RESERVATION AND BILLING SYSTEM

GRADUATE PROJECT

BY

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DEDICATION

To my daughter, Shonda,

for her patience and understanding.
ABSTRACT

The purpose of this project was to design and implement an interactive Reservation and Billing system for Bayfront Cottages. The Reservation System utilizes a database to keep track of both guest information and reservation information. The system allows the user to enter other transactions along with the reservation information. The user can display or print the invoice for any particular reservation and other reports.
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INTRODUCTION

Bayfront Cottages is a small fishing resort located on Aransas Bay in Rockport, Texas. The resort was built in the early '60s, and has 26 units, all of which are kitchenettes. It has its own 650-foot lighted pier and a swimming pool. Rockport's own Fulton Mansion, an historical sight, is located next door.

The resort rents rooms by the day, week, or month. The tenants for the summer months rent mostly by the day, while the winter-month tenants usually rent monthly. Most of the clientele are repeat business from the preceding year. At the end of their stay, customers often will make reservations for the following year by leaving a deposit.

Before the implementation of this project, management kept track of reservations by handwriting them on a 17 X 21.5-inch sheet of paper. Customer information was recorded on a reservation card, and other charges were hand-recorded on the back of the card. The daily summary of expenses and income was also generated by hand. This was a time-consuming and error prone process.

The owners of Bayfront spend six months of every year in Rockport and the other six months in St. Croix. They wanted to automate fully the reservation and billing procedure for Bayfront Cottages, including the capability to receive the daily reports electronically during their stay in St. Croix.

The implementation of the reservation and billing system enhances the quality of business for Bayfront Cottages. Automation expedites the reservation and billing processes and enhances
the quality and accuracy of these procedures. In addition, the owners can quickly obtain the data from the daily activities at the resort. Furthermore, the data is more reliable and consistent.
NARRATIVE

The Reservation and Billing system for Bayfront Cottages was designed to run on a single-user system. Reservations and other transactions are entered by management on site; however, a daily report is transmitted electronically to motel owners. The system has a user-friendly, graphical user interface (GUI). The user can access a desired function simply by making menu selections and entering the requested information. The system guides the user, prompting him for the necessary input and responding with explanatory messages when incorrect information is entered.

The main menu has four options. The first option will activate the Customer Maintenance module. This is used to enter new customers or change information recorded on existing customers. The second option will activate the Reservation system. This module allows entry of all the necessary information regarding a reservation and other charges. Selecting the third option will activate the Reporting module. The last option closes the main menu and Exits the application. The modules will be discussed in detail below.

Customer Maintenance

The Customer Information form contains the following edit boxes for entering customer information: Customer Number, First Name, Last Name, Address, City, State, Zip-code, and Phone number. There are ten options on the Customer Information form.

1. Find by Lastname
2. Next
3. Previous
4. Next Record>>
5. <<Previous
6. New Customer
7. Save Changes
8. Cancel Changes
9. Edit Record
10. Exit Form

The Find by Lastname, Next, and Previous buttons that are grouped together in the upper right corner of the Customer Information form are used to search for existing customer records. Pressing the Find by Lastname button opens a dialog box that allows the user to enter a customer's last name. The customer's name must be entered exactly as it is spelled. After the user presses the "OK" button, the dialog box will disappear and the first record that has a last name matching the name entered appears in the Customer Information form. The user can press "Cancel" instead of "OK," which terminates the search by last name. If the record that appears in the form is not the correct record, the user can browse through all records that have the same last name by using the Next and Previous buttons, which are located beside the Find by Lastname button. Pressing Next will cause the next matching record to be displayed in the form. Pressing Previous will cause the previous matching record to be displayed in the form.

The Next and Previous buttons discussed in the paragraph above are different from the Next Record >>, and << Previous buttons located at the bottom left of the Customer Information form. These two buttons place the next and previous customer record, respectively, in the Customer Information form regardless of last name. These buttons can be used to browse through all customer records. The records are ordered by customer number, which is determined by the order in which they were entered into the system.

