

Computer Games Laboratory

Custodian by Qoogle

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1 Formal Game Proposal

1.1 Game Description

1.1.1 Genre and Inspirations

The Custodian is a Roguelike deck-building and strategy game, where every character has a set of cards which are used either during the combat or for character development. It mostly adheres to the "[Berlin Interpretation](#)", which was developed in 2008, which identifies eight key criteria for defining roguelike video games.

We have designed a new concept deriving from this genre which implements something in between Real Time Strategy and Turn Based Strategy games by introducing certain rules that can help you feel the swiftness of an RTS and give you enough time to plan your subsequent movement like in a TBS.

We were mostly inspired by the video game Slay the Spire that cemented the genre's popularity. Some other similar games from this genre are Book of Demons, Banners of Ruin, Inscryption.

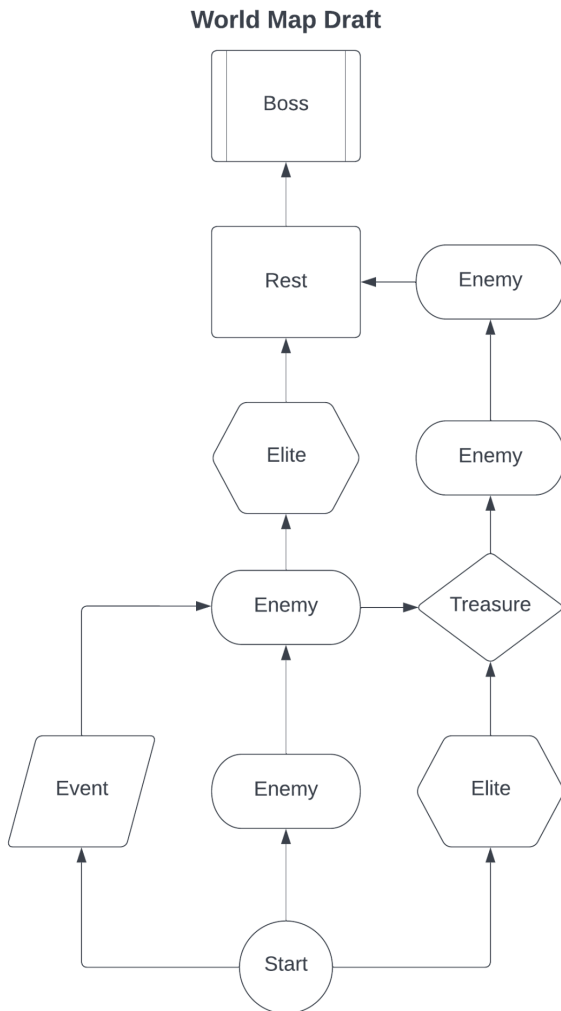
1.1.2 Background Story

In the not-too-distant future, avaricious corporations funded terrorists to create a large number of robots to govern and enslave them as a cheap labor force. The robots went berserk and began to assault the rest of humanity while the terrorists reveled in their newfound riches and resources on the already polluted and devastated Earth.

A new robot called The Custodian was developed by a small but incredibly talented team of TUM engineers called Qoogle, to guard the people, discover and put an end to the real reason behind the incident.

The day the custodian came to life is the day the berserk robots mount one of their biggest assaults. There is much to overcome...

1.1.3 World Map



The world map shows the overall layout. There are multiple different levels with different functions and challenges. These levels are the start, event, enemy, elite, treasure, rest and boss levels.

Although the names of each level are descriptive of the content in them, each level is discussed in detail in the next session

In order to advance to the next level, the player needs to click on the level that the player wants to go. This can only be done after completing the objectives in the current level.

To enhance the gameplay and replayability, the world map offers multiple paths that the player can follow. Depending on the build and goal of the player, this may offer greater flexibility and a strategic depth.

If the player opts out to skip elite enemies, it might be useful in the moment as it reduces the difficulty and speeds up the level completion. However, this might lead to a more difficult encounter with the boss as the player will also miss the upgrades that could be accessed by defeating the elite enemies and the treasures they protect.

