Hotel Reservation Software

Group 1 Project Interface Control Document, Rev 4

CMSC 495 ( 6380) Current Trends and Projects in Computer Science (2205)

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Revision Table

|  |  |  |  |
| --- | --- | --- | --- |
| **Revision** | **Date** | **Description** | **Contributor** |
| 0 | 06/20/2020 | Created Document, Formatting, Added Sections, Started Inputting Data | Emmanuel Girin |
| 1 | 06/21/2020 | Updated Reservation Section | Emmanuel Girin |
| 2 | 06/22/2020 | Updated all sections. Ready for review | Emmanuel Girin |
| 3 | 06/23/2020 | Review of all Sections. Added Database Records | Leonardo Elias |
| 4 | 06/23/2020 | Review of all Sections | Marques Y. |
| 4 | 06/23/2020 | Review of all Sections | Jacob Valentine |

# Interface Control Document

This document describes the data flowing between the user and the input sub system as well as between the different subsystems. The data will be defined by type and range of values. The headings below show the subsystem and the corresponding class in parentheses. Please refer to the project design document for the pseudocode outlining the classes.

## Outside User and Input (Hotel Reservation GUI)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **From** | **To** | **Name** | **Type** | **Value Range** | **Default Value** |
| User | Input | empID | int | 0 to 2,147,483,647 | N/A |
| User | Input | password | String | maximum 25 characters, no spaces | N/A |
| User  Input | Input User | firstName | String | Maximum 50 characters | N/A |
| User  Input | Input User | lastName | String | Maximum 50 characters | N/A |
| User Input | Input User | street | String | Maximum 50 characters | N/A |
| User Input | Input User | city | String | Maximum 50 characters | N/A |
| User Input | Input User | state | String | Maximum 2 characters, no spaces | N/A |
| User Input | Input User | country | String | Maximum 50 characters | N/A |
| User Input | Input User | phone | String | Maximum 50 characters | N/A |
| User | Input | email | String | Maximum 50 characters | N/A |
| User Input | Input User | checkIn | Date | Present Day - 2022 | Present Day |
| User Input | Input User | checkOut | Date | Present Day - 2022 | Present Day |
| User Input | Input User | PreferedType | Integer | [0, 1, 2, 3, 4] | 0 |
| User Input | Input User | numRooms | Integer | 1 to 5 | 1 |
| User Input | Input User | numGuests | Integer | 1 to 10 | 1 |
| Input | User | loginMessage | String | “Error Incorrect Password”, “Incorrect Employee Id” | N/A |
| Input | User | customerLookUpMessage | String | “Failed to find customer. Exit or Try Again” | N/A |
| Input | User | reservationLookUpMessage | String | “Failed to find reservation. Exit or Try Again” | N/A |
| Input | User | price | String | 0.0 to 9999.00 | N/A |
| Input | User | reservationID | int | 0 to 2,147,483,647 | N/A |
| Input | User | databaseError | String | “Failed to connect to database. Try again later” | “Failed to connect to database. Try again later” |

## Input (Hotel Reservation GUI) and Logon (Login)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **From** | **To** | **Name** | **Type** | **Value Range** | **Default Value** |
| Input | Login | empID | int | 0 to 2,147,483,647 | N/A |
| Input | Login | password | String | maximum 25 characters, no spaces | N/A |
| Logon | Input | ValidateCredentials | Boolean | true, false | false |
| Logon | Input | message | String | “”, “Error Incorrect Password”, “Incorrect Employee Id” | “” (blank) |

## Logon (Login) and Database (User Records)

The UserRecords database will contain first and last name of the employees, but this will never be used by the program only by staff to add or subtract the appropriate users from database. The creation of the database is left up to the one setting up the system.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **From** | **To** | **Name** | **Type** | **Value Range** | **Default Value** |
| Login UserRecords | UserRecords Login | empID | int | 0 to 2,147,483,647 | N/A |
| Login UserRecords | UserRecords Login | password | String | Maximum 25 characters no spaces | N/A |

## Input (Hotel Reservation GUI) and Customer Subsystem (Customer Manager)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **From** | **To** | **Name** | **Type** | **Value Range** | **Default Value** |
| Input | CustMgr | customerData | An Array of 9 Strings | 9 Strings, for limit of each string view Customer and Database interface | N/A |
| CustMgr | Input | custMgr.lookUp | Boolean | true, false | false |

