**HOTEL SYSTEM**

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## Introduction

This is a specification for a Second Year Computing project based on a Hotel system. The project involves designing the interface and coding the functionality for the set of screens specified in this document. Details of the project time scale etc. are available from your tutor.

The Hotel System caters for the following:

* Checking in and checking out
* Allowing guests to add items / services to their bill
* Moving stock to various areas of the hotel
* Ordering stock
* Inserting, deleting, amending and viewing staff details
* Inserting, deleting, amending and viewing stock details
* Inserting, deleting, amending and viewing guest details
* Inserting, deleting, amending and viewing room details
* Producing useful reports on hotel stays, stock and orders

**Note:** This is a very unusual hotel in so far as it does not allow guests to book rooms in advance!! Instead, it relies on passing trade – a person can ring or drop in to enquire if a room is available. If so, the room becomes allocated and will remain allocated until the guest departs. At that point, the room status reverts to ‘Available’ once more and it can be assigned to another guest whenever the opportunity arises.

The screens in this document are only used to demonstrate the required functionality. They are definitely not intended to suggest how the system should look. It is the task of the team to design a user interface, which is as user-friendly as possible while still providing the required functionality.

It is the team’s responsibility to ensure that only valid data is keyed-in and stored. Therefore, appropriate prompts, warnings and error messages must be supplied by the system so that the user is made aware of the exact type of input that is required, its correct format, etc.

On each data entry screen (any screen in which the user is asked to supply data), it must be possible for a user to change his/her mind about using the screen even after supplying data. Therefore, there must be some way of abandoning the screen without any changes being made to the stored data.

Once a user has finished entering data on a data entry screen, he/she must be asked to confirm that the details supplied are correct. If so, the relevant database tables are updated as appropriate. If not, the user is given the opportunity to edit fields on the screen.

It is regarded as good programming practice to provide Help with all screens.

## Start-Up Screen

The opening screen provides a welcome message and prompts the user for a login name and a password. The user is given three attempts at the correct password after which the system is exited (if the correct password has not yet been supplied).

Assuming that the correct password has been entered, the Main Menu appears giving the option of changing the password, if desired.

## Change Password Screen

In this screen, the user is firstly asked to enter the old password. If this is correctly done, the user is asked to enter a new password and then to immediately re-enter it. For security purposes, password characters must never echo on the screen. If both attempts at the new password are identical, then the Staff Table is updated to reflect the new situation.

If the old password is incorrectly entered, the user is not invited to enter a new password.

Furthermore, if the two attempts at the new password do not match, then an appropriate error message must be displayed and the process may be repeated.

## Main Menu

The Main Menu consists of the following options:

**Main Menu**

Check-in / Check-out Menu

Extras

Stock Control Menu

File Maintenance Menu

Reports Menu

Exit

Choosing the Exit option will close the application.

## Check-in / Check-out Menu

This screen allows for the arrival and departure of guests.

**Check-in / Check-out Menu**

Check-in

Check-out

Exit

## 

### Check-in

You may assume that a potential guest is enquiring if a room is available for immediate use. Recall that it is not possible to make any booking arrangements in advance.

The rooms available and their types (double, single, etc) can be viewed using a listbox of all available rooms (i.e. all rooms with current status of ‘Available’).

* If no room has current status of ‘Available’, the guest is turned away.
* Assuming that is not the case, a suitable room is selected from the listbox.
* The guest is then selected from a listbox of all guests on file (everyone who has ever taken a room in the hotel before).
* If the current guest is not already on file, then the Add a New Guest screen must be used before proceeding with this screen.
* The user enters the ‘Number in Group’ – the number of people staying in the room. For example, the guest may have chosen a family room for his partner and small child.
* It is not necessary to ask the duration of stay as the room will remain allocated to this guest until he/she decides to check-out.
* Once confirmed, the current status of the room will be updated in the Room Table and a new record will be added to the Guest Stays Table.

### Check-out

This screen is used when a guest departs.