1.1.4 Levels

As mentioned earlier, there are seven levels. First of these is the start level. This is where the player does the initial configuration and gets ready for the game. The initial configuration includes things like our custodian learning initial movement, attack and duplication skills.,

The event level can be considered a mystery level. There are multiple events that can happen and these include content from existing levels such as the remaining five (excluding the boss level). Great rewards await our custodian if it can overcome the challenges that awaits it.

The enemy levels consist of one or more enemies that block the path of our custodian in its search to end the threat and save humanity. These enemies get more advanced as our custodian progresses throughout the game. So, our custodian will need everything (augmentations and new skills) it can use to defeat such enemies.

The elite enemy levels are similar in nature to the regular enemy levels but this time the enemies are more powerful and dangerous. However, the rewards they give are equal in nature to their toughness.

The treasure levels are usually protected by elite or event levels that come before them. Although they will usually contain very useful rewards, getting to them is not without its dangers.

The rest levels are usually located before important encounters such as a boss level or other challenging levels. These levels give the player a chance to strategize and change some of our custodians configuration in order to be better prepared for the next challenge.

The boss level is the ultimate challenge that our custodian needs to face to once and for all end the threat against humanity's future. In order to succeed, the player will need to utilize all of the power acquired throughout our custodian's journey. However, this is not enough as the player will also need to strategize well enough to have the chance to defeat its final enemy.

1.1.5 Cards

Cards are the core feature of the gameplay. That is why we have designed each card with a specific property in order to make the experience fun and thrilling. Each card has the following characteristics:

- Style
 - Name
 - Picture
 - Description
 - Backstory (sometimes may include a joke or some easter eggs)
- Range
 - Assault range of a sector
- Speed
 - After how much time the card is activated
- Energy Expenditure
 - How much energy the card uses from the custodian's energy bar
- Type
 - Action
 - Buff
 - Range
 - Melee
- Rarity
 - Basic (Given during the tutorial)
 - Common
 - Rare
 - Epic
 - Legendary

The card will have a front face and a back face. We will design predefined icons whose effects can be understood intuitively and recognized easily. These are shown on the front face. And on the back face of the card, you can expand and read about every part of the card in detail. The level of the card will be illustrated with a color. These colors are no color for basic cards, gray for common cards, blue for rare cards, purple for epic cards and lastly orange for legendary cards. Legendary cards are unique in the sense that they might not necessarily conform to the outline given above. They might have additional feature or completely neglect other features such as energy cost.



Figure 1: Draft illustration of the cards

1.1.6 Battle Levels

Battle level is a kind of level in the world map where the custodian may fight with some enemies on a grid map. Besides the custodian and enemies on the map, there might be some obstacles or other objects which are interactable.

In the beginning of a battle level, the player will draw a number of cards from his deck to. Once a card is played and activated after a while, it will be placed in the discarded cards pile and is only reusable when the draw pile is empty. When the draw pile has no additional cards, the discard pile becomes the draw pile.

The combat system in our game is a hybrid of the Real Time Strategy and Turn Based Strategy games. In contrast to a regular RST game, the continuous time is divided into a predefined time step each of which lasts a certain amount in real life such as a quarter of a second. All of the actions are triggered at a certain time unit.

Time keeps flowing unless the game is paused by the player or an event. Unlike a regular turn based card game, cards are played and activated based on their speed. This means that a certain amount of time is needed for the card to be played again or to be activated after it is played. Therefore, both the player and enemies have to wait for a while after playing a card and only after a certain amount of time passes the card is activated.

Thanks to its advanced quantum cores, our custodian is able to compute and predict all of the events up to a certain point in the future. This allows the player to react to the

environmental changes and enemies' actions similar to a two cowboys duel where they try to react based on the opponent's behavior.

When our custodian sees a new ability used by the enemy, the player can choose to duplicate it. For more details about duplication to see 1.1.7.

1.1.7 Duplication

Duplication of enemy abilities is the core feature of our game. The idea comes from the Japanese manga series Naruto: Copy Ninja Kakashi in which the character can mimic and learn others' abilities during the fight. The same applies to our custodian.

