**1.Outline design**

**1.1 Game name:** World Conquest

**1.2 Background overview:** the World conquest is a strategy board game, players strive for global domination by capturing domain and establishing foreign policy.

**1.3 Genre:** board game

**1.4 Selling points:**

1.4.1 configuration requirements: common operating systems can be supported, like Windows,macOS. Besides, the board games mainly rely on relatively simple graphical interface and fundamental user interaction.

1.4.2 interaction: this platform offers real-time translation services to facilitate the communication among individuals from diverse countries, thereby promoting the efficient within the game experience.

1.4.3 upload the initial data: in the game, there is a variety of cards and chess pieces that require management, which can be directly downloaded from the external files when the game is launched. It means that the game has a remarkable customization.

**1.5 Target audience:**

**1.6 Hardware requirements:**

* In general, it is appropriate for desktop computer. Ideally, it should be playable on PC.
* But there is no plan for portable version at this stage

**2.Operating environment:**

**2.1 development engine:** unity

**2.2 development language:** C#

**3.game mechanism:**

**3.1 background:** is a strategic map, displaying different areas and the outlines of lands and seas. Typically, regions are easily distinguishable due to the clarity of their boundaries and the use of brightness colors.

**3.2 prepare:**

3.2.1 map generate: load the game map, ensuring that there are 6 continents that the user can choose, including the classical map, Eurasia and some fantasy maps set according to the plot. And each continents have several countries.

3.2.2 player order: roll the dice, the order according to the size of the number of dice points, and the larger number of points is preferred.

3.2.3 color select: players should choose a color to represent their territories. For example, red, blue, yellow, green, black and white. The boundary between different territories should be legible by using distinct color to represent differences between military and regions, making players comprehend the whole world.

3.2.4 card distribution: count out the armies depending on the number of players.

* each player counts out 40 infantry if there are 2 players
* each player counts out 35 infantry if there are 3 players
* each player counts out 30 infantry if there are 4 players
* each player counts out 25 infantry if there are 5 players
* each player counts out 20 infantry if there are 6 players

3.2.5 select module: each player select a starting area as their headquarter at the beginning of the game and acquire a given resources and forces.

3.2.6 player state check: make sure all the players are already finished the preparation stage and can enter the next stage.

**3.3 proceed:**

turn: players experience conscription, occupation, and war sequentially

* conscription: at the every turn beginning, count the number of territories that the players capture and then divide by three. The result is the number of the armies that the players can deploy in the next turn
* attack: the armies divide into three categories, infantry, cavalry (worth 5 infantry) and artillery (worth 10 infantry or 2 cavalry). The infantry with a gun in hand and cavalry on horseback. Players can use these armies to attack and choose those lands with a high chance of winning in terms of adjacent territory
* cards reward: the cards divide into four types. The first three type is a territory with a infancy, cavalry or artillery. The rest of one is a “wild” card with all three armies but no territory. Players can get a card if they successful occupy a territory. When players gain three cards of same armies type or three cards of random armies type or two random armies cards and one wild card, they can get some of troops in the next turn.
* territorial expansion: if the players win in this round, they can acquire the territories of opponents. But there is a certain armies that need to remain in the conquered territory
* fortification: players can deploy their armies to place on captured territory. Move the armies to the front and fortify territories that border enemy territories are the good strategy to strengthen their defenses or prepare for the next attack.

**3.4 finish:**

3.4.1 victory: when the players conquer all the territories or has the maximum number of territories at a particular round wins, a visual window will overlay the current screen, displaying the victory message

3.4.2 end: declare the winner of the turn

**4.Interface design:**

**4.1 main menus:** design a brief and concise menu, encompassing options of single player, multiplayer, load and setting, ensuring players can easily locate the requisite features.