* The user selects the guest’s room number from a listbox of all occupied rooms.
* Details are loaded from the Guest Table and the Guest Stays Table and displayed on screen for confirmation purposes.
* The accommodation part of the bill is automatically calculated by multiplying the room rate by the number of days the guest stayed in the hotel.
* There may be some extra costs to be added to the bill from the Extras Table.
* The total cost of the stay is clearly displayed and payment is requested.
* Payment details should be entered as follows:
* Method of Payment – cash, cheque, debit card, credit card
* Amount of Payment (defaults to total cost)
* Date of Payment (defaults to system date)
* Once confirmed, the Guest Stays Table is updated and the current status of the room is changed to ‘Available’ in the Rooms Table.

## Extras

The Extras screen enables hotel staff to keep track of a guest’s spending in the hotel complex.

* The user first selects his/her name from a list-box of all staff.
* Next, he/she keys in the room number of the guest.
* Details are loaded from the Staff Table and displayed on screen for confirmation purposes.
* The user now chooses the area associated with the charge i.e. bar, restaurant, room service, leisure centre, etc.
* The user should then be presented with a list of the extras for that area.
* At least four extras should be available for each area. For example, the restaurant extras might be breakfast, lunch, dinner and cabaret.
* The user chooses the appropriate extra and enters the cost incurred.
* Date and time defaults to system date and time.
* Pressing OK results in a new record being written to the Extras Table.

## Stock Control Menu

This menu allows the user to remove stock from the Stock Room, to order new stock and to record receipt of goods from a supplier.

**Stock Control Menu**

Remove Stock

Place Orders

Receive Goods

Exit

### Remove Stock

This screen is used to record the movement of stock from the central storage area (known as the ‘Stock Room’) to specific locations in the hotel e.g. bar, leisure centre, etc.

* The user is prompted to select his/her name from a list-box of all staff.
* The user is then asked to enter the area for which the stock is needed (bar, restaurant, leisure centre, etc).
* Details of all stock are displayed. These details include Stock Id, Description, Quantity in Stock Room, Reorder Level, Reorder Quantity and Price.
* The user selects a stock item from the list.
* The user enters the quantity of the item being removed from the stock room. This must not exceed the ‘Quantity in Stock Room’.
* Pressing OK results in the ‘Quantity in Stock Room’ being updated in the Stock Table to reflect the transaction.
* A new record is also added to the Stock Movement Table with the following details - Stock Id, Date, Time, Location (moved to), Quantity Removed and Staff Member responsible.

### Place Orders

This screen allows the user to place an order for one or more stock items.

* The user selects a stock item to be ordered from a list of all stock items.
* Details are loaded from the Stock Table and displayed on screen for confirmation purposes. Details displayed include the Quantity in Stock Room, Reorder Level, Reorder Quantity and Supplier.
* The user should be allowed to enter any Quantity they wish to order (the field defaults to the Reorder Quantity but this should only be regarded as a suggestion).
* The cost is calculated and displayed on screen.
* The user will be presented with the choice of ‘Done’ or ‘Continue’.
* The user should be able to select other stock items to be ordered from the same supplier by clicking ‘Continue’.
* Pressing ‘Done’ eventually concludes the order. You should now provide a summary of the order showing date of order, supplier’s name and total cost together with the items being ordered and their corresponding order quantities.
* In reality, a “Reorder Letter” would be printed out for sending to the supplier, but you don’t need to do that.
* A record is added to the Order Table and several records are added to the Order Item Table (one for each individual item ordered).

### Receive Goods

This screen allows the user to keep track of incoming goods from suppliers.

For simplicity, you may assume that all orders are delivered in full i.e. all items on an order are delivered at the same time.

* The user firstly selects the order from a listbox of all outstanding orders.
* Details of the order are loaded and displayed on screen. These details include Order Date, Supplier Id, Supplier Name and details of the items that were included on the order.
* Pressing the Received button causes the Stock Table to be updated (i.e. the ‘Quantity in Stock Room’ must be increased) and the Order Table to be updated (the ‘Date Received’ field must be filled).

## File Maintenance Menu

File maintenance is needed for four different entities – Staff, Stock, Guests and Rooms.

**File Maintenance Menu**

Staff Maintenance Menu

Stock Maintenance Menu

Guest Maintenance Menu

Room Maintenance Menu

Exit

## Staff Maintenance Menu

This screen lets the Manager maintain the Staff Table by allowing him/her to add a staff record, delete a staff record, and amend or view a staff record.

