



SE3523 -Web Engineering

Project Report

“Mehfil: Event Booking Website”

Submitted by:

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Table of Contents

Chapter 1: Introduction	3
1.1. Overview of the Entire Project	3
1.2. Introduction.....	3
1.3. Objectives.....	3
1.4. Significance	4
Chapter 2: Problem Statement and Solution	4
2.1. Problem Statement.....	4
2.2. Solution	4
Chapter 3: System Implementation.....	5
3.1. Implementation	5
3.1.1. Front-End	5
3.1.2. Back-End	11
3.1.3. Database.....	13
3.2. Scenarios	16
3.2.1. Message Form in ‘contact.html’	16
3.2.2. Event Booking Form in ‘booking.html’	18
Chapter 4: Conclusion.....	19
4.1. Conclusion	19
4.1.1. Key Findings and Outcomes	19
4.1.2. Impact	19
4.1.3. Recommendations or Future Improvements.....	20

Chapter 1: Introduction

1.1. Overview of the Entire Project

The **Mehfil** event-booking website is a comprehensive platform designed to allow users to seamlessly explore services, view galleries, inquire through a contact form, and book events. Targeted primarily at individuals and event planners, Mehfil offers a one-stop digital solution for discovering event venue options, reviewing menus and packages, and submitting event bookings. By utilizing modern web development practices and a robust backend, Mehfil provides a dynamic and user-friendly experience, ensuring that event planning becomes an easy and streamlined process.

1.2. Introduction

The Mehfil website is a custom-built web application designed for event booking and client communication. It enables users to explore the venue's gallery, services, and menu, while also allowing them to get in touch with the venue's team via a contact form or directly book events through a booking page. With a combination of a polished front-end interface and a powerful back-end system, the platform provides an efficient and interactive user experience. The backend is responsible for handling all data interactions and form submissions, while the front-end ensures that users can easily navigate through the website and submit their event booking requests.

1.3. Objectives

The main objectives of the Mehfil project are:

1. **User Experience:** To provide a visually appealing, easy-to-navigate, and responsive platform for event bookings.
2. **Streamlined Communication:** To enable efficient communication between users and the event venue via the Contact Us form.
3. **Booking Management:** To facilitate a user-friendly booking process where event organizers can submit details and make reservations.
4. **Data Handling:** To securely store all booking and contact information in a structured database.

5. **Automation:** To implement automatic form reset after submission for a smoother user experience.

1.4. Significance

Mehfil addresses the growing demand for online event booking systems by combining modern web development practices with user-centered design. As events and gatherings become more frequent, the need for a central platform where users can explore services and book events is essential. The website reduces the friction in event booking and inquiry processes, streamlining the way people plan their events. Mehfil also strengthens communication between the client and the service provider, enabling personalized interactions, which ultimately improves customer satisfaction and business success.

Chapter 2: Problem Statement and Solution

2.1. Problem Statement

In the event management industry, clients often struggle with the traditional means of finding, booking, and inquiring about event services. Venue managers often face challenges in keeping track of multiple event requests and managing client communication.

Additionally, the booking process is often tedious and not streamlined, which creates inefficiencies for both clients and service providers. Without a digital platform, the process is prone to errors, delays, and confusion.

2.2. Solution

The Mehfil website provides a digital solution to these problems by offering a fully integrated event booking system. The website allows users to easily browse through the gallery, review services and menu options, send inquiries through the Contact Us form, and book events directly. Through the use of a well-organized database and user-friendly forms, the system automates several manual processes, ensuring faster responses and accurate data management. For example, users can fill out booking information on the event page, and the system securely stores this data in a database. Once the form is submitted, the details are sent to the venue for processing, and users are immediately notified. By streamlining the entire

booking and inquiry process, Mehfil addresses the need for a more efficient and reliable event management platform.

Chapter 3: System Implementation

3.1. Implementation

The implementation of the Mehfil website involves three key components: the front-end, back-end, and database. Each of these components works in tandem to provide an optimized and smooth experience for users, while ensuring the system's robustness and security. This chapter will explain how each of these components contributes to the overall system functionality.

3.1.1. Front-End

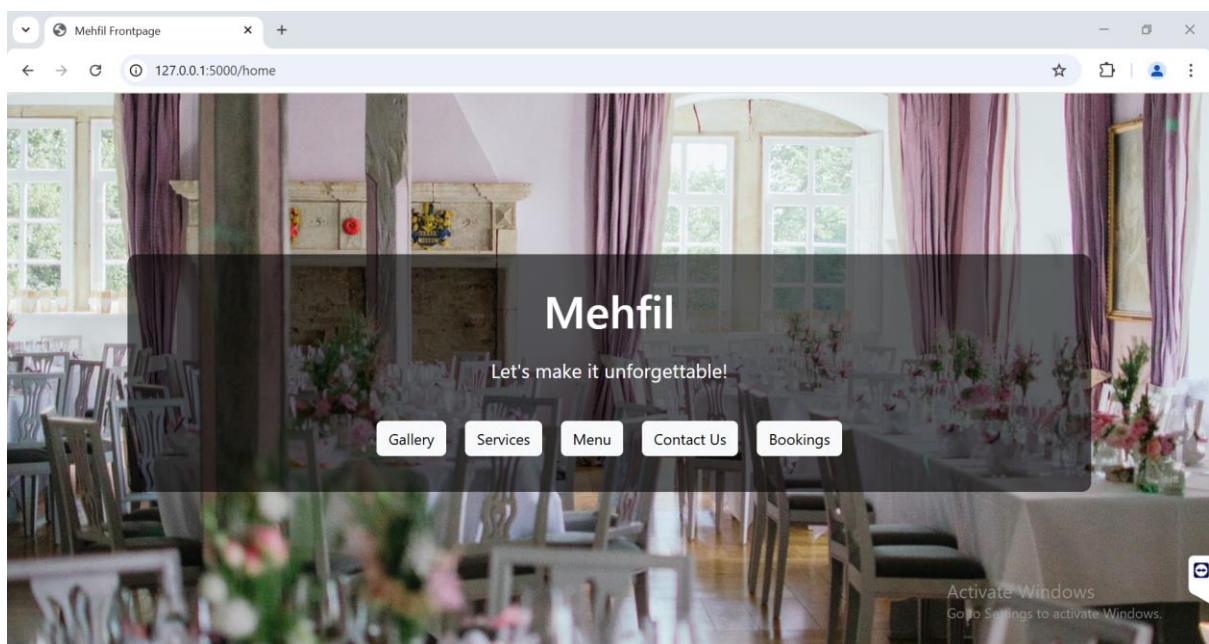
The front-end of Mehfil is developed using several web technologies, including **HTML**, **CSS**, **JavaScript**, **Bootstrap**, **jQuery**, and **AngularJS**. These technologies collaborate to create a responsive, modern, and interactive website that provides an excellent user experience.

