

DataConstants

#USER_TEMPFILE_NAME: String
#ROOM_TEMP_FILE_NAME: String
#USER_FILE_NAME: String
#ROOM_FILE_NAME: String
#ACCOUNT_USER_NAME: String
#ACCOUNT_PASSWORD: String
#ACCOUNT_SCORE: String
#ACCOUNT_ACHIVEMENT: String
#ACCOUNT_ROOM_PROGRESS: String
#ACHIEVEMENT_AWARDED: String
#ACHIEVEMENT_DESCRIPTION: String
#ROOM_PROGRESS_ITEMS: String
#ROOM_PUZZLE_PROGRESS: String
#ROOM_PROGRESS_COMPLETED: String
#ROOM_PROGRESS_TIME: String
#ROOM_ROOM: String
#PUZZLE_PROGRESS_COMPLETED: String
#PUZZLE_PROGRESS_TIME: String
#PUZZLE_HINTS: String
#PUZZLE_PROGRESS_PUZZLE: String
#PUZZLE_TYPE: String
#PUZZLE_ANSWER: String
#PUZZLE_HINT: String
#PUZZLE_PUZZLE_NUM: String
#PUZZLE_RIDDLE: String
#CIPHER_ANAGRAM: String
#CIPHER_CEASER: String
#OBJECT_DESCRIPTION: String
#OBJECTC_CONTAINS: String
#OBJECT_NAME: String
#HINTS: String
#ROOM_ROOM_NAME: String
#ROOM_ROOM_TYPE: String
#TOOM_SOLVED: String
#PUZZLE_ARRAY: String
#ITEM_ARRAY: String
#ROOM_DESCRIPTION: String
#ROOM_OPTIONS: String
#PUZZLE_SOLUTION: String
#PUZZLE_NUM: String
#PUZZLE_HINT: String
#RIDDLE_RIDDLE: String
#ITEM_NAME: String
#ITEM_DESCRIPTION: String

Object

- description: String
- name: String
- contains: Item

+ Object(String name, String description, Item contains)
+ getName: String
+ getDescription: String
+ getContains: Item
+ interact: Item

Item

- name : String
- description : String

+ Item(name: String, description: String)
+ getName(): String
+ getDescription(): String
+ toString(): String

DataLoader

+ getPlayers(): ArrayList<Player>
+ getRooms(): ArrayList<Room>
-helperPuzzle(JSONArray array): ArrayList<Puzzle>
-helperObject(JSONArray array): ArrayList<Object>

Database

DataWriter

+ savePlayers():
+ saveRooms():
-getUserJSON(Account account): JSONObject
-getRoomProgress(RoomProgress roomProgress): JSONObject
-getRoom(Room roomdetails): JSONObject
-getObject(Object object): JSONObject
-getPuzzle(Puzzle puzzle): JSONObject
-getPuzzleProgress(PuzzleProgress puzzleProgress): JSONObject
-getItems(Item item): JSONObject
-getAchievementJSON(Achievement achievement): JSONObject

RoomList

-roomList: RoomList
- rooms: ArrayList<Room>

-RoomList()
+getInstance(): RoomList
+getRoom(String roomName): Room
+saveRoom()
+newRoom()
+newStart()

AccountList

- accountList: AccountList
-accounts: ArrayList<Account>

-AccountList()
+getInstance(): AccountList
+getAccount(): ArrayList<Account>
+saveAccount()
+newAccount(String username, String password): Boolean
+ login(String username, String password): Account
+getAccount(): ArrayList<account>
+deleteAccount(String username, String password)
+saveAccount()

GameEngine

- gameengine : GameEngine
- currentPuzzle : Puzzle
- time : Timer
- accounts : ArrayList<Account>
- leaderboard : Leaderboard
- room : Room
- puzzle : Puzzle
- currentPuzzleNum : int

+ GameEngine()
+ getInstance(): GameEngine
+ startGame(): void
+ endGame(victory: boolean): void
+ loadNextPuzzle(num: int): void
+ displaySummary(): void
+ login(username: String, password: String): Account
+ displayLeaderboard(): void

Timer

- duration: int
- timeRemaining: int
-timesUp: boolean

+ start()
+ tick()
+timeWarning()
+ isTimeUp(boolean timesUp)

Leaderboard

- scores : HashMap<Account, Integer>
- leaderboard : Leaderboard

+ Leaderboard()
+ getInstance(): Leaderboard
+ addScore(account: Account): void
+ displayTop(accounts: ArrayList<Account>): void

Room

- roomName: String
- type: String
- solved: boolean
- objects: ArrayList<Object>
- puzzles: ArrayList<Puzzle>
- inventory: ArrayList<Item>
- roomDescription: String
- options: String

+Room()
+getRoomInfo(): String
+getItemInfo(int num): String
+getItemNames(): String
+getItemDetails(): String
+getNextPuzzle(int num): String
+getInventorySize(): String
+getRoomName(): String
+getRoomType(): String
+getPuzzles():ArrayList<Puzzle>
+ getObjects(): ArrayList<Object>
+getRoomDescription(): String
+getRoomOption(): String
+ resetItem(): void
+ isSolved(): boolean
+ getItems(): ArrayList<Item>
+exploreRoom(): void
+displayOptions(): void
+inputOptions(int num, Account player):void
+inputOptions(int num): void
+chest: Item
+bookshelf: void
+dice: void
+desk: void
+bed: void
+addItem(Item item)
+addPuzzle(Puzzle puzzle)
+interactWithObject(): void
+GetObject(int option):Object
+showObjectOption: void
+startPuzzle()