Therefore, the Manager must login for each option on Staff Maintenance Menu.

**Staff Maintenance Menu**

Add a Staff Member

Delete a Staff Member

Amend/View a Staff Member

Exit

### Add a New Staff Member

The manager is prompted for a login name and a password. The user (manager) is given three attempts at the correct password after which the system returns to Staff Maintenance Menu (if the correct password has not yet been supplied).

The Staff Table must include a field which indicates if a user is a manager or just a regular member of staff.

The Manager enters the following details about the new staff member:

1. Surname
2. First Name
3. Address
4. Eircode
5. Phone Number
6. Job Title
7. Manager Status (Yes/No)
8. Login Name

The Password field is automatically set to ‘staff’ by default. The new staff member is expected to change this password at the earliest opportunity.

When the user (manager) confirms that the details are correct, the system checks that the Login Name does not already exist and asks the user (manager) to select a different login name, if necessary.

Assuming that this is not a problem, a unique Staff Id is allocated (auto incremement) and displayed on screen, and a new record is added to the Staff Table.

### Delete a Staff Member

The manager is prompted for a login name and a password. The user (manager) is given three attempts at the correct password after which the system returns to Staff Maintenance Menu (if the correct password has not yet been supplied).

The Staff Table must include a field which indicates if a user is a manager or just a regular member of staff.

This screen allows the user(manager) to delete the details of an existing staff member from the database. The user selects the appropriate staff member from a listbox of all staff members. Details displayed are:

Staff Id

Surname

First Name

Address

1. Eircode

Telephone Number

1. Job Title

Once the correct staff member has been found, the user(manager) presses the Delete button. At this point, the system should check whether the staff member to be deleted is a manager or not as a manager can’t delete another manager, as this option is reserved for Upper management only.

Assuming this is not a problem, your system should ask for confirmation of the deletion. This could be a simple question such as:

‘Are you sure you want to delete this staff member (Y/N) ?’

Once a positive response is received, the ‘Deleted’ flag is set in the Staff Table and a message is displayed confirming that the deletion has taken place.

### Amend/View a Staff Member

The manager is prompted for a login name and a password. The user (manager) is given three attempts at the correct password after which the system returns to Staff Maintenance Menu (if the correct password has not yet been supplied).

The Staff Table must include a field which indicates if a user is a manager or just a regular member of staff.

The user(manager) selects a staff member from a listbox of all staff members. The following details are now displayed:

* Staff Id (not editable)
* Surname
* First Name
* Address
* Eircode
* Phone Number
* Job Title
* Manager Status (Yes/No)
* Login Name
* Date of Last Update

If the user decides to alter details of a staff member, he / she must choose the Amendoption.

Note that neither ‘Manager Status’ nor ‘Login Name’ may be changed using this screen.

After confirmation, ‘Date of Last Update’ will be updated automatically by the system. Obviously the user may not change it directly using this screen.

Having made all the changes, the user indicates that they are to be saved. A standard double check such as:

“Please confirm that the details are correct (Y/N)”

should be implemented by your system. Assuming that a positive response is given, the Staff Table is updated.

## Stock Maintenance Menu

This screen lets the user maintain the Stock Table by allowing him/her to add a stock record, delete a stock record, and amend or view a stock record.

**Stock Maintenance Menu**

Add a Stock Item

Delete a Stock Item

Amend/View a Stock Item

Exit

### Add a Stock Item

The user supplies the following details about the new stock item:

Description

Cost Price

Retail Price

* Supplier (selected from a listbox)
* Reorder Quantity
* Reorder Level

Supplier’s Stock Code

Note: Even though supplier was selected by name, it is the corresponding Supplier Id that will be stored in the Stock table.

When the user confirms that the details are correct, a unique Stock Id is allocated and displayed on screen, and a new record is added to the Stock Table.

### Delete a Stock Item

Firstly, the user identifies the appropriate stock item. This may be done by selecting it from a listbox of all stock items.

Details displayed are as follows:

Stock Id

Description

* Quantity in Stock Room

Supplier Name

Once the correct stock item has been found, the user clicks the Delete button. The system should refuse to delete a stock item for which the Quantity in Stock Room is greater than zero.

