

Pandemic Design Doc

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1 Functions

- **void check_win_lose_continue(int &status)** Checks if the player has win or lost, or if the game continues. Update status value accordingly (0, 1, 2).
- **void display_status()** Displays countries with current status (known infected populace, vaccinated, treatment times, etc), current available funds, and locations of research labs and players.
- **Bool game_loop()** Runs main game loop. Returns True if win, False if lose.
- **void get_money()** Calculates total economic output for the round and adds it to total available funds. Updates player money.
- **void infect_all()** Loops through countries, calling infect_surrounding on each
- **void infect_surrounding(int country)** infect surrounding countries. Use bleed rate to spread disease.
- **void initial_setup()** Initialize country array, choose 3 random countries to infect, do other setup.
- **void kill_people()** Kills infected people in country.
- **void player_action()** Execute a player selected action. Player will select which action to execute within function
- **void random_event()** Generates a random event in the world.
- **void research_new_treatment(int money_amount)** Spend given money towards treatment research. Called from within the spend_money() function.
- **void research_vaccine(int money_amount)** Spend given money towards vaccine research. Called from within the spend_money() function.

- **void single_turn()** Execute one turn. Calls `get_money()`, `spread_disease()`, `random_event()`, and `player_action()`.
- **void spread_disease()** Adjust disease rates in country, kills some infected, infects surrounding countries.
- **void treat_country(int country)** Treat given country.
- **void vaccinate_country(int country)** Vaccinate given country.

2 Structs

- **world**
 - starting population
 - current population
 - current infected
 - total money
 - vaccine bought
 - times treatment researched
 - turn number
- **country**
 - borders closed
 - bleed rate (between countries)
 - spread rate (in country)
 - total population
 - infected population
 - base money
 - name
 - vaccinated
 - neighbors
 - times treated since last upgrade