The New Customer button clears the form and places it in edit mode. In this state, the form is ready for the user to enter the new customer's information. The Customer Number is automatically generated. The user should enter all other customer information and click the Save
Changes button to add the customer to the database. Pressing the Cancel Changes button causes any changes made to the current record in the form to be abandoned, and the record is returned to its original state. If the record being entered was entered after pressing New Customer but before the Save Changes button was pressed, the new information will be abandoned, and the record that was in the form prior to pressing the New Customer button will re-appear.

The Edit Record button is used to make changes to a record. After locating the record that needs to be changed, the user can press the Edit Record button. This places the record in edit mode and allows changes to be made. After the necessary changes are made, the user can either save or cancel the changes using the Save Changes and Cancel Changes buttons, respectively.

Finally, the Exit Form button will close the Customer Maintenance form. There is error checking coded into the form to prevent the user from making inadvertent mistakes. For example, if the user attempts to move to a different record before saving changes made to the current record, the system will prompt the user with a message explaining that the record has not been saved and giving him the option of saving.

Reservation Maintenance

The Reservation form contains information about both the customer's reservation and the payment information. The reservation information includes the following edit text fields: Customer Number, Last Name, First Name, Number of Guests, Beginning Date, Ending Date, Reservation Type, Room Number, Daily Rate, Weekly Rate, Monthly Rate, Extra Person, and Amount. The form also includes the payment information in the following edit text fields: Payment Method, Reference Number, Expiration Date, Approval Number, Deposit Requested,
Date Requested, Deposit Received, and Date Received. The Customer Number and the Room number edit text boxes are different from the others and are marked with an asterisk to designate them as table lookup fields. There are twelve options plus the two special fields on the form.

Each option button and the special edit text field's functions are listed and discussed below.

1. Locate
2. Next
3. Previous
4. Next Record>>
5. <<Previous
6. Edit Record
7. Save Changes
8. Cancel Changes
9. Find Vacancy
10. New Record
11. Invoice Details
12. Exit Form
13. Customer Number
14. Room Number

The Locate, Next, and Previous buttons are used together to search for existing customer reservations. Pressing the Locate button opens a dialog box to allow the user to enter the last name of the customer whose reservation is being sought. After the user has entered the customer's last name exactly as it is spelled and pressed the "OK" button, the dialog box disappears and the first reservation with a last name matching the name entered appears in the form. If the user presses "Cancel," instead of "OK," the search terminates; otherwise, the first record with a last name matching the last name entered appears in the form. The user can browse through all records matching the name entered by pressing the Next and Previous buttons accordingly. Pressing Next will cause the next matching record to be displayed in the form. Pressing Previous will cause the previous matching record to be displayed in the form.
The Next and Previous buttons discussed in the paragraph above are different from the Next Record >>, and Previous buttons located at the bottom left of the Reservation form. These two buttons place the next and previous reservation record, respectively, in the Reservation form regardless of last name. The user can use these buttons to browse through all reservation records. The records are ordered by invoice number, thus they appear in the order they were entered.

The Edit Record button is used when changes need to be made to a reservation. The user can use the Locate, Next, and Previous buttons in the top right of the Reservation form, or the Next Record >> and Previous buttons on the bottom left of the Reservation form to locate the record. Once the correct record is located, pressing the Edit Record button places the record in edit mode allowing changes to be made. After the user has made the necessary changes, the Save Changes button can be used to save the record or the Cancel Changes button to abandon the changes.

The user can determine room availability by using the Find Vacancy button. Pressing this button causes a dialog box to open that will prompt the user for the Beginning Date, Ending Date, and requested Capacity. After the user has entered this information and pressed the Show Vacancies button, a form opens containing a list of Available Rooms, the room descriptions, rates and capacities where the capacity is equal to or larger than the capacity designated in the dialog box. If no rooms appear in the listing, then there are no vacancies for the time frame and capacity specified.