Assuming that this situation does not arise, your system should double check the deletion. This could be a simple question such as:

‘Are you sure you want to delete this stock item (Y/N)?’

Once the user responds positively, the appropriate record is flagged as ‘deleted’ in the Stock Table and a message is displayed confirming that the deletion has taken place. Deleted field in the table. 0 is available 1 is deleted. Will keep record of queries when doing searches E.g “SELECT \* Guests WHERE Deleted = 0;

### Amend/View a Stock Item

Firstly, the user identifies the appropriate stock item. This may be done by selecting it from a listbox of all stock items.

Details displayed are as follows:

Stock Id (not editable)

Description

Cost Price

Retail Price

Supplier Name

1. Reorder Quantity
2. Reorder Level
3. Supplier’s Stock Code

Quantity in Stock Room

* Date of Last Update

If the user decides to alter some details, he/she must choose the Amendoption. A cursor now appears and the user may commence editing.

Note that ‘Quantity in Stock Room’ may not be amended using this screen.

After confirmation, ‘Date of Last Update’ will be updated automatically by the system. Obviously the user may not change it directly using this screen.

Having made all the changes, the user indicates that they are to be saved. A standard double check such as:

“Please confirm that the details are correct (Y/N)”

should be implemented by your system. Assuming that a positive response is given, the Stock Table is updated.

## Guest Maintenance Menu

This screen lets the user maintain the Guest Table by allowing him/her to add a guest record, delete a guest record, and amend or view a guest record.

G**uest** **Maintenance Menu**

Add a Guest

Delete a Guest

Amend/View a Guest

Exit

### Add a Guest

The user supplies the following details about the new guest:

Surname

1. First Name

Address

1. Eircode

Telephone Number

* Email Address

When the user confirms that the details are correct, a unique Guest Id is allocated and displayed on screen, and a new record is added to the Guest Table.

### Delete a Guest

This screen allows the user to delete the details of an existing guest from the database. The user selects the guest’s name from a listbox of all guests. The rest of the guest’s details are then displayed (street, town, county, phone, etc.) for confirmation purposes.

Once the correct guest has been found, the user presses the ‘Delete’ button. Your system should check if the guest is currently staying in the hotel. If so, your system should refuse to delete the guest.

Assuming that this situation does not arise, the system should ask for confirmation of the deletion. This could be a simple question such as:

‘Are you sure you want to delete this guest (Y/N) ?’

Once a positive response is received, the ‘Deleted’ flag is set in the Guest Table and a message is displayed confirming that the deletion has taken place.

### Amend/View a Guest

Firstly, the user identifies the appropriate guest. This may be done by selecting the guest from a listbox of all guests. The following details are now displayed:

Guest Id (not editable)

Surname

1. First Name

Address

1. Eircode

Telephone Number

* Email Address
* Date of Last Update

If the user decides to alter some details, he / she must choose the Amendoption. A cursor now appears and the user may commence editing.

After confirmation, ‘Date of Last Update’ will be updated automatically by the system. Obviously the user may not change it directly using this screen.

Having made all the changes, the user indicates that they are to be saved. A standard double check such as:

“Please confirm that the details are correct (Y/N)”

should be implemented by your system. Assuming that a positive response is given, the Guest Table is updated.

## Room Maintenance Menu

This screen lets the user maintain the Room Table by allowing him/her to add a room record, delete a room record, and amend or view a room record.

**Room** **Maintenance Menu**

Add a Room

Delete a Room

Amend/View a Room

Exit

### Add a Room

This screen is only used when new rooms are being brought into use for the first time. For example, a new extension has just been completed.

The user supplies the following details about the new room:

Type (e.g. single, twin, …)

1. Cost per Night

Telephone Extension Number

1. Special Notes (e.g. wheelchair access)

When the user confirms that the details are correct, a unique Room Id is allocated and displayed on screen, and a new record is added to the Room Table.

### Delete a Room

This screen allows the user to delete an existing room from the database. For example, a part of the hotel is being demolished to allow for a future new extension.

The user selects the room from a listbox of all rooms. The rest of the room’s details are then displayed (type, cost, etc.) for confirmation purposes.

