Guest House Management System



Technical Documentation

Contents:

- 1) Introduction
- 2) System Requirements
- 3) Forms
- 4) <u>Control Flow</u>
- 5) <u>Detailed review of all forms</u>
- 6) <u>Database Linkage</u>
- 7) Features that can be added
- 8) <u>Contributors</u>

Introduction:

- This software is based on VB.NET.
- Its purpose is to digitalize the guest house management system.
- The main features are:
 - Booking a room
 - Cancelling a room
 - Check availability of rooms
 - Signing up to create new accounts and login in to these accounts.

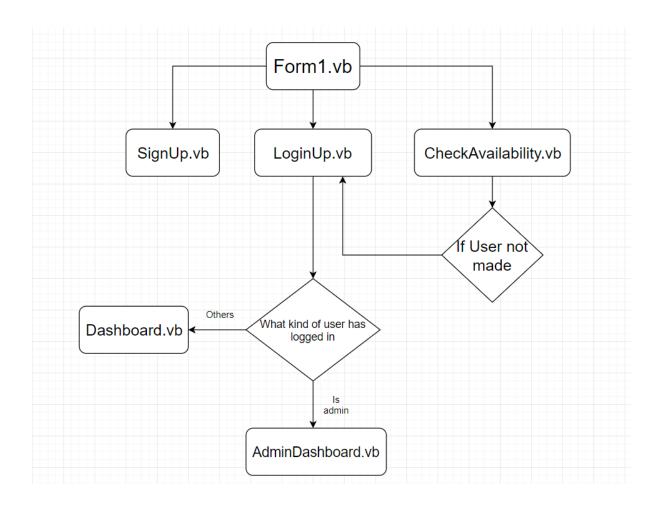
System Requirements:

- Operating System: Windows 10
- Processor: 1 Gigahertz
- RAM: 1gb
- Hard disk space: 16 GB
- Graphic Card: DirectX 9 or later with WDDM 1.0 driver
- Display: 800*600 pixels
- Visual Studio 2013 Professional
- Linking of database requirements:
 https://www.microsoft.com/en-
 in/download/details.aspx?id=13255

Forms:

- 1) <u>Form1.vb</u>
- 2) LoginForm1.vb
- 3) SignupForm1.vb
- 4) <u>Dashboard.vb</u>
- 5) formUpdatePassword.vb
- 6) AdminDashboard.vb
- 7) <u>UserControl admindashboardnontabul</u> <u>ar.vb</u>
- 8) <u>UserControl dynamiccontrol.vb</u>
- 9) checkAvailablity.vb

Control Flow:



Detailed Forms Review:

Form1.vb:

- It is the opening page that displays 3 buttons:
 - o btnSignUp
 - Opens the SignupForm1.vb form that creates new users.
 - btnLogin
 - Opens the LoginForm1.vb form that logins registered users and admin.
 - btnCheckAvailabality
 - Opens the checkAvailablity.vb form that checks for availability of rooms.
- Features:
 - The subroutine PreVentFlicker() prevents flickering of screen.
 - Source: https://docs.microsoft.com/en-us/dotnet/api/system.windows.forms.co
 https://docs.microsoft.com/en-us/dotnet/api/system.windows.forms.co
 https://docs.microsoft.com/en-us/dotnet/api/system.windows.forms.co
 https://docs.microsoft.com/en-us/dotnet/api/system.windows.forms.co
 https://docs.microsoft.com/en-us/docs.microsoft.com/en
 - The subroutine max() resizes the components of Form1.vb to fit the resolution of the device.

- The subroutine init() closes any other forms that are open.
- The function SetProcessDPIAware() that is called on form load is to prevent the database to overwrite the font size of our UI.

SignupForm1.vb:

 It is the page that adds new users to the database taking input as email, first name, last name, and other necessary user credentials.

- Features:

 CAPTCHA: A 5 character alphanumeric string is asked to be filled by the user for security. This captcha is loaded by the button **btnRefresh**.

Source:

https://www.codeproject.com/articles/7 73785/how-to-add-captcha-to-your-aspnet-webforms-projec

Password Hashing: Generates the hash value –
using the function GenerateSHA256String(ByVal
inputString) for the password provided by the

user to store in the database for security reasons.

Source: https://codeshare.co.uk/blog/sha-256-

and-sha-512-hash-examples/

- Data Validation:
 - IsValidEmailFormat(ByVal s As String)
 checks if the email provided in valid
 format.
 - IsPhoneNumberValid(phoneNumber As String) checks if the phone number provided is of valid format (10 digits)

LoginForm1.vb:

- This form takes the email-ID and password of the user and takes them to their respective dashboards: Dashboard.vb for normal users and AdminDashboard.vb for admin.
- Features:
 - Show Password: The button PassButton manages the password text field txtPassword.