Puzzle

- solution : String
- puzzleNum : int
- hint : ArrayList<String>
- puzzleType : String
- hintNum : int

+ Puzzle(solution: String, hint : ArrayList<String>, puzzleNum: int, puzzleType : String)
+ Puzzle()
+ solve(input: String) : boolean
+ getPuzzleType(): String
+setPuzzleType(puzzleType: String): void
+getSolution(): String
+getPuzzleNum(): int
+ getHints(): ArrayList<String>
+ getHint(): String
+getHint(num: int): String
+ attempt(input : String): boolean
+ displayHint(): void
+toString(): String

ItemPuzzle

- requiredItems : ArrayList<Item>
- room : Room

+ ItemPuzzle(solution : String, requiredItems : ArrayList<Item>, hint: ArrayList<String>, puzzleNum: int, room: Room)
+ItemPuzzle(solution : String, requiredItems: ArrayList<Item>, hint : ArrayList<String>, puzzleNum : int)
+setRoom(room : Room) void
+ getSolution(): String
+ getRequiredItems(): String
+isSolved(playerInventory: ArrayList<Item>): boolean
+ attempt(input : String): boolean
+displayHint(): void
+toString(): String

Riddle Puzzle

-riddle : String

+ RiddlePuzzle(riddle: String, answer: String, hint : ArrayList<String>, puzzleNum: int)
+ RiddlePuzzle()
+ getRiddle(): String
+ attempt(input: String): boolean
+ displayHint() : void
+ toString() : String
+hintString(hint: ArrayList<String>): String
+ loadDefaultRiddles(): ArrayList<RiddlePuzzles>

CipherPuzzle

#ceaserCiphers: int
#anagram: String
#encodedText: String

+SolvePuzzle(String input): void
+displayHint()
+getCeaserCipher(): int
+getAnagram(): String
-encrypt(String text, int shift): String
+hintString(ArrayList<String> hint): String
+ displayHint()
+toString()

RoomProgress

- items: ArrayList<Item>
- puzzles:ArrayList<PuzzleProgress>
- isComplete: boolean
- time: Duration
- room: Room

+addItem: void
+addPuzzle: void
+setCompletion(boolean bool): void
+setTime(Duration time): void
+getItems(): ArrayList<Item>
+getPuzzles(): ArrayList<PuzzleProgress>
+getComplete(): boolean
+getTime(): Duration
+getRoom(): Room
+getTimeString(): String

PuzzleProgress

- isComplete : boolean
- time : Duration
- numHintsUsed : int
- puzzle : Puzzle

+ PuzzleProgress(isComplete: boolean, time: Duration, numHintsUsed: int, puzzle: Puzzle)
+ PuzzleProgress()
+setPuzzle(puzzle: Puzzle): void
+addNumHintsUsed(): void
+setCompletion(bool: Boolean): void
+ setTime(time: Duration): void
+ setNumHintsUsed(numHints: int): void
+ getComplete(): boolean
+ getTime(): Duration
+ getTimeString(): String
+ getPuzzle(): Puzzle
+ getNumHintsUsed(): int
+ toString(): String

Achievement

-name: String
-awarded: bool
-description: String

+getName(): String
+getAwarded() boolean
+getDescription(): String
+setAwarded(Boolean bool)
+toString()

UI

EscapeRoomFACADE

- accou nt : Account
-room : Room
- accountList : AccountList
- roomList : RoomList
- gameEngine : GameEngine
- leaderboard : Leaderboard
- timer : Timer
- puzzleNum : int
- puzzle : Puzzle
- hintNum : int
- roomNum : int
- object : Object
- puzzleProgress : PuzzleProgress
- roomProgress : RoomProgress

+ EscapeRoomFACADE()
+ login(String Username, String password) : Account
+ newAccount(username: String, password: String) : Account
+ logout(): void
+ getLeaderboard(): void
+ saveGame(): void
+ loadGame(): void
+ endGame(): void
+ startGame(): Boolean
+ showDifferentPuzzles(): void
+ getPuzzle(num: int): void
+ displayDifferentTypes(): void
+ seeHint(): void
+ displayPuzzle(): void
+ addPuzzleProgressToAccount(): void
+ createPuzzleProgress(): void
+ addItems(item: Item) void
+ solve(input: String): void
+ selectPuzzleOrObject(num: int): Boolean
+ getObjectNames(): String
+ getObject(num: int): Boolean
+ getObjectDescription(): void
+ interactWithObject(): void
+ nextPuzzle(): void
+ puzzleAnswer(): String
+ puzzleSelect(num: int): void
+ getNextHint(): String
+ getAllItemsDescription(): String
+ getAllItemNames(): String
+ getItemInfo(num: int): String
+ roomSelect(roomName: String): void
+ exploreRoom(): String
+ addToLeaderbaord(): void
+ displayLeaderBoard(): void
+ puzzleAnswer(answer: String): void
+ getHint(): void
+ selectItem(itemName: String): void
+ createRoom(): void