- **HTML:** Forms the structural foundation of the website by organizing content like text, images, buttons, and form fields in a clean layout.
- **CSS:** Used to style and customize the visual appearance of the website. This ensures that all elements are aligned with the theme and brand identity. CSS also makes the website mobile-responsive, allowing it to adapt to different screen sizes and devices.
- **Bootstrap:** This popular front-end framework is utilized to enhance the website's responsiveness and aesthetics. It simplifies layout design with its grid system, pre-styled components (buttons, forms, modals), and responsive classes. Bootstrap ensures that the Mehfil website is accessible on various devices, from desktops to mobile phones, with minimal custom CSS.
- **jQuery:** A fast and lightweight JavaScript library, jQuery simplifies DOM manipulation, event handling, and AJAX requests. It plays a key role in providing interactive elements like form validation, dynamic content updates, and animations (e.g., form submission feedback, page transitions).

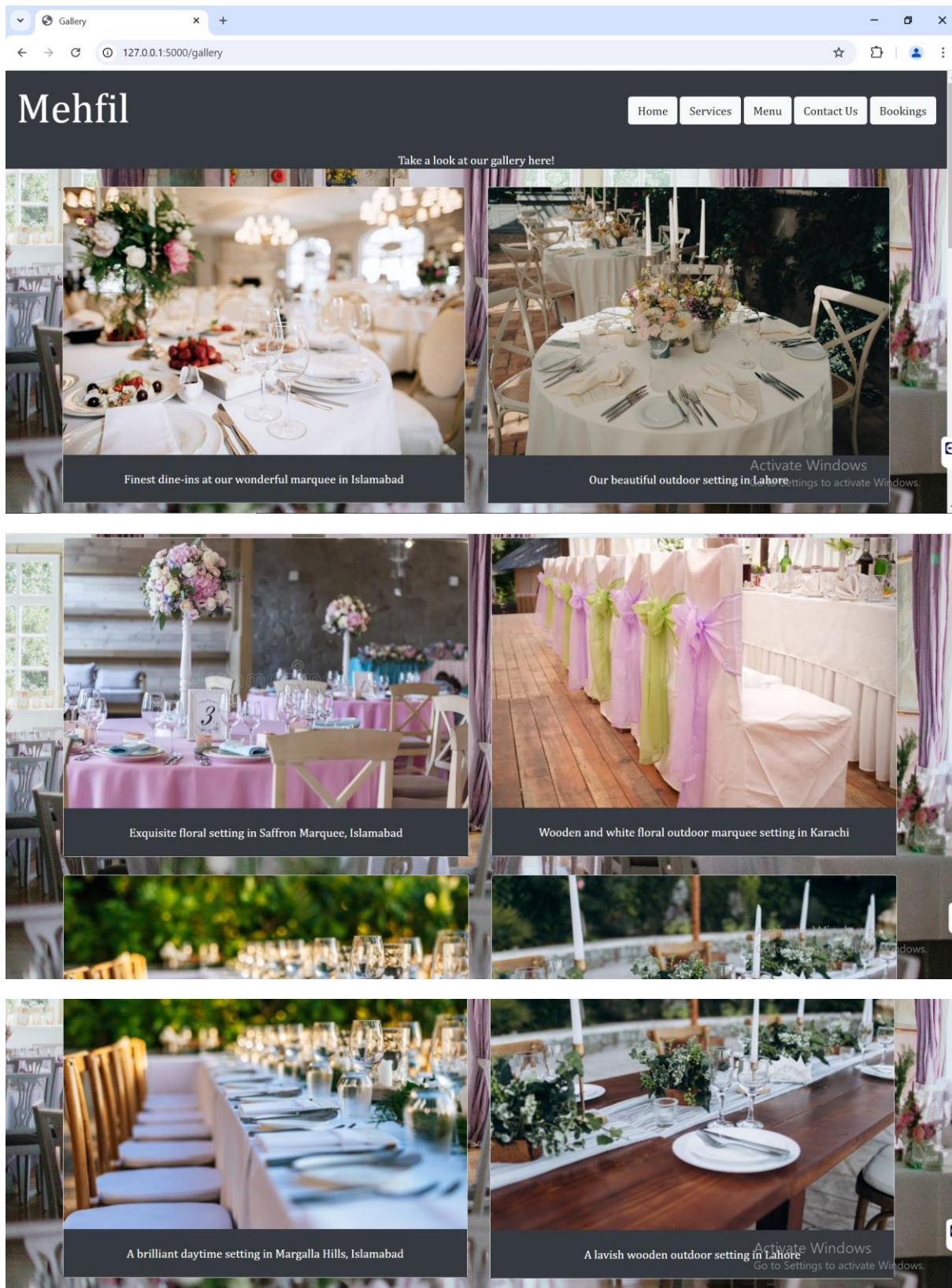
- **AngularJS:** AngularJS is employed to manage the dynamic parts of the website, such as the handling of user interactions, form submission, and providing a single-page application-like experience. AngularJS is especially useful in ensuring the seamless transition between pages and offering users an efficient browsing experience without full page reloads.

Together, these technologies ensure that the Mehfil website is both visually appealing and functionally efficient, enhancing the user experience and ensuring smooth navigation.