## Customer (Customer Manager) and Customer Object (Customer)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **From** | **To** | **Name** | **Type** | **Value Range** | **Default Value** |
| CustMgr | Customer  Object | CustomerData | An Array of 9 Strings | 9 Strings, for limit of each string view Customer and Database interface | N/A |
| CustMgr CustomerObj | CustomerObj CustMGr | customerID | int | -1 to 2,147,483,647 | N/A |
| Customer Object | CustMgr | firstName | String | Maximum 50 characters | “ “  (Blank String) |
| Customer Object | CustMgr | lastName | String | Maximum 50 characters | “ “  (Blank String) |
| Customer Object | CustMgr | streetAddress | String | Maximum 50 characters | “ “  (Blank String) |
| Customer Object | CustMgr | city | String | Maximum 50 characters | “ “  (Blank String) |
| Customer Object | CustMgr | state | String | Maximum 2 characters, no spaces | “ “  (Blank String) |
| Customer Object | CustMgr | country | String | Maximum 50 characters | “ “  (Blank String) |
| Customer Object | CustMgr | phone | String | Maximum 50 characters | “ “  (Blank String) |
| Customer Object | CustMgr | email | String | Maximum 50 characters | “ “  (Blank String) |

## Customer (Customer Manager) to Database (Customer Records)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **From** | **To** | **Name** | **Type** | **Value Range** | **Default Value** |
| CustManager CustRecords | CustRecords  CustManager | CustomerID | Integer | -1 to 2,147,483,647 | N/A |
| CustManager CustRecords | CustRecords  CustManager | firstName | String | Maximum 50 characters | “ “  (Blank String) |
| CustManager CustRecords | CustRecords  CustManager | lastName | String | Maximum 50 characters | “ “  (Blank String) |
| CustManager CustRecords | CustRecords  CustManager | streetAddress | String | Maximum 50 characters | “ “  (Blank String) |
| CustManager CustRecords | CustRecords  CustManager | city | String | Maximum 50 characters | “ “  (Blank String) |
| CustManager CustRecords | CustRecords  CustManager | state | String | Maximum 2 characters, no spaces | “ “  (Blank String) |
| CustManager CustRecords | CustRecords  CustManager | country | String | Maximum 50 characters | “ “  (Blank String) |
| CustManager CustRecords | CustRecords  CustManager | phone | String | Maximum 50 characters | “ “  (Blank String) |
| CustManager CustRecords | CustRecords  CustManager | email | String | Maximum 80 characters | “ “  (Blank String) |

## Input (Hotel Reservation GUI) and Reservation Subsystem (Reservation Manager)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **From** | **To** | **Name** | **Type** | **Value Range** | **Default Value** |
| Input | ReservMgr | checkIn | Date | Present Day - 2022 | Present Day |
| Input | ReservMgr | reservNumber | Integer | 1 to 2,147,483,647 | N/A |
| ReservMgr | Input/GUI | currentReservation | ReservationObject | N/A | null |
| Input | ReservMgr | checkOut | Date | Present Day - 2022 | Present Day |
| Input | ReservMgr | PreferedType | Integer | [0 to 5] | 0 |
| Input | ReservMgr | numGuests | Integer | 1-10 | 1 |
| Input | ReservMgr | numRooms | Integer | 1-5 | 1 |

### Input (Hotel Reservation GUI) and Reservation Object (Reservation)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **From** | **To** | **Name** | **Type** | **Value Range** | **Default Value** |
| Input | Reservation Object | Reservation.toString() | String | Returns a formatted string from the data values of ReservationID, customerID, numOfGuests, totalCost, roomIDs, checkIn, checkOut. | N/A |

## Reservation (Reservation Manager) and Reservation Object (Reservation)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **From** | **To** | **Name** | **Type** | **Value Range** | **Default Value** |
| ReservMgr | ReservObj | ReservationID | Integer | -1 to 2,147,483,647 | N/A |
| ReservMgr  ReservObj | ReservObj  ReservMgr | CustomerID | Integer | -1 to 2,147,483,647 | N/A |
| ReservMgr ReservObj | ReservObj  ReservMgr | RoomID | Integer | -1 to 2,147,483,647 | N/A |
| ReservMgr ReservObj | ReservObj  ReservMgr | CheckIn | Date | Present Day - 2022 | Present Day |
| ReservMgr ReservObj | ReservObj  ReservMgr | CheckOut | Date | Present Day - 2022 | Present Day |
| ReservMgr ReservObj | ReservObj  ReservMgr | Price | Double(Mgr) | 0.0 to 9999.00 | 0.0 |
| ReservMgr ReservObj | ReservObj  ReservMgr | NumGuests | Integer | 1 to 5 | 1 |