Dashboard.vb:

- This is the form that loads when the guest, or faculty or staff or student logins in.
- Features:
 - My Bookings: clicking the button
 btnMyBookings firstly by changing the border
 size and then the GroupBox1 is made visible and then the Timer2_click () is called to help move the GroupBox1.
 - Book a Room: Opens the formCheck_Availability.vb
 - O My Bills:
 - Update Password: Clicking the button
 btnUpdatePassword firstly by changing the
 border size and then the
 UserControl_dynamiccontrol.vb form loads but
 is set to be not visible. Then the subroutine
 Timer2_Tick () is called that is used to slowly
 make it move.

- Log out: Closes the Dashboard.vb form.
- Subroutines upsize() and myboksize() calculates the size for update password and my booking groups.
- Slideshow: Initially the first picture(PictureBox2) covers the whole area. Then as this picture moves left, the next picture(PictureBox3) follows PictureBox3. Now as soon as PictureBox3 exits the frame the PictureBox3 is put behind picture 3 (PictureBox4). And this keeps on going.

AdminDashboard.vb:

- The form that opens when the admin logs in from the Login form.
- It displays admin's account which is different from the normal user.
- Features:

- Current Bookings: This loads
 UserControl_dynamiccontrol_Load() from the
 UserControl_dynamiccontrol.vb and shows that form.
- Pending Bookings: This loads
 UserControl_dynamiccontrol_Load() from the
 UserControl_dynamiccontrol.vb and shows
 that form.
- Book a Room: Opens the Check_Availability.vb
 form
- Approve Users: This loads
 UserControl_dynamiccontrol_Load() from the
 UserControl_dynamiccontrol.vb and shows
 that form.
- Update Password:
 UserControl_admindashboardnontabular1.vb is shown.
- Log Out: Closes the from
- o Add Room:

UserControl_admindashboardnontabular1.vb form is opened.

FormUpdatePassword.vb:

Used to update the password of the current account.

- Features:

Show Password: The button PassButton1,
 PassButton2 and PassButton3 manages the password text field txtPassword(1,2,3) and shows the password in clear text when it is pressed and held.

CheckAvailablity.vb:

- Asks for check in and check out date and shows the number of available rooms and allows the logged in user to select from the list of available rooms.
- Functions and Subroutines:
 - The subroutine genBookingID() generates the booking ID for the booking to be added in the database by concatenating the type of user – Staff, student, guest, faculty and a random number.

- The subroutine btnCheckAval_Click() checks the number of available rooms by seeing the dates given by the user and adding the available rooms between those dates from the database.
- Clicking the button btnBookNow calls the btnBookNow_Click() which books the rooms selected from the Drop down list comboBoxAvailRooms
- The rules for availability is got from :
 http://intranet.iitg.ernet.in/establishment/rules.
 htm

UserControl_admindashboardnontabul ar.vb:

- This is the form that helps the user to change their password and also add or remove rooms.
- Functions and Subroutines:
 - Clicking btnSaveChanges calls the subroutine btnSaveReload_Click(sender As Object, e As EventArgs) that adds or removes rooms based on which radio button is selected and it also

- stores if the room is needed for a VIP based on a check box.
- Clicking btnUpdatePass calls the subroutine btnUpdatePass_Click(sender As Object, e As EventArgs) that checks if the passwords in the appropriate fields match and if they do, changes the password.

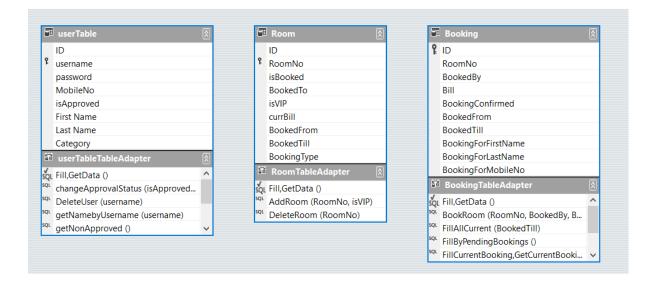
UserControl_dynamiccontrol.vb:

- This helps the admin to approve users, and confirm pending bookings.
- Functions and Subroutines:
 - The function loadApproveButtons() loads the controls to be approved users and aligns them accordingly.
 - The function loadBookingButtons() loads the pending booking that are to approved and aligns them accordingly.
 - Addhandler is used to direct a button click towards a particular function.
 - The subroutine confirmbutton_click() is used to confirm the booking and save it in the database.

 The subroutine cancelbutton_click() is used to cancel the booking.

Database Linkage:

- MS Access 2016 has been used as database system.
- We have used different Table Adapters to get and fill data from the database
- We have also used Table Binding Source to link some of the fields directly to the database
- For writing queries we have used Query
 Wizard to ease the process of querying database.



Features to be added:

- Catering and Laundry management
- Profile Personalization
- Bulk booking during fests.

Contributors:

- Rutvik, Sanchit, Aman, Naveen, Rishi, Kartik, Sriharsha