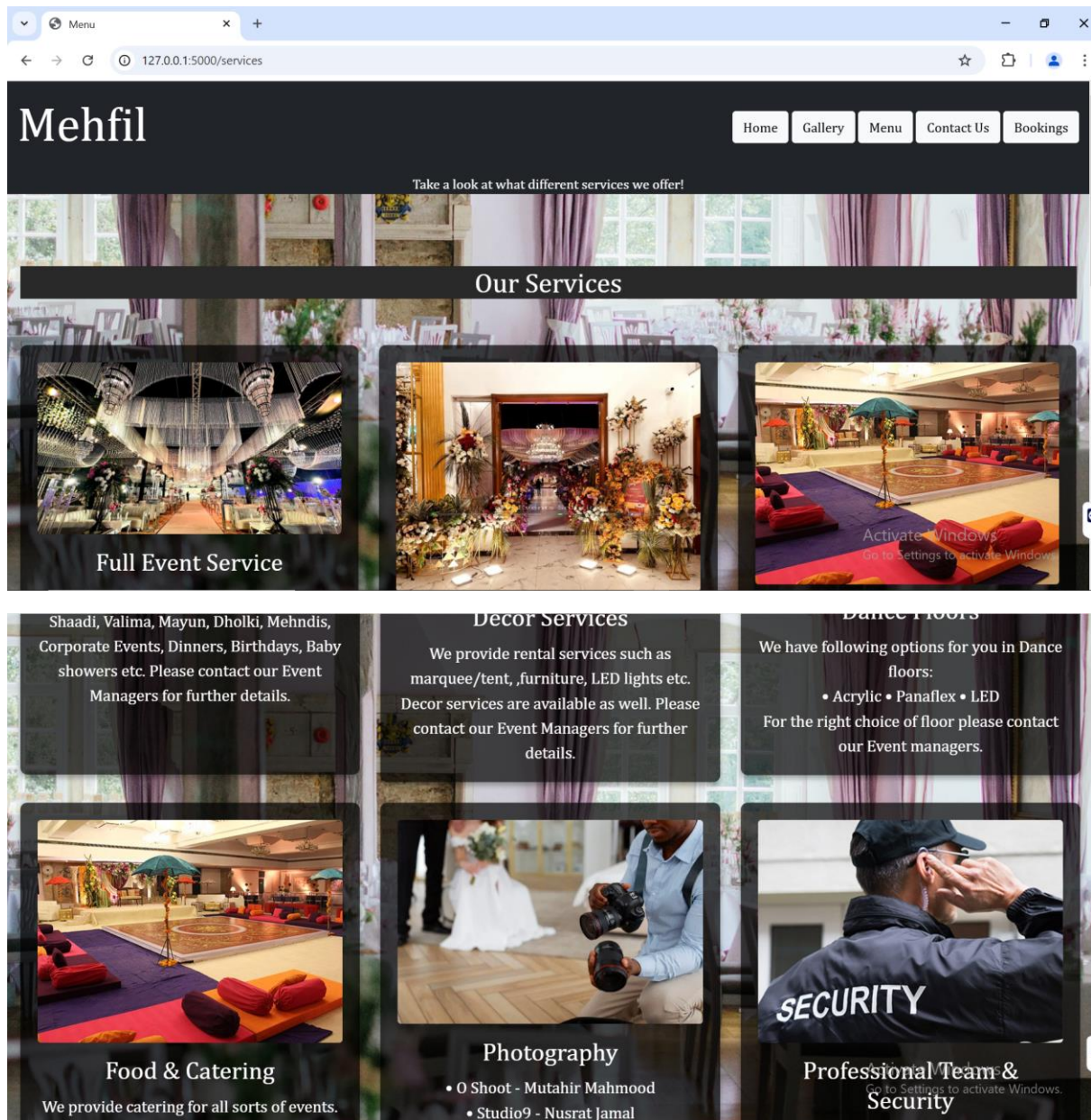
3.1.1.1. Home Page (frontpage.html)



3.1.1.2. Gallery Page (gallery.html)



3.1.1.3. Services Page (services.html)




The screenshot shows a web browser window with the address bar displaying '127.0.0.1:5000/services'. The website has a dark header with the 'Mehfil' logo on the left and navigation links 'Home', 'Gallery', 'Menu', 'Contact Us', and 'Bookings' on the right. Below the header is a banner image of a decorated room with the text 'Take a look at what different services we offer!'. The main content area is titled 'Our Services' and features six service cards arranged in a 2x3 grid. Each card includes a background image, a title, and a description. The services listed are Full Event Service, Decor Services, Dance Floors, Food & Catering, Photography, and Professional Team & Security. The 'Decor Services' card lists rental items like marquee, tent, furniture, and LED lights. The 'Dance Floors' card lists options like Acrylic, Panaflex, and LED. The 'Photography' card lists photographers O Shoot - Mutahir Mahmood and Studio9 - Nusrat Jamal. The 'Professional Team & Security' card features an image of a security guard and the word 'SECURITY'.


Mehfil Home Gallery Menu Contact Us Bookings

Take a look at what different services we offer!

Our Services




Full Event Service



Decor Services

We provide rental services such as marquee/tent, furniture, LED lights etc. Decor services are available as well. Please contact our Event Managers for further details.




Dance Floors

We have following options for you in Dance floors:


- Acrylic • Panaflex • LED

For the right choice of floor please contact our Event managers.




Food & Catering

We provide catering for all sorts of events.