During the battle in every game level, the player can decide whether to duplicate the enemy's ability once a card is played. If the player chooses to duplicate the card, the card will be placed in an available duplicated ability slot. However, this is not without any cost.

The time spent on the duplication process depends on the level of the targeted ability. That means the rarer a card is, the more time is needed. After the duplication process is done, the custodian can use this new card in the same game level directly and the card is added to the deck which means it can be used afterwards as well. Duplication processes which were started in a previous level but haven't been finished yet, continue into the next level unless the process is interrupted.

1.1.8 Character (Custodian) Progression

Since the duplication of enemy abilities is the core feature of the game, it is the most efficient way to power up the custodian and improve its combat skills. The acquired passive powers are retained permanently.

The basic ability cards like "move", "punch" and "flash" are acquired at the tutorial level thanks to our custodian's advanced learning skills. There are also other custodian components:

- **Armor:** The maximum damage custodian can sustain. If the armor is penetrated, the custodian will be broken.
- **Energy:** Each activatable card costs a specific amount of energy. Our custodian has a maximum amount of energy which limits the number of actions it can take.
- **Memory(Card Deck):** Memory stores different actions i.e. cards. During tutorial level, basic actions are automatically acquired by the custodian. Since the custodian memory is limited, it can only duplicate a limited number of new actions.



Figure 2: Illustration of memory chip(left) and energy coin(right)

- RAM: The custodian needs a certain amount of RAM to be able to activate its duplication ability.

All these components can be upgraded in the following ways:

- By completing the game levels: The custodian will receive some rewards when a game level is completed.
- By completing a treasure level: In a treasure level, the player can choose one out of four random treasures.

Rewards include RAMs, new cards, and components to upgrade the custodian's armor, energy and memory.

1.1.9 Enemies

There are three main types of enemies. These are as follows:

- Boss:
 - Boss is the final and strongest enemy in the game. As a result, it has unique abilities that are never seen in other enemies. Additionally, these skills tend to be the strongest skills in the game for the enemies.
 - To make the fight more intuitive, the boss goes through phases where a certain routine is followed i.e. the boss uses certain skills in sequence and only some of the abilities are active.
- Elite:
 - Elite enemies are the second most powerful enemies in the game. They usually have the second most powerful abilities.

- Compared to the boss, elite enemies only follow one routine meaning all of their skills are active and they keep using them in the same sequence.
- Regular
 - Regular enemies have basic skills and only one powerful skill. Similar to elite enemies they only follow one routine.

1.2 Technical Achievement

The main development challenges that we face in our game are developing good and adaptable AIs for the enemies and an interesting and fun gameplay which is a hybrid of RST and Turn based games. Additionally, quality level design is a crucial and challenging part of our development cycle.

- Enemies AI: A too simple AI can make the gameplay too easy and hence boring. In order to increase the replayability, challenge the game provides and fun, we are planning to design enemies that can react to the actions of the player. If time allows it, we plan to use methods such as decision graphs and deep learning.
- Hybrid game genre: A hybrid gameplay provides a new challenge for the players by combining challenging elements from both RTS and TBS games.
- Level design: We plan to design our levels such that the regular gameplay difficulty gives a balanced experience to the player. In normal difficulty, players are adequately challenged which allows casual players to have fun. We, also, plan to balance cards as much as possible so that there are multiple builds that a player can use instead one single build dominating others.

