**Charles OOP Project Plan: \*Mina the Alchemist -^-----ooo**

**0 Introduction**

The game tells a story about an alchemist apprentice Mina learning the truth of the world from various approaches from card battles. After the first battle player is asked about their preference: gold, or eternal life. The option affects the ending and the following obtainable cards.

The battle takes turns. In each turn of a battle, player as Mina has m/m mana and n cards in hand from a queue of cards obtained. Each card has its own effect (attack / defense / spells) and mana cost. Used cards come to the discard pile. Player can choose to use cards, view the cards queue, view the discard pile or end the turn. When the length of queue of cards is not enough to draw, cards in the discard pile come back to the queue of cards in random order. When a turn of player ends, cards in hand come to discard pile. The player wins the battle when life of enemy is less than 0 and loses when life of Mina is less than 0. After a battle Mina can collect the dropped gold from enemy and “gain insights” from the battle (gain one of three new cards).

Between battles Mina may encounter campfires to have a sleep (life recover), meditation (delete a card from the deck) and talk to the predecessor (buy cards).

The game is ended by the fallen of the last boss (the predecessor), with ending message / \*animation according to the choice of school (gold / eternal life).

**1 Game Process**

Start game process

\*Create game interface

Game process ends when the game window is closed

Create / load default card stack data

Card(id, name, cost, effects, \*image)

* **Start Menu**

// “Mina the Alchemist”

**P1 – Options: Start / Continue / Load / Help / Exit**

**Start:**

Create default player character:

Mina(card\_deck, total\_life, gold, mana = m/m, shield = 0, intel = 0, buff = 0)

Load initial image of Mina

\*Create auto save file:

Data: status (current battle / \*end of battle / current campfire), card deck (cards obtained), school (gold / eternal life), life / total life

**Continue:** Start from last \*auto save

**Load:** Start from chosen save file

Start from the beginning of the last battle

**Help:** Show game instructions

**Exit:** Turn off window, end game process

* **A Battle**

Auto save

Create enemy character

Enemy\_1(total\_life, gold, actions), \*enemy\_2, …

Show image of Mina’s magic stick, Mina life / total life, mana, enemy image, enemy life / total life

**One turn:**

Buff / debuff effects

Mana recovered to m\*m

Player randomly draws 5 cards from card queue

Show cards in hand

Show the coming action of enemy:

Deal m×n damage (show blood drop + m×n)

Gain \_ shield (show shield)

Mina gain debuff / Enemy gain buff (show magic stick)

Escape (show cloud)

// “Mina vs <enemy>”

**P2 – Options: Use a Card / View Card Queue / View Discard Pile / \*Restart Battle  
/ Save / Load / Return to Start Menu**

**Use a card:** use the chosen card according to card effects

Deal m×n damage (deal m×n damage with m attacks)

Towards chosen enemy / all enemies

Gain \_ shield (offset damage on current turn)

Draw \_ cards & discard \_ cards & destroy \_ cards (temporarily)

Use other cards in hand

Mina gain buff:

\_ Intelligence up: all attacks deal \_ more damage

enemy gain debuff:

Weak: damage to Mina decrease by \_%

Targeted: damage taken increase by \_%

convert card to cost

convert enemy to gold (extra gold award)

**View Card Queue**: open card info window + show card queue

**View Discard Pile**: open card info window + show discard pile

\***Restart battle**: load auto save file

**Save:** create new save file / cover exist save file

**Load:** load the chosen save file

**Return to start menu:**

Show confirming window + message

Return to start menu if confirmed

Action of enemy

Start next turn

* **End of Battle**

Auto save

Image of enemy convert to \*chest

Auto gold collection (<image\_coin>xxx + xx -> <image\_coin>xxx)

Open card selection window

**P3 – Options: Choose a card / Skip**

**Choose a card**: add the chosen card to card deck

**Skip**: skip

* **Campfire**

Auto save

Show image of campfire, camp, the predecessor, right-arrow (leave)

**P4 – Options: Sleep / Meditation / Talk / Leave**

Sleep: life recover (current\_life = total\_life)

Meditation:

Open card info window + show card deck

Choose a card to delete

Remove the chosen card

Talk:

Generate random available cards from card stack data

Open card shop window (card info + price)

Choose cards to buy

Add the chosen cards to card deck

Leave:

* **End of Game**

Endings:

**\*Gold:**

show battle interface, enemy (the predecessor), card in hand (convert enemy to gold)

use the card to finish the game (convert the predecessor to gold)

**\*Eternal Life:**

Show end of battle interface with one card to select (life recover), gain the card to finish the game (the predecessor is satisfied)

Show ending list

Return to start menu

**Resources:**

Slay the Spire – basic game design

Noita – story and main character