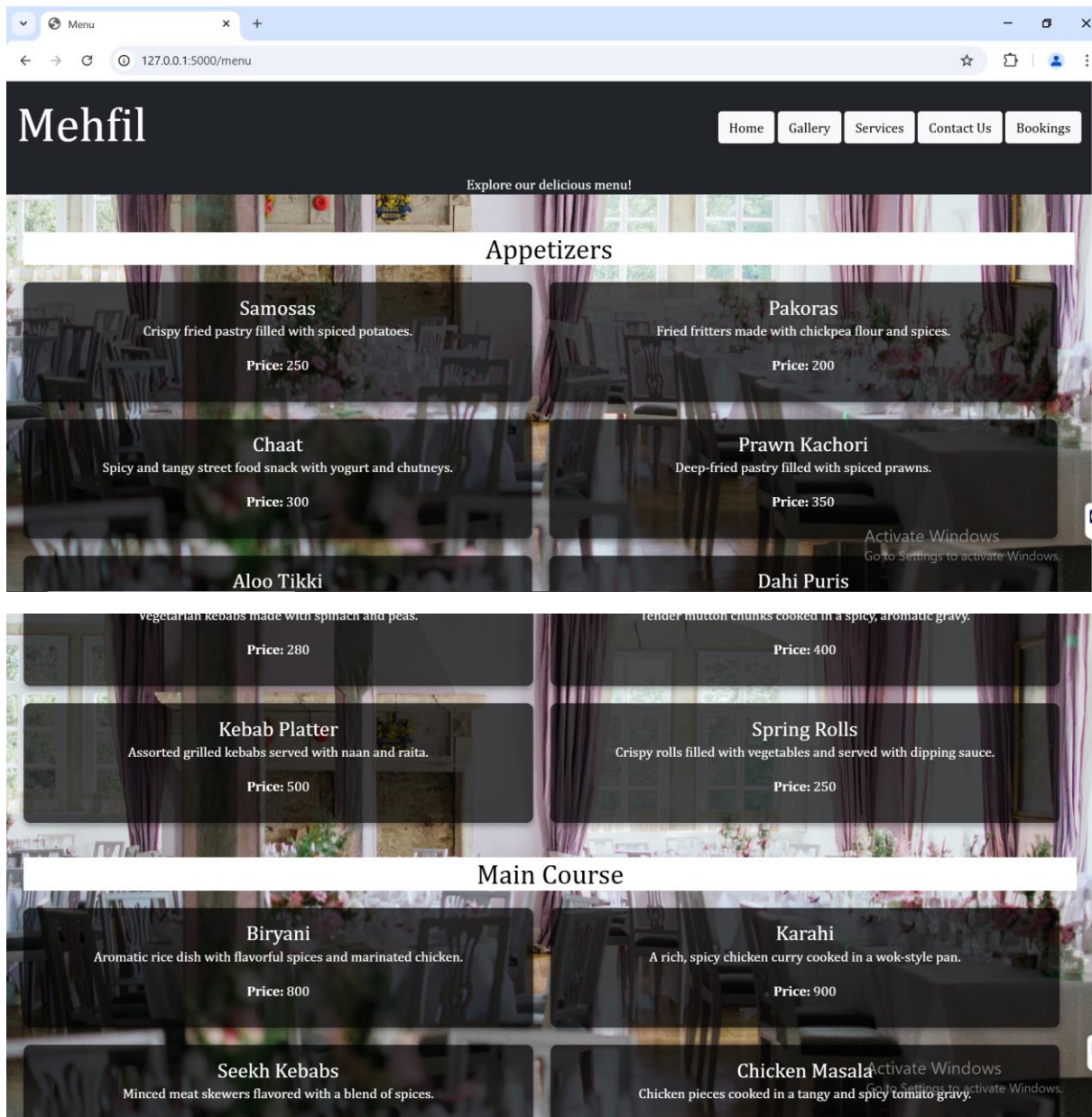
Photography

- O Shoot - Mutahir Mahmood
- Studio9 - Nusrat Jamal

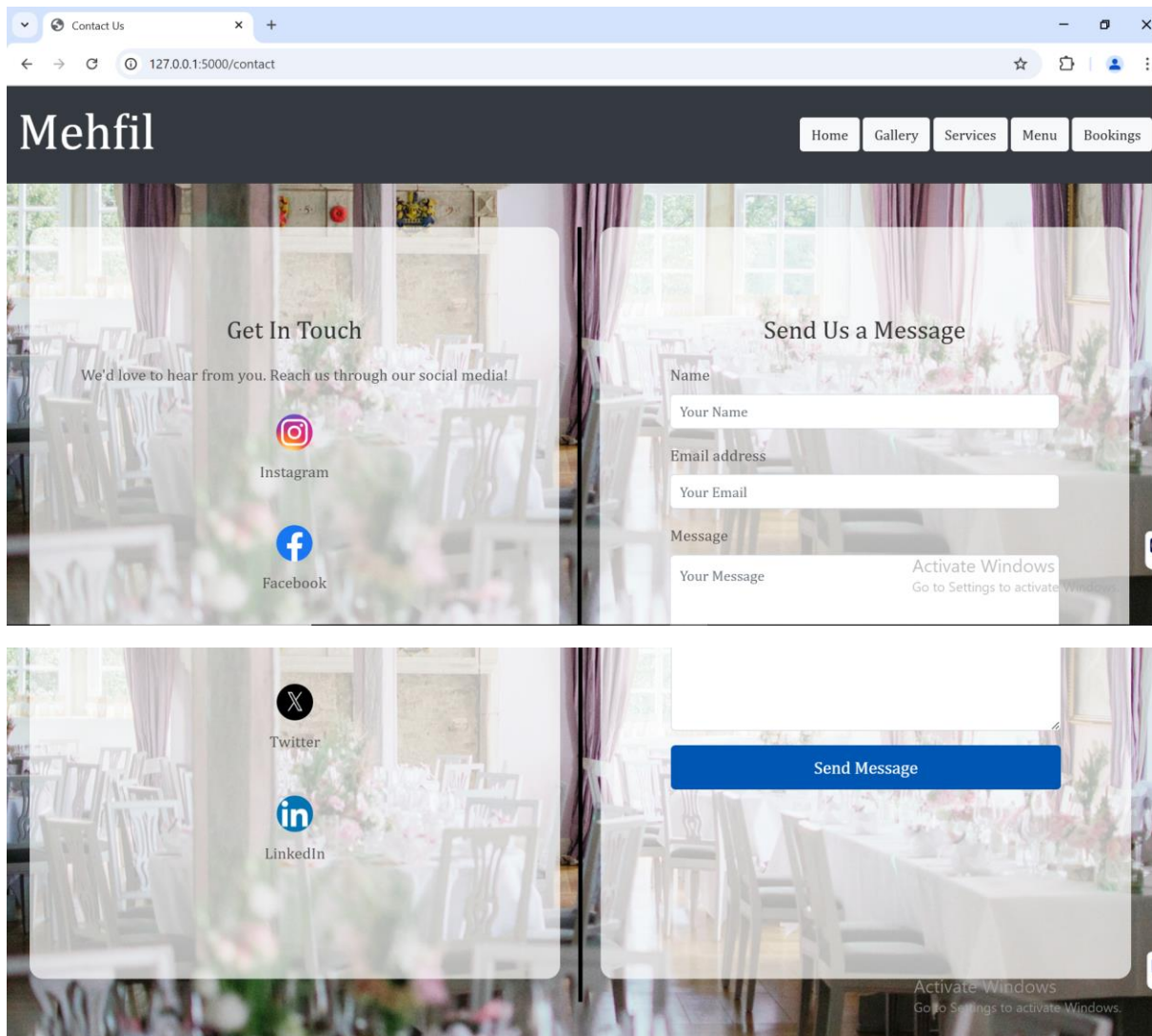


Professional Team & Security

3.1.1.4. Menu Page (menu.html)



3.1.1.5. Contact Page (contact.html)



The screenshot displays a web browser window with the address bar showing "127.0.0.1:5000/contact". The page features a dark header with the "Mehfil" logo and a navigation menu containing "Home", "Gallery", "Services", "Menu", and "Bookings". The main content area is divided into two columns. The left column, titled "Get In Touch", includes the text "We'd love to hear from you. Reach us through our social media!" and icons for Instagram, Facebook, Twitter, and LinkedIn. The right column, titled "Send Us a Message", contains a form with fields for "Name", "Email address", and "Message", followed by a "Send Message" button. A "Your Name" label is positioned above the first input field. A "Message" label is positioned above the text area. A "Send Message" button is located below the form. A watermark "Activate Windows" is visible in the bottom right corner of the page.

Contact Us

127.0.0.1:5000/contact

Mehfil

Home Gallery Services Menu Bookings

Get In Touch

We'd love to hear from you. Reach us through our social media!

Instagram

Facebook

Twitter

LinkedIn

Send Us a Message

Name

Your Name

Email address

Your Email

Message

Your Message

Send Message

Activate Windows
Go to Settings to activate Windows.

3.1.1.6. Booking Page (booking.html)

Book Your Event!

