## Riphah International University Lahore, Pakistan



## **Riphah School of Computing & Innovation**

# Semester Project PROJECT PROPOSAL & PLAN

## **Event Management System**

#### **Project Team**

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## **BookMyVenue**

## **Project Proposal**

#### **Executive Summary**

Book My Venue is an online platform designed to streamline the booking and management of event halls, catering, and decoration services. The system facilitates hall owners in registering their venues, listing available services such as catering, decorations, and event-related accommodations. Simultaneously, users can browse available halls, compare services, and book them according to their requirements. The system aims to bridge the gap between event organizers and service providers, ensuring seamless event planning and execution. It enhances efficiency, reduces manual effort, and provides a centralized platform for event management.

#### 1. Introduction

Event planning is a complex task that involves multiple service providers, including hall owners, decorators, and caterers. Traditionally, customers must physically visit multiple venues and negotiate services, which is time-consuming and inefficient. This project proposes a digital platform where users can explore, compare, and book event-related services online. The solution is designed for individuals and businesses seeking a seamless event management experience.

#### 2. Existing System / Competitive Analysis

In the **Pakistani market**, the event industry is growing, with an increasing demand for digital solutions. Currently, event management is highly reliant on personal contacts and referrals. Some local platforms, like **VenueHub.pk** and **ThePakEvents.pk**, offer wedding planning services, but there is no unified system catering to corporate events, private parties, and weddings collectively. Our system will address this gap by providing an all-in-one booking platform.

Competitor	Features	Strengths	Weaknesses
VenueHub.pk	Venue listing and booking	Dedicated venue booking system, localized focus	No catering or decoration services included
Bookirea	I() Inline hall and event snace	Offers corporate and private event bookings	Service availability is limited in some cities
ThePakEvent.com	hooking catering services	Covers multiple event types beyond weddings	Limited customization options for event packages
	Hall and venue booking for weddings and corporate events	Strong presence in major cities	Less focus on smaller-scale events
III-vento.com.nk	imanagement vendor listings	All-in-one event solution covering multiple services	Relatively new in the market, needs more vendor partnerships

#### 3. Problem Statement

Event planning involves multiple stakeholders, making it difficult for users to coordinate bookings for halls, catering, and decorations. This leads to inefficiencies, miscommunication, and potential scheduling conflicts. Additionally, hall owners struggle to reach a broader audience and manage their bookings efficiently. There is a need for a centralized online platform that simplifies event planning and service management.

#### 4. Proposed Solution

The **Event Management System** provides an online platform where hall owners can register their venues, list available services (e.g., catering, decorations), and manage bookings. Users can browse event halls, check availability, compare prices, and book services based on their requirements. The system will feature:

- A user-friendly dashboard for hall owners to manage bookings and services.
- A search and filter option for users to find halls based on location, price, and availability.
- Secure online booking and payment processing.
- Customer reviews and ratings for services.
- Automated booking confirmations and notifications.

#### 5. Scope of the Project

#### **Included Features:**

- 1. Hall Registration: Hall owners can register their venues, add details, pricing, and available services.
- 2. Service Listings: Vendors can list catering, decoration, and other event-related services.
- 3. **User Booking:** Customers can browse, compare, and book services.
- 4. Payment System: Secure online payment and booking confirmation.
- 5. **User Reviews & Ratings:** Customers can provide feedback on services.
- 6. Admin Panel: A control panel for managing users, bookings, and services.

#### **Excluded Features:**

- 1. On-site Event Management: The system does not handle physical event coordination.
- 2. Live Streaming Services: No direct support for live event streaming.
- 3. Third-party Vendor Integration: Limited to internal service providers.

### 6. Technology Stack

The **Event Management System** will be developed using the **MERN (MongoDB, Express.js, React.js, Node.js) stack**:

- MongoDB: NoSQL database to store event details, user data, and booking information.
- Express.js: Backend framework to handle server-side logic and API requests.
- **React.js:** Frontend library for a dynamic and responsive user interface.
- **Node.js:** Runtime environment for backend development.
- **JWT Authentication:** Secure login and user authentication.
- Stripe: For secure online payments.

#### 7. SWOT Analysis

#### **Strengths:**

- 1. Comprehensive one-stop solution for event planning.
- 2. User-friendly interface for both service providers and customers.
- 3. Secure and efficient online payment system.
- 4. High potential for automation, reducing manual effort.
- 5. Scalability to include additional services in the future.

#### Weaknesses:

- 1. Initial marketing effort required to attract vendors and users.
- 2. Dependence on hall owners and service providers to keep information updated.
- 3. Possible resistance from traditional service providers unfamiliar with digital platforms.
- 4. Need for continuous platform maintenance and security updates.