4.1.1 new game:

* single player: when the user clicks the button, the loading screen will appear first and the page jumps to the single player interface. And then the user can play with AI, which can divides into 4 levels, easy, beginner, intermediate and advanced. On the lower levels, the AI may do more random behavior, while on higher levels, the AI may be more intelligent and strategic. In terms of the reaction time of AI, it can adjust according to the complexity and players expectation. A timeout handling mechanism can be implemented if AI can not make decision within the prescriptive time, such as randomly selecting a acquiesce behavior or skipping the turn
* multiplayer: when the user click the button, the players can choose to play with friends or match players online. In room-based multiplayer, one player create a game room and limit the number of people in the room. The other players can access to the room through the list of rooms or an invitation link in the game interface. The game starts when the number of players in the room reaches a preset minimum number. When the game reaches the end condition, the game result will be settled, and the rewards will be distributed or ranked

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4.1.2 load: players can revert to a previously saved state at any time whenever necessary, without having to start the game from scratch

4.1.3 language: the user can choose their first language or familiar one

4.1.4 settings: the user can see several options that enable players to adjust volume, background sound effects and other specific selections when they enter the settings interface. It is aimed at accommodating different player preferences. The following is an introduction of these buttons

* music options (BGM volume): the user can adjust the volume of music
* sound options (SE volume): the user can adjust the sound of a mouse click button
* display type: there are two choices, including windowed and full-screen and it is related to resolution. By default, it adapts automatically with the user's computer
* news: it is a chat interface between users and other players when they are playing the game

**4.2 game menus:**

4.2.1 pause: players can click the pause button and pause game while it is in progress. And the pause screen will appear, including options of restart, continue and return to the main menu

restart: players can quit their current game and begin a new round.

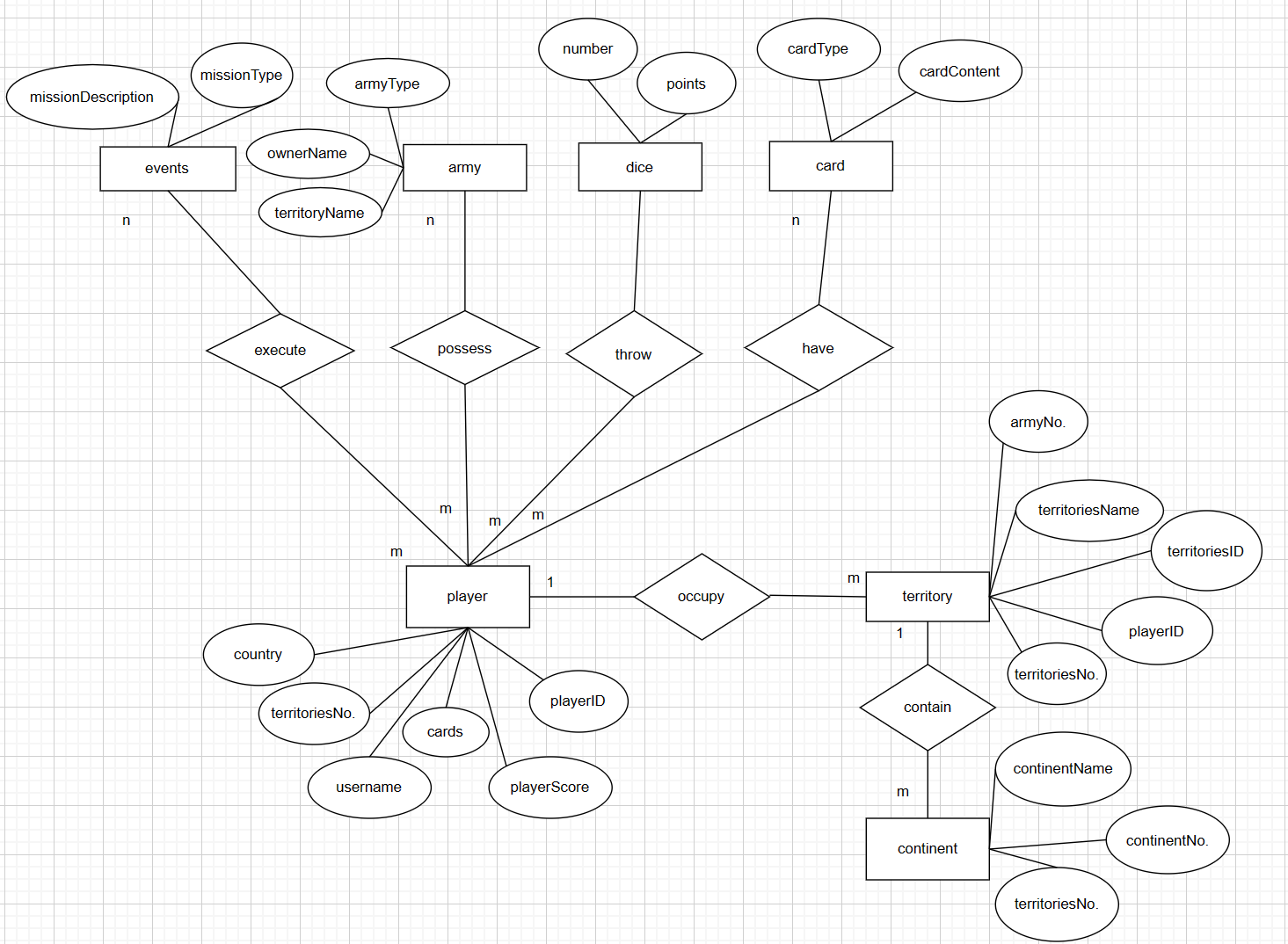
continue: players can return to the game interface where they recently engaged in the game

