whom you signed the treaty. When you or the player with whom you signed the Treaty are in a state of war, both of you will participate in the war as allies.

6.8 Random events

In order to add some fun and challenge to the game, our game makes a partially open random event system for players. We will store some random events in the system that may affect various aspects of your armies, block production, or affect the population. You will receive random events through a popup window.

7. Index