## Reservation (Reservation Manager) and Database (Reservation Records)

All the data flows both ways between the database and the class Reservation Manager. These subsystems will receive and send the data, so each row represents a flow of data in both directions.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **From** | **To** | **Name** | **Type** | **Value Range** | **Default Value** |
| ResManager ResRecords | ResRecords ResManager | ReservationID | Integer | -1 to 2,147,483,647 | N/A |
| ResManager ResRecords | ResRecords ResManager | CustomerID | Integer | -1 to 2,147,483,647 | N/A |
| ResManager ResRecords | ResRecords ResManager | RoomID | Integer | -1 to 2,147,483,647 | N/A |
| ResManager ResRecords | ResRecords ResManager | CheckIn | Date | Present Day - 2022 | Present Day |
| ResManager ResRecords | ResRecords ResManager | CheckOut | Date | Present Day - 2022 | Present Day |
| ResManager ResRecords | ResRecords ResManager | Price | Double(Mgr) Float(Records) | 0.0 to 9999.00 | 0.0 |
| ResManager ResRecords | ResRecords ResManager | NumGuests | Integer | 1 to 10 | 1 |

## Input (Hotel Reservation GUI) and Available Room (Room Manager)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **From** | **To** | **Name** | **Type** | **Value Range** | **Default Value** |
| Input | RoomMgr | checkIn | Date | Present Day - 2022 | Present Day |
| Input | RoomMgr | checkOut | Date | Present Day - 2022 | Present Day |
| Input | RoomMgr | preferredType | Integer | [0 to 4] | 0 |
| Input | RoomMgr | numRooms | Integer | 1 to 5 | 1 |
| RoomMgr | Input | SelectedRooms | Array of Room Objects | Memory Addresses of Room Objects | N/A |
| RoomMgr | Input | ExceedsMaxCapacity | Error | N/A | N/A |
| RoomMgr | Input | UnavailableReservations | Error | N/A | N/A |

## Available Room (Room Manager) and Room (Room Object)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **From** | **To** | **Name** | **Type** | **Value Range** | **Default Value** |
| RoomMgr | RoomObj | Room ID | Int | -1 to 2,147,483,647 | N/A |
| RoomMgr | RoomObj | Room # | Int | 0 to 9999 | 0 |
| RoomMgr | RoomObj | Hotel Name | String | Maximum 50 characters | “” Blank String |
| RoomMgr | RoomObj | Type | String | Maximum 50 characters | ““ Blank String |
| RoomMgr | RoomObj | Price | Double (Mgr)  Float (Records) | 0.0 to 9999.00 | 0 |
| RoomMgr | RoomObj | Dates Booked | Date | Present Day - 2022 | Present Day |
| RoomObj | RoomMgr | selectedRoomIDs | Integer Array | Array of Memory Addresses pointing to Integers, each Integer can be 1 to 2,147,483,647 | N/A |

## Available Room (Room Manager) and Database (Room Records)

This table below describes the flow of data back and forth between the database and the java class Room Manager. It is important to note that the data for doubles in the SQL database will be stored as a float. The value of the type not the data object will be passed back and forth, so the types will automatically convert.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **From** | **To** | **Name** | **Type** | **Value Range** | **Default Value** |
| Manager Records | Records  Manager | Room ID | Int | -1 to 2,147,483,647 | N/A |
| Manager Records | Records  Manager | Room # | Int | 0 to 9999 | 0 |
| Manager Records | Records  Manager | Hotel Name | String | Maximum 50 characters | “” Blank String |
| Manager Records | Records  Manager | Type | String | Maximum 50 characters | ““ Blank String |
| Manager Records | Records  Manager | Price | Double (Mgr)  Float (Records) | 0.0 to 9999.00 | 0 |
| Manager Records | Records  Manager | Dates Booked | Date | Present Day - 2022 | Present Day |