Name
Your Name

Email
Your Email

Phone Number
Your Phone Number

Address
Your Address

City
☐ Islamabad
☐ Lahore
☐ Karachi

Date
mm/dd/yyyy

Time Slot
12PM - 3PM

Payment
☐ Debit/Credit Card
☐ EasyPaisha
☐ JazzCash
☐ Other Wallets

Confirm

3.1.2. Back-End

The back-end of the Mehfil website is built using **Python** and **Flask**, which provides a lightweight yet powerful web framework for building dynamic web applications. Flask is ideal for handling the routing, form submissions, and integration of the front-end with the database.

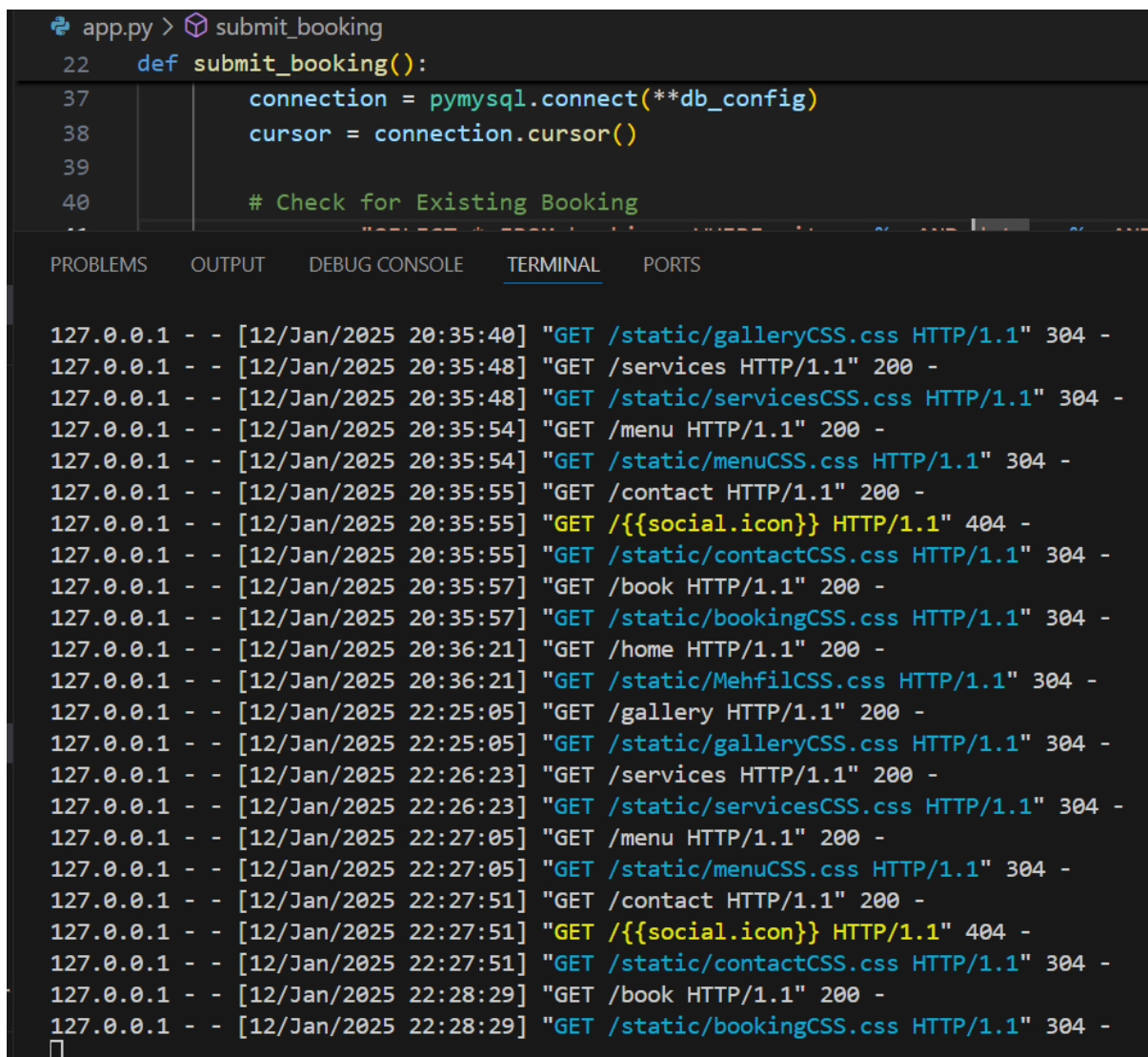
When users submit their forms (either contact or booking), the Flask backend processes the data. The backend ensures that the submitted data is validated and then stored securely in a **MySQL** database. Flask's simplicity and flexibility allow for easy handling of form data, user sessions, and error handling, making it an efficient backend solution.

Additionally, Flask facilitates the integration of necessary features such as email notifications to users after successful bookings, providing real-time feedback and keeping users informed about their submission status.

3.1.2.1. Command Prompt

```
Command Prompt
C:\Users\Hamza\Documents\6th SEM\7) WEB\1) ASSIGNS\3\Mehfil v5>python app.py
* Serving Flask app 'app'
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on http://127.0.0.1:5000
Press CTRL+C to quit
* Restarting with watchdog (windowsapi)
* Debugger is active!
* Debugger PIN: 133-016-591
* Detected change in 'C:\Users\Hamza\Documents\6th SEM\7) WEB\1) ASSIGNS\3\Mehfil v5\app.py', reloading
* Detected change in 'C:\Users\Hamza\Documents\6th SEM\7) WEB\1) ASSIGNS\3\Mehfil v5\app.py', reloading
* Restarting with watchdog (windowsapi)
* Debugger is active!
* Debugger PIN: 133-016-591
* Detected change in 'C:\Users\Hamza\AppData\Local\Programs\Python\Python311\Lib\site-packages\_pytest\junitxml.py', reloading
* Restarting with watchdog (windowsapi)
* Debugger is active!
* Debugger PIN: 133-016-591
* Detected change in 'C:\Users\Hamza\AppData\Local\Programs\Python\Python311\Lib\posixpath.py', reloading
* Restarting with watchdog (windowsapi)
* Debugger is active!
* Debugger PIN: 133-016-591
* Detected change in 'C:\Users\Hamza\Documents\6th SEM\7) WEB\1) ASSIGNS\3\Mehfil v5\app.py', reloading
* Detected change in 'C:\Users\Hamza\Documents\6th SEM\7) WEB\1) ASSIGNS\3\Mehfil v5\app.py', reloading
* Restarting with watchdog (windowsapi)
* Debugger is active!
* Debugger PIN: 133-016-591
* Detected change in 'C:\Users\Hamza\Documents\6th SEM\7) WEB\1) ASSIGNS\3\Mehfil v5\app.py', reloading
* Detected change in 'C:\Users\Hamza\Documents\6th SEM\7) WEB\1) ASSIGNS\3\Mehfil v5\app.py', reloading
* Restarting with watchdog (windowsapi)
* Debugger is active!
* Debugger PIN: 133-016-591
* Detected change in 'C:\Users\Hamza\Documents\6th SEM\7) WEB\1) ASSIGNS\3\Mehfil v5\app.py', reloading
* Detected change in 'C:\Users\Hamza\Documents\6th SEM\7) WEB\1) ASSIGNS\3\Mehfil v5\app.py', reloading
* Detected change in 'C:\Users\Hamza\Documents\6th SEM\7) WEB\1) ASSIGNS\3\Mehfil v5\app.py', reloading
* Restarting with watchdog (windowsapi)
```