Once the correct room has been found, the user presses the ‘Delete’ button. Your system should check if the room is currently occupied. If so, your system should refuse to delete the room.

Assuming that this situation does not arise, the system should ask for confirmation of the deletion. This could be a simple question such as:

‘Are you sure you want to delete this room (Y/N) ?’

Once a positive response is received, the ‘Deleted’ flag is set in the Room Table and a message is displayed confirming that the deletion has taken place.

### Amend/View a Room

Firstly, the user identifies the appropriate room. This may be done by selecting the room from a listbox of all rooms. The following details are now displayed:

* Room Id (not editable)
* Type
* Cost per Night
* Telephone Extension Number
* Special Notes
* Current Status
* Date of Last Update

If the user decides to alter some details, he / she must choose the Amendoption. A cursor now appears and the user may commence editing.

Note that ‘Current Status’ may not be altered using this screen.

After confirmation, ‘Date of Last Update’ will be updated automatically by the system. Obviously the user may not change it directly using this screen.

Having made all the changes, the user indicates that they are to be saved. A standard double check such as:

“Please confirm that the details are correct (Y/N)”

should be implemented by your system. Assuming that a positive response is given, the Room Table is updated.

## Reports Menu

This is a menu that allows the user to generate three simple on-screen reports.

**Reports Menu**

Guest Stays Report

Stock Report

Orders Report

### Guest Stays Report

This gives a screen listing of all guest stays in the hotel. It shows the following details:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Check-in Date** | **Check-out Date** | **Guest Name** | **County** | **Total Cost** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

The detail lines in this report may be presented in the following order:

**1. Stays in Reverse Date Order (default)**

By default, the information is initially presented in reverse date order i.e. with the top lines referring to most recent check-outs and working backwards. For a given check-out date, stays should be displayed in alphabetical order of guest.

**2. Stays in Alphabetical Order of Guest**

This means that all stays for one guest are shown before any stays for another guest. For a given guest, the stays are displayed in reverse order of check-out date.

**3. Stays in Decreasing Order of Total Cost**

This means that the most expensive stay is shown first and so on.

The order of information may be altered by means of three buttons:

1. Date button (initially disabled)
2. Guest button
3. Cost button

Depending on how the information is currently presented, the corresponding button will be disabled. There will always be two enabled buttons and one disabled one.

### Stock Report

The Stock Report gives a screen listing of all stock items carried by the hotel. It provides the following details:

|  |  |  |  |
| --- | --- | --- | --- |
| **Stock Description** | **Stock Id** | **Qty in Stock Room** | **Supplier’s Name** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

The detail lines in this report may be presented in the following order:

1. **Stock Items in Alphabetical Order of Stock Description (default)**

By default, the information is initially presented in this order.

**2. Stock Items in Alphabetical Order of Supplier Name**

This means that all stock items supplied by one supplier are shown before any stock items supplied by another. For a given supplier, the stock items are displayed in alphabetical order of their stock description.

**3. Stock Items in Order of Quantity in Stock Room**

Out-of-stock items are shown first, followed by items with just one item in stock, and so on.

The order of presentation may be altered by means of three buttons:

Description button (initially disabled)

Supplier button

Quantity button

Depending on how the information is currently being presented, the corresponding button will be disabled. There will always be two enabled buttons and one disabled button.

# 

### Orders Report

The Orders Report gives a screen listing of all orders placed by the hotel. It provides the following details:

|  |  |  |  |
| --- | --- | --- | --- |
| **Order Id** | **Supplier Name** | **Date of Order** | **Total Cost of Order** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

The detail lines in this report may be presented in the following order:

**1. Orders arranged in Reverse Date of Order** **(default)**

This means that the most recent order is displayed first. By default, the information is initially presented in this order.

1. **Orders in Alphabetical Order of Supplier Name**

This means that all orders sent to one supplier are shown before any orders to another supplier.

1. **Orders in Decreasing Order of Total Cost of Order**

This means that the most expensive order is shown first and so on.

The order of presentation may be altered by means of three buttons:

Date button (initially disabled)

Supplier button

Cost button

Depending on how the information is currently presented, the corresponding button will be disabled. There will always be two enabled buttons and one disabled button.