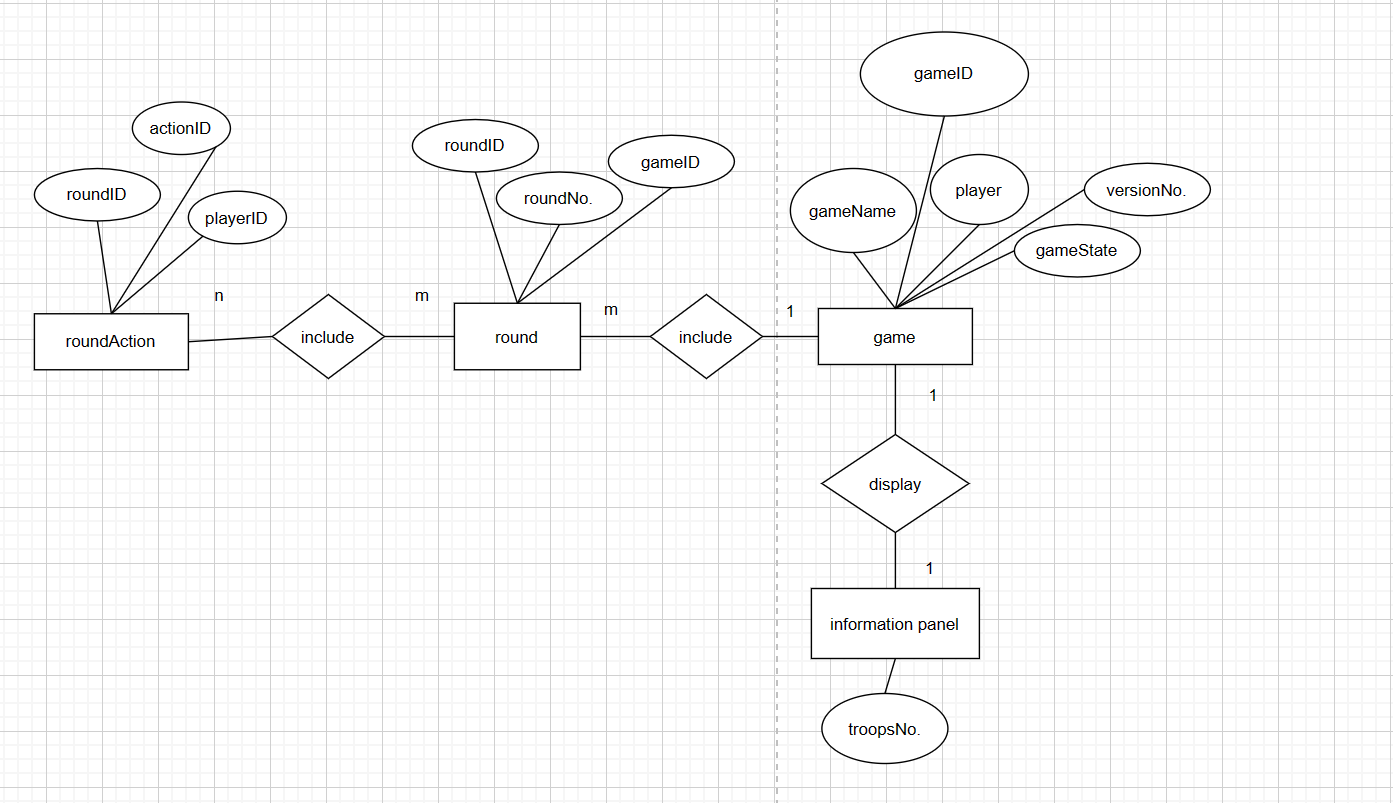
return: when players click this button, they can return to the main menu and quit the current round