3.1.2.2. VSCode Terminal



```
app.py > submit_booking
22 def submit_booking():
37     connection = pymysql.connect(**db_config)
38     cursor = connection.cursor()
39
40     # Check for Existing Booking
...
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

127.0.0.1 - - [12/Jan/2025 20:35:40] "GET /static/galleryCSS.css HTTP/1.1" 304 -
127.0.0.1 - - [12/Jan/2025 20:35:48] "GET /services HTTP/1.1" 200 -
127.0.0.1 - - [12/Jan/2025 20:35:48] "GET /static/servicesCSS.css HTTP/1.1" 304 -
127.0.0.1 - - [12/Jan/2025 20:35:54] "GET /menu HTTP/1.1" 200 -
127.0.0.1 - - [12/Jan/2025 20:35:54] "GET /static/menuCSS.css HTTP/1.1" 304 -
127.0.0.1 - - [12/Jan/2025 20:35:55] "GET /contact HTTP/1.1" 200 -
127.0.0.1 - - [12/Jan/2025 20:35:55] "GET /{{social.icon}} HTTP/1.1" 404 -
127.0.0.1 - - [12/Jan/2025 20:35:55] "GET /static/contactCSS.css HTTP/1.1" 304 -
127.0.0.1 - - [12/Jan/2025 20:35:57] "GET /book HTTP/1.1" 200 -
127.0.0.1 - - [12/Jan/2025 20:35:57] "GET /static/bookingCSS.css HTTP/1.1" 304 -
127.0.0.1 - - [12/Jan/2025 20:36:21] "GET /home HTTP/1.1" 200 -
127.0.0.1 - - [12/Jan/2025 20:36:21] "GET /static/MehfilCSS.css HTTP/1.1" 304 -
127.0.0.1 - - [12/Jan/2025 22:25:05] "GET /gallery HTTP/1.1" 200 -
127.0.0.1 - - [12/Jan/2025 22:25:05] "GET /static/galleryCSS.css HTTP/1.1" 304 -
127.0.0.1 - - [12/Jan/2025 22:26:23] "GET /services HTTP/1.1" 200 -
127.0.0.1 - - [12/Jan/2025 22:26:23] "GET /static/servicesCSS.css HTTP/1.1" 304 -
127.0.0.1 - - [12/Jan/2025 22:27:05] "GET /menu HTTP/1.1" 200 -
127.0.0.1 - - [12/Jan/2025 22:27:05] "GET /static/menuCSS.css HTTP/1.1" 304 -
127.0.0.1 - - [12/Jan/2025 22:27:51] "GET /contact HTTP/1.1" 200 -
127.0.0.1 - - [12/Jan/2025 22:27:51] "GET /{{social.icon}} HTTP/1.1" 404 -
127.0.0.1 - - [12/Jan/2025 22:27:51] "GET /static/contactCSS.css HTTP/1.1" 304 -
127.0.0.1 - - [12/Jan/2025 22:28:29] "GET /book HTTP/1.1" 200 -
127.0.0.1 - - [12/Jan/2025 22:28:29] "GET /static/bookingCSS.css HTTP/1.1" 304 -
```

3.1.3. Database

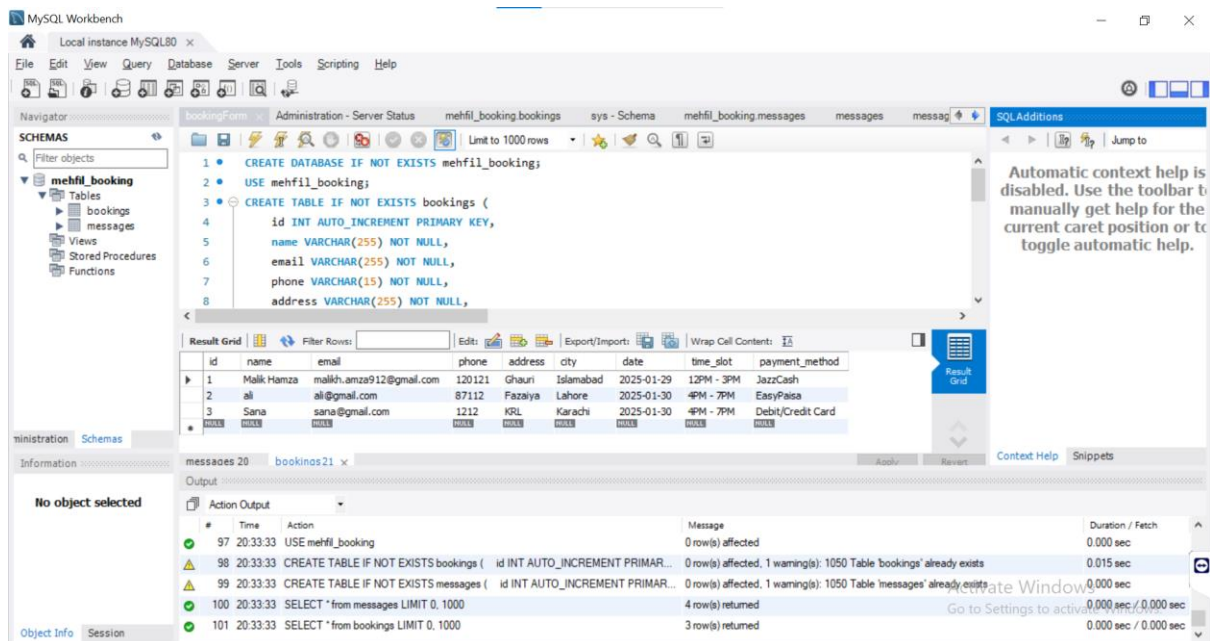
The database for the Mehfil website is powered by **SQL/MySQL**, an open-source relational database management system (RDBMS) widely used in web development. It ensures that the data entered by users—whether it be contact messages or event bookings—is securely stored and easily retrievable.