1.3 Big Idea Bullseye

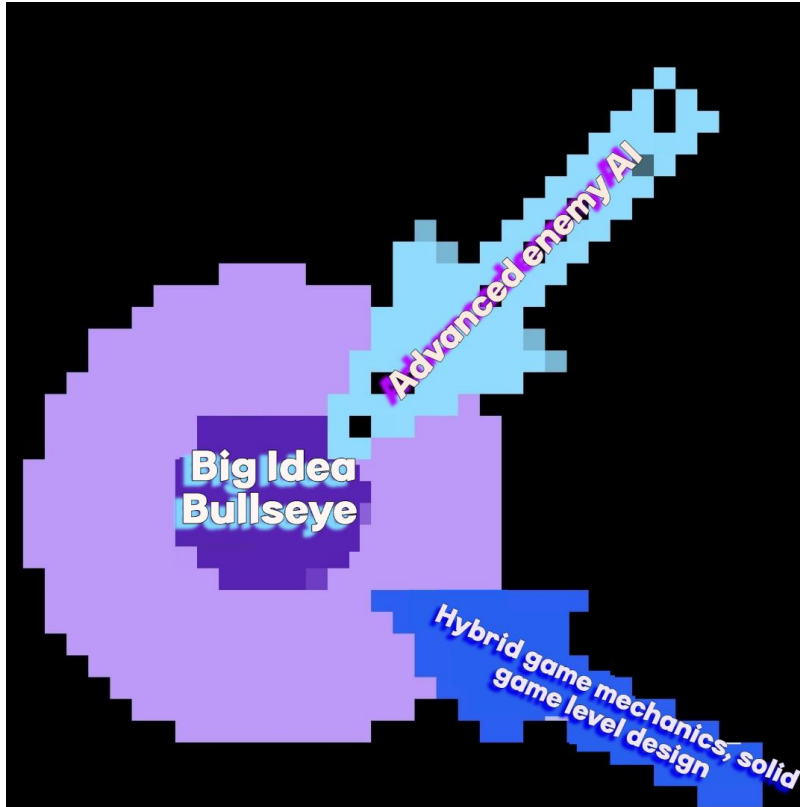


Figure 3: Big Idea Bullseye with the core idea and the technical achievement

1.4 Assessment

Blizzard released the card game Hearthstone eight years ago which catapulted the popularity of the card games to the top of the gaming world. The commercial success and positive reviews of Hearthstone were solid evidence for the longevity and marketability of this genre. If we take a look at the current gaming trends, card games are still popular and they come in more varied ways such as the popular video game Slay the Spire.

The diversity of card games makes it an important and interesting genre to experiment. Additionally, developing card games is more accessible which makes it a good genre to use during projects such as ours. Our aim is to make a simple yet nuanced game that sufficiently challenges the player. Lastly, we hope that our project introduces a large segment of the gamer population to the opportunities that this genre provides in terms of the amount of fun and new mechanics it can provide.

By combining an action base game, Custodian tries to explore and improve upon the simple card game mechanics. Additionally, Custodian tries to achieve this by marrying the RTS and TBS games. We believe this experimental gameplay feature in combination with proven concepts can provide lots of fun to the players.

Getting some inspiration from Hearthstone, Custodian tries to implement sometimes cheesy jokes on some cards to bring a smile to the players face. We, also, included some easter eggs you might be familiar with.

1.5 Development Schedule

1.5.1 Layered Development Description

- Functional Minimum
 - Input system (how to interact with the cards and other things)
 - Basic card class and system
 - The common enemy clas
 - Game logic for the combat
 - Basic game data, such as the deck, custodian's status (energy etc.)
- Low Target
 - World map
 - One battle map
 - Enemies for the tutorial (sheep and tree)
 - Some common cards
- Desirable Target
 - More levels, cards and enemies
 - Main menu
 - Audio
 - Settings menu
- High Target
 - Boss
 - Event level
 - More game mode
 - Achievement

1.5.2 Task Breakdown

- Game Idea & Design
 - Brainstorming
 - Game description
 - Time schedule

- Assessment
 - Presentation slides
- Prototype
 - Cards Prototype
 - Character Prototype
 - Map Prototype
 - UI Prototype
 - Assets preparation
 - Presentation slides
 - Show case scenario
- Interim Demo
 - World map
 - Battle scene game logic
 - Battle scene UI
 - Basic cards
 - Basic enemy
 - Deck
 - Tutorial level
 - Presentation slides
- Alpha Release
 - Audio
 - More cards
 - More enemy
 - More battle levels(common, elite, boss)
 - Event level
 - Main menu
 - Settings menu
 - Presentation slides
- Playtesting
 - Questionary
 - Build executable
 - Analytics
 - Presentation slides
- Final Release
 - Final presentation

1.5.3 Task Timeline



Figure 4: Timeline Schedule