

Algorithm Overview

Interfaces

`filter_info`: datatype for storing the filter information the user selected for use in setting the prompt variables

`prompt_info`: datatype for storing the specific variables that were chosen either randomly or based on the filters

Data Arrays

`all_genders`: array of possible genders of the virtual patient

`all_traits`: 2D array of possible personality traits [0] and their corresponding prompt segment [1]

`all_hometowns`: array of possible hometowns

`all_baselocations`: array of all possible primary locations the virtual patient spends time at

`all_hobbies`: array of all possible hobbies the user can talk about with the virtual patient

`all_supportgroups`: array of possible options for the virtual patients support group

`all_petpeeves`: array of possible pet peeves that would cause the virtual patient to be more closed off

`all_personalweaknesses`: array of possible behavioral responses the virtual patient would have to mentions of pet peeves

Helper Functions

`randomize`: generates a random number between min and max (inclusive)

`generate_3randoms`: generates 3 unique random numbers between min and max (inclusive)
— mainly used in setting hobbies and pet peeves to ensure 3 different generated values

`is_topic`: returns true if the input topic is included in the virtual patient's topic array

Initializing Variables

`set_age`: sets the virtual patient's age and age description either randomly or based on optional future filters

`set_gender`: sets the virtual patient's gender either randomly or based on optional future filters

`set_trait`: sets the virtual patient's personality trait and trait description either randomly or based on optional future filters

`set_hometown`: sets the virtual patient's hometown either randomly or based on optional future filters

`set_baselocation`: sets the virtual patient's base location either randomly or based on optional future filters

`set_hobbies`: randomly sets the virtual patient's three hobbies

`set_supportgroup`: sets the virtual patient's support group either randomly or based on optional future filters

`set_petpeeves`: randomly sets the virtual patient's three pet peeves

`set_personalweakness`: sets the virtual patient's personal weakness either randomly or based on optional future filters

`set_openness`: sets the virtual patient's openness difficulty level based on filters from user input

`set_language`: sets the virtual patient's language difficulty level based on filters from user input

`set_severity`: sets the virtual patient's severity difficulty level based on filters from user input

Writing Prompt Segments

`write_scenario`: composes & returns the scenario segment of the script based on the topic selected by the user

`write_openness`: returns the prompt segment corresponding to the openness difficulty level

`write_language`: returns the prompt segment corresponding to the language difficulty level

Composing the Prompt

`init_filter_info`: initializes a `filter_info` variable based on user input, if no user input (i.e. “random” virtual patient), initializes all filter variables to undefined

`init_prompt_info`: initializes a `prompt_info` variable and sets the value of each component variable using their corresponding set function

`write_script`: concatenates the background information segments of the script into one string with the other prompt segments

`main`: creates filter & prompt variables, calls `write_script` and prints script to console