MySQL Workbench is used as a graphical interface to manage the database, creating and modifying schemas, tables, and entries. The database stores two main types of data:

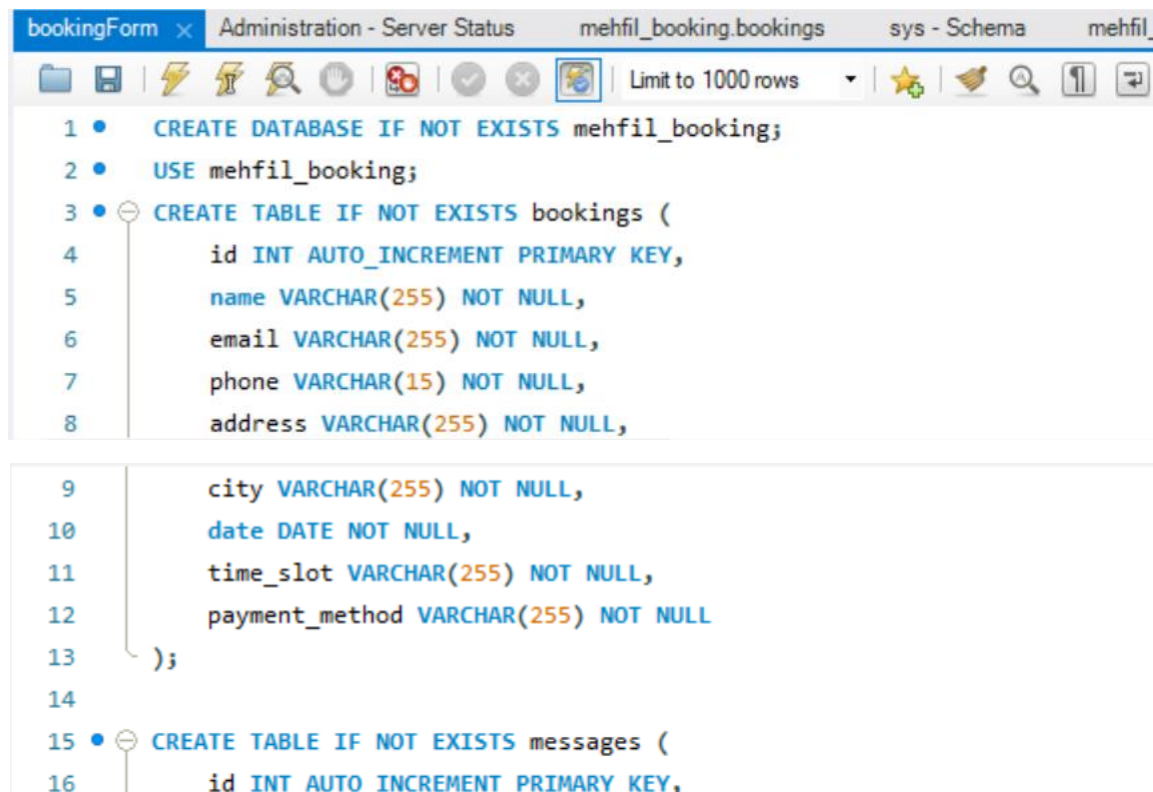
1. **User Submissions:** Data from the contact and booking forms, including user details and event preferences.

2. **Event Data:** Details about events, venues, services, and menus, which users explore before booking.

3.1.3.1. Workbench



3.1.3.2. Database Setup



```

17     name VARCHAR(255) NOT NULL,
18     email VARCHAR(255) NOT NULL,
19     message VARCHAR(255) NOT NULL
20 );
21
22 • SELECT * from messages;
23 • SELECT * from bookings;

```

3.1.3.3. Bookings Table

Local instance MySQL80
mehfil_booking.bookings

Table Details

Engine: **InnoDB**
Row format: **Dynamic**
Column count: **9**
Table rows: **2**
AVG row length: **8192**
Data length: **16.0 KiB**
Index length: **0.0 bytes**
Max data length: **0.0 bytes**
Data free: **0.0 bytes**
Table size (estimate): **16.0 KiB**
File format:
Data path: **C:\ProgramData\MySQL\MySQL Server 8.0\Data\mehfil_booking\bookings.ibd**
Update time: **2025-01-12 14:51:33**

Information on this page may be outdated. Click [Analyze Table](#) to update it.

Column	Type	Default Value	Nullable	Character Set	Collation	Privileges
address	varchar(255)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references
city	varchar(255)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references
date	date		NO			select,insert,update,references
email	varchar(255)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references
id	int		NO			select,insert,update,references
name	varchar(255)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references
payment_method	varchar(255)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references
phone	varchar(15)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references
time_slot	varchar(255)		NO	utf8mb4	utf8mb4_0900_...	select,insert,update,references

3.1.3.4. Messages Table

InfoColumnsIndexesTriggersForeign keysPartitionsGrantsDDL

Local instance MySQL80

mehfil_booking.messages

Table Details

Engine:

InnoDB

Row format:

Dynamic

Column count:

4

Table rows:

4

AVG row length:

4096

Data length:

16.0 KiB

Index length:

0.0 bytes

Max data length:

0.0 bytes

Data free:

0.0 bytes

Table size (estimate):

16.0 KiB

File format:

Data path:

C:\ProgramData\MySQL\MySQL Server 8.0\Data\mehfil_booking\messages.ibd

Update time:

2025-01-12 20:31:57

Information on this page may be outdated. Click

Analyze Table

to update it.

InfoColumnsIndexesTriggersForeign keysPartitionsGrantsDDL

Column

Type

Default Value

Nullable

Character Set

Collation

Privileges

◇ email

varchar(255)

NO

utf8mb4

utf8mb4_0900_...

select,insert,update,references

◇ id

int

NO

select,insert,update,references

◇ message

varchar(255)

NO

utf8mb4

utf8mb4_0900_...

select,insert,update,references

◇ name

varchar(255)

NO

utf8mb4

utf8mb4_0900_...

select,insert,update,references

3.2. Scenarios

The following two scenarios describe how the user interacts with the Mehfil website's forms:

3.2.1. Message Form in 'contact.html'

In the **Contact Us** section, the user fills out a form with details like name, email, and the message they want to send. Once the "Submit" button is clicked, the form data is sent to the backend via a **POST request**. The backend processes the message and stores it in the database, ensuring it reaches the appropriate recipient. After submission, the user receives a confirmation message, and the form resets for the next use.