4.2.2 settings: players can adjust the volume of music and sound, and the window size of game

4.2.3 save: save the current game progress of users for later resumption

**5.data design:**





**6.Art and Video:**

**6.1 Art style:** it should correspond to the art style of the game to create a unitive visual experience. Infuse the gaming environment with vibrant realism, employing intricate animations and layered backgrounds to create a visually attractive and immersive experience.

**6.2 Animation:** utilize moderate animations and transitions to enhance the interactivity and engagement of the interface

**7.Sound and Music:**

In disparate environment and emotional states, the audio effects and sounds varies accordingly. As an illustration, when users engage in stimulating and activating tasks, the music should be excitable. Similarly, if the players are going to achieve victory and get the prize, the sound effects will show the music with a dense drumbeat. Besides, architect compelling combat interfaces and animated effects to elevate the visual attraction of the game and emphasize the animated effects of occupation and occupied troops. Animation of territory occupation and army movement are also essential for the game and players. This can encourage the players realize the significance of their own regions. In addition, instances of mournful scenes are recommended to have a musical accompaniment featuring the violoncello, which can contribute to the profound sense of irritation. On the contrary, scenes portraying positive emotion should accompany with a brisk music.

**8.Risk:**

There are a number of uncertainties that arise when executing the commands in this document. The following is an introduction of the risks when developing a software.

**8.1.1 technology risk:** network communication delays have negatively impact on the experience of the game, especially in terms of multiplayer. When a player attacks, other players may not be able to see this action in time, resulting in inconsistent game status, affecting the smoothness and fairness of the game. On the server side, game logic and network communication conduct should be prioritized to minimize response time.

**8.1.2 people risk:** there are two situation, the first is the cooperation and communication between individuals. For example, some of people absent from a routine meeting or seminar or they quit, which lead to staff turnover. In this case, the group members need to organize meetings regularly and document sharing in order to communicate in a timely manner and examine the challenges that emerge. The next is about the health problem of group members. To prevent delays in project caused by employee illness, each employee needs to understand the responsibilities of other team members.

**8.1.3 requirement risks:** changing requirements for game features and design can lead to duplication of development tasks, delayed progress, and other issues. The group can adopt agile development method and divide the whole project into several small goals or tasks.

**8.1.4 security risk:** it involves personal information and data of players. Therefore, the system need to encrypted storage and transmission those sensitive data to ensure the integrality and restrict access to systems and data.

**8.1.6 estimation risks:** inaccurate time estimates led to project delays, for example, the UI designer didn't finish the drawing or the design documentation lacks of clarity and logic. It should be regular meetings to share progress and adjust plans.