



Game Manager

Pre: All players ready in lobby

+ start_game()

Post: Transition to game board screen

Pre: set turns and map

+ switch_screen(screen_name:str)

Post: update game to set rules

Pre: game session active turn count = num turns

+ end_game()

Post: transition to lobby

Pre: valid lobby exists

+ transition_to_lobby()

Post: players transition to lobby screen

Pre: all players ready

+ transition_to_main_game()

Post: players transition to mains game screen

Lobby

Pre: Number of players in lobby < max_player

+ add_player(player:Player)

Post: add player to player list

Pre: player is in player list

+ remove_player(player: Player)

Post: plaer is removed from the player list

Pre: player setting the turns is player 1

+ set_turns(turns: int)

Post: turns is saved and visible to players

Pre: player setting the map is player 1

+ set_map(map_name: str)

Post: map is saved and visible to players

Pre: player is in lobby

+ updates_ready_status(player: Player)

Post: player's ready_status is updated

Minigame

Pre: last player ends turn

+ start_game(players: List[Player])

Post: random minigame begins

Pre: player wins minigame

+ end_game()

Post: give player rewards, transition to maingame

Pre: minigame completed

+ update_rewards()

Post: update scores

ChatBox

Pre: sender is in lobby, and msg is not empty

+ add_message(player_name: str, msg: str)

Post: msg is added to msg list

Pre: msg exists in the msg list

+ display_messages()

Post: msg is displayed on chat ui

Pre: event is a non-empty string

+ notify_system_event(event: str)

Post: event message is added to msg list

Player

Pre: Player is in lobby

+ set_ready()

Post: Set ready_status to true

Pre: player lands on cell

+ update_score(points: int)

Post: score is updated by points

Pre: dice rolled by player

+ move_to(cell: Cell)

Post: pos is updated to cell

Pre: it is player's turn

+ roll_dice() -> int

Post: return a random integer between 1 and 8

Cell

Pre: player lands on cell

+ activate(player: Player)

Post: cell action is applied to player and other players as defined

GameManager
current_screen: "Play"
lobbies: [Lobby1, Lobby2, Lobby3]

ChatBox
msg: "Server: Leroy has entered the lobby"
is_active: True

MiniGame
game_type: "Snake Battle"
score_rewards: {Leroy: 3, Chad: 0}

Player
player_name: "Leroy"
Score: 5
Hex: 1
is_ready: True
player_id:1
pos: Cell 9

Cell
cell_id: 5
action: GP
position: (7, 4)

Lobby
lobby_name: "Lobby 1"
players: [Leroy, Chad]
max_players: 2
turns: 15
map: "Rocky Fields"
chat_box: ChatBox1