Send Us a Message

Name

Ahmed

Email address

ahmed@gmail.com

Message

Hello there

Send Message

Activate Windows
Go to Settings to activate Windows.

messages x messages - Table mehfil_booking.messages messages - Table mehfil_booking.bookings messages - Table mehfil_boc

Limit to 1000 rows

1 • SELECT * FROM mehfil_booking.messages;

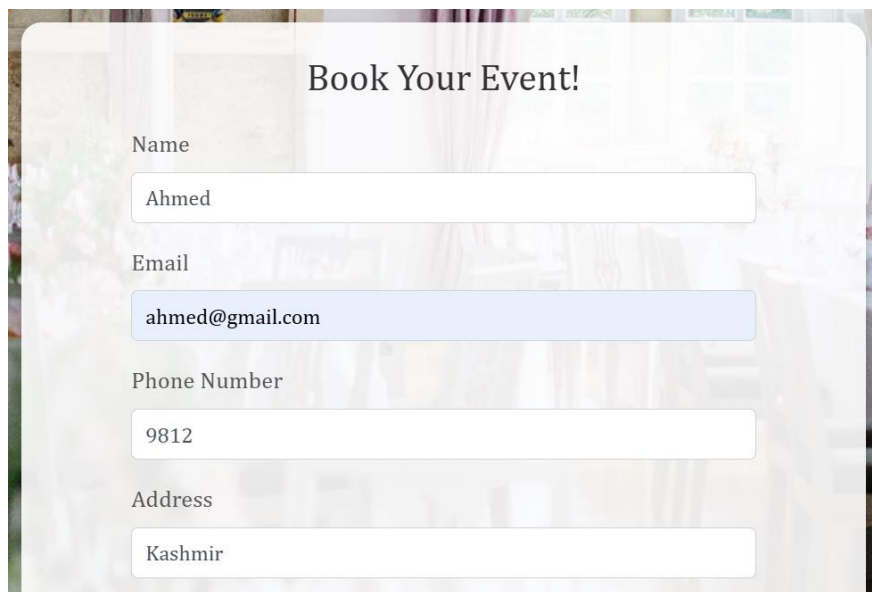
Result Grid

id	name	email	message
1	Malik Hamza	malikh.amza912@gmail.com	Ahma
2	Malik Hamza	malikh.amza912@gmail.com	Ahma
3	Ali	ali@gmail.com	Assalamoalaikum
4	furqan	furqan1@gmail.com	hello students
5	Ahmed	ahmed@gmail.com	Hello there
•	NULL	NULL	NULL

messages 2 x Apply Revert

3.2.2. Event Booking Form in 'booking.html'

The **Event Booking** form allows users to book events by entering information such as event type, date, time, number of guests, and any additional preferences. Upon clicking the "Submit" button, the event data is sent to the backend for processing, where it is stored in the database. Users receive a confirmation email, and the form is reset to facilitate any future bookings. This process helps streamline event management for the venue.



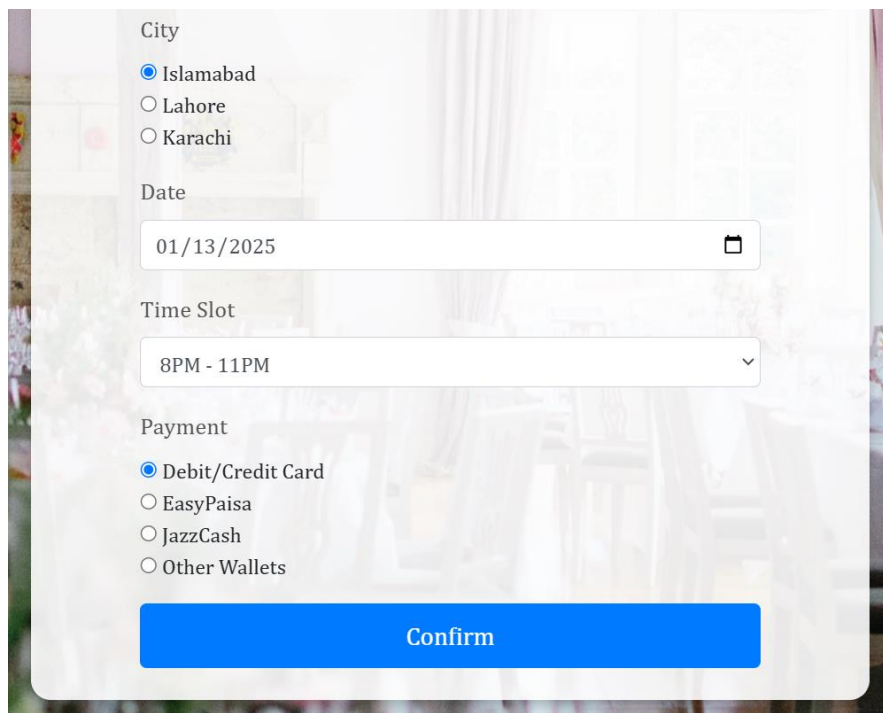
Book Your Event!

Name
Ahmed

Email
ahmed@gmail.com

Phone Number
9812

Address
Kashmir



City
☒ Islamabad
☐ Lahore
☐ Karachi

Date
01/13/2025

Time Slot
8PM - 11PM

Payment
☒ Debit/Credit Card
☐ EasyPaisa
☐ JazzCash
☐ Other Wallets

Confirm

1 • `SELECT * FROM mehfil_booking.bookings;`

	id	name	email	phone	address	city	date	time_slot	payment_method
▶	1	Malik Hamza	malikh.amza912@gmail.com	120121	Ghauri	Islamabad	2025-01-29	12PM - 3PM	JazzCash
	2	ali	ali@gmail.com	87112	Fazaiya	Lahore	2025-01-30	4PM - 7PM	EasyPaisa
	3	Sana	sana@gmail.com	1212	KRL	Karachi	2025-01-30	4PM - 7PM	Debit/Credit Card
	4	Ahmed	ahmed@gmail.com	9812	Kashmir	Islamabad	2025-01-13	8PM - 11PM	Debit/Credit Card
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

bookings3 x Apply Revert

Chapter 4: Conclusion

4.1. Conclusion

The **Mehfil** event-booking website successfully achieves its goal of simplifying the event planning process by integrating essential features into a cohesive platform. It provides a clean and professional design while ensuring a seamless user experience. By combining effective use of front-end, back-end, and database technologies, Mehfil offers a powerful tool for both users and event venue managers.

4.1.1. Key Findings and Outcomes

The Mehfil website delivers an intuitive user experience with its easy-to-navigate layout and functional event booking system. Users can now quickly explore services, view galleries, send messages, and book events, all in one place. The implementation of form submission with automatic reset significantly enhances user satisfaction.

4.1.2. Impact

The Mehfil website's impact extends to both the business and the customer. For customers, it streamlines the event booking process and simplifies communication with the venue. For the

business, the website automates many processes, reducing human error and providing a more professional and accessible interface for event management.

4.1.3. Recommendations or Future Improvements

- **Integration with Payment Systems:** Implement a secure payment gateway to allow users to pay for bookings directly.
- **User Accounts:** Allow users to create accounts for tracking past events and booking preferences.
- **Advanced Filtering:** Introduce filters on the gallery and menu pages to make it easier for users to find exactly what they are looking for.