

Group 3
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Player

- name: String
- maze: Maze
- coordinates: []
- golden_key: int
- is_golden_key : bool

+ move_player()
+ reset_player()
+ get_golden_key()
+ set_golden_key()
+ get_is_golden_key()
+ set_is_golden_key()
+ has_golden_key()
+ reduce_golden_key()

QuestionAnswerDatabase

+ db_path: string
+ q_path: string

+ get_db_path()
+ get_question_path()
+ create_connection()
+ main()

Question

- question: []

+ get_db_path()
+ create_connection(db_file)
+ get_questions()
+ gen_num_questions()
+ get_answer()

Room

- exit: Bool
- row: int
- col: int
- north: Door(Enum)
- south: Door(Enum)
- west: Door(Enum)
- east: Door(Enum)

+ update_door_state()
+ reset_room()
+ get_exit()
+ set_exit()
+ is_exit()

Maze

- rows: int
- cols: int
- rooms: [][]

+ rooms()
+ reset_maze()
+ set_edge_room_door_close()
+ is_exit_reachable()
+ check_traversal(row, col, visited)
+ check_direction(row, col, direction)
+ is_neighbour_exist(row, col, direction)

Controller

+ maze: Maze
+ player: Player
+ questions: Questions

+ update_player_coordinates()
+ update_doorstate()
+ is_exit_reachable()
+ get_rooms()
+ get_questions()
+ get_answer()
+ reset_maze()
+ reset_player()
+ use_golden_key()
+ unlock_golden_key()
+ lock_golden_key()
+ is_golden_key_unlocked()
+ is_inbound()

TriviaMaze_GUI_Interface

- controller: Controller
- question_frame: none
- root: tuple
- begin_window: frame
- game_window: frame
- display: none
- room_size: int
- root.resizable: tuple
- root.title: string
- init_begin_menu()
- init_menubar()
- checked_answer: bool
- display_question_token: bool
- root.configure
- menu_frame: none
- status_frame: none
- key_direction: none

+ _init_begin_menu()
+ about_the_game()
+ exit_game()
+ how_to_play()
+ _init_menubar()
+ start_game()
+ start_new_game()
+ reset_game_progress()
+ game_window_menu()
+ display_status()
+ save_game()
+ load_game()
+ switch_screen()
+ draw_cell()
+ draw_doors()
+ draw_door_state()
+ draw_all_room()
+ draw_exit()
+ draw_all_doors()
+ draw_player()
+ draw_all_image()
+ instructions()
+ exit_pressed()
+ replay()
+ on_k_key()
+ enter_room_with_key()
+ display_key_instruction()
+ on_arrow_key()
+ display_question()
+ check_answer()
+ unlock_door()
+ clear_text_display()
+ update_key_status()
+ check_end_game()