The New Record button clears the form and places it in edit mode, ready for entry of a new record. Gray fields are populated automatically, based on other selections made within the
form. The Customer Number field and the Room Number fields are special and are designated with an asterisk. Double-clicking on either of these fields invokes a table lookup. If the Customer Number field is double-clicked, a small dialog box containing the customer table opens. This allows the user to visually locate the customer's record. Highlighting the record and pressing the "OK" button causes all the fields related to the customer record to be automatically populated. A similar table lookup can be invoked by double-clicking the room number field. The user need only find the room from the room table, highlight it and select "OK." When the room number has been selected the fields related to the room will be automatically populated in the reservation form. The remaining reservation information should be entered according to the User Guide. After all reservation information has been entered, the record can be saved by pressing the Save Changes button or abandoned by pressing the Cancel Changes button. Saving the record causes the Invoice Number to be generated and the new reservation record to be saved into the system. If the record being entered was new and the user presses the Cancel Changes button, the new record is discarded and the record that was in the form prior to pressing the New Record button re-appears. If the record was not new and the Cancel Changes button is pressed, the record remains in the form, but reverts to its previous state.

The Invoice Details button will open the Invoice Details form. This sub-module is discussed in the next section. The Customer Details button will open the Customer Information form, which was discussed in the Customer Maintenance section.

Reporting

The Report Menu form contains two sections. Each of these sections is divided into two sub-sections. The first section is Daily Occupant Reports. This section contains a sub-section for
Manager's reports and a sub-section for Maid's reports. The second section is Detail Reports. This section contains a sub-section for Today's reports and a sub-section for All Date's reports.

The reports in the Manager's and Maid's sub-sections have identical names. They are Room Occupation, Check-In, and Check-Out. The Manager's reports contain both occupant and financial information. The Maid's reports contain only occupant information.

The reports in the Today's and All Date's sub-sections have three reports with identical names. They are Account Summary, Advanced Deposits, and Reservations By Room. The All Date's reports contain the corresponding information for all dates, while the Today's reports contain information for only today's date. The All Date's sub-section contains an additional report called Deposits Not Received. Reports are discussed in more detail in the Report Descriptions section of this paper.

Exit Form

Finally, the Exit Form button closes the Reservation form. There are various error checking routines that prevent information being entered that violates business rules defined by Bayfront.

Invoice Details

The Invoice Details form is a sub-section of the reservation module because the two are so closely related. As mentioned in the previous section, the Invoice Details button is located on the Reservation Information form. After using the various methods to locate a customer's reservation record, the user can press the Invoice details button. This opens the Invoice Details form showing the details on the specified reservation. The Invoice Details form includes the following edit text fields: Last Name, First Name, Room Number, Beginning Date Reserved, Ending Date Reserved,
Reservation Type, Invoice Number, Customer Number, Date Deposit Received, Deposit Received, and Reservation Amount. These fields appear in the top portion of the Invoice Details form and are populated by the system only. The bottom portion contains a table with the following edit text fields: Transaction Date, Item, Account Number, Description, Amount, Tax, and Total. The Account Number field is designated with an asterisk as a table lookup field.

There are five options plus the special field listed, and they are discussed below:

1. Insert Records
2. Cancel Changes
3. Save Records
4. Edit Records
5. Delete Records
6. Account Number

The user can enter transactions for the customer's bill by pressing the Insert Records button. This will place the table in edit mode, ready for entry of the records. The transactions should be entered as described in the User's Guide. The Account Number field is another special field which when double-clicked will open a table of accounts for the user's visual selection. If everything is entered correctly, the individual table records are saved when the user moves to another record. The user can use the Cancel Changes button to return the current record to its previous state. Pressing the Save Records button saves the current record and takes the table out of edit mode. An entry can be edited, by pressing the Edit Records button, which places the table in edit mode and allows the user to make changes to the existing records and/or add new ones.

The Delete Records button deletes all the transactions in the table and the reservation, but only if the total on the invoice is zero.

Finally, pressing the Exit Form closes the form.