#### **Opportunities:**

- 1. Expansion to include additional event-related services (photography, entertainment, etc.).
- 2. Potential partnerships with event planners and vendors.
- 3. Integration with social media for wider reach.
- 4. Growing internet penetration and smartphone usage in Pakistan support digital adoption.
- 5. Potential for corporate events, exhibitions, and conferences alongside weddings.

#### Threats:

- 1. Competition from established event management platforms.
- 2. Resistance from traditional event planners reluctant to switch to digital platforms.
- 3. Security concerns related to online transactions.
- 4. Unpredictable government regulations related to e-commerce and digital transactions in Pakistan.
- 5. Economic fluctuations affecting user spending on events.

#### 1.1System Features

#### 1.1.1 User Registration

#### 1.1.1.1 Description and Priority

Allows users to create an account by providing basic personal details.

**Priority:** High

#### 1.1.1.2 Stimulus/Response Sequences

- User Action: Opens registration page and submits form.
- **System Response:** Validates input, creates account, and redirects to login page.

#### 1.1.1.3 Functional Requirements

- REQ-SF1-1: The system shall allow users to register with name, email, and password.
- **REQ-SF1-2:** The system shall validate if email is already registered.
- REQ-SF1-3: The system shall send confirmation or welcome notification after successful registration.

#### 1.1.2 Business Owner Registration

#### 1.1.2.1 Description and Priority

Allows business owners to register their business to offer services.

**Priority:** High

#### 1.1.2.2 Stimulus/Response Sequences

- Business Owner Action: Fills out business registration form.
- System Response: Validates data, stores business profile, and notifies admin for verification.

#### 1.1.2.3 Functional Requirements

- **REQ-SF2-1:** The system shall accept business type, name, and details during registration.
- **REQ-SF2-2:** The system shall notify admin for verification post-registration.
- **REQ-SF2-3:** The system shall restrict unverified businesses from being visible to users.

#### 1.1.3 Event Booking

#### 1.1.3.1 Description and Priority

Users can book event services including venue, catering, and decor.

**Priority:** High

#### 1.1.3.2 Stimulus/Response Sequences

- User Action: Selects services and confirms booking with payment.
- System Response: Confirms availability, processes payment, and sends booking confirmation.

#### 1.1.3.3 Functional Requirements

- **REQ-SF3-1:** The system shall allow multi-service booking (venue, decor, catering).
- **REQ-SF3-2:** The system shall check service availability before confirming.
- **REQ-SF3-3:** The system shall generate and send booking confirmation.

#### 1.1.4 Payment Integration

#### 1.1.4.1 Description and Priority

Facilitates secure online payment processing.

**Priority:** High

#### 1.1.4.2 Stimulus/Response Sequences

- **User Action:** Proceeds to checkout and makes payment.
- System Response: Validates payment, confirms transaction, and generates invoice.

#### 1.1.4.3 Functional Requirements

- REQ-SF4-1: The system shall support credit/debit cards and online payment methods.
- **REQ-SF4-2:** The system shall notify users of payment status.
- **REQ-SF4-3:** The system shall handle failed or declined transactions gracefully.

#### 1.1.5 Admin Panel

#### 1.1.5.1 Description and Priority

Admin can monitor and manage users, business owners, and reports.

**Priority:** High

#### 1.1.5.2 Stimulus/Response Sequences

- Admin Action: Access dashboard, approve business owner, delete user.
- System Response: Performs action and updates data accordingly.

#### 1.1.5.3 Functional Requirements

- **REQ-SF5-1:** The system shall allow admin to approve or block business owners.
- **REQ-SF5-2:** The system shall generate reports of bookings, users, and earnings.
- **REQ-SF5-3:** The system shall allow admin to manage user accounts.

#### 1.1.6 Notification System

#### 1.1.6.1 Description and Priority

Sends automated alerts to users and business owners.

**Priority:** Medium

#### 1.1.6.2 Stimulus/Response Sequences

- **System Triggers:** After bookings, cancellations, or updates.
- **System Response:** Sends notification via in-app or email.

#### 1.1.6.3 Functional Requirements

- **REQ-SF6-1:** The system shall notify users after booking confirmation.
- **REQ-SF6-2:** The system shall notify business owners of new bookings.
- **REQ-SF6-3:** The system shall send event reminders to users.

#### 1.2 Other Nonfunctional Requirements

#### 1.2.1 Performance Requirements

- The system shall respond to user actions within 2 seconds under normal conditions.
- Booking processing should not exceed 5 seconds.

#### 1.2.2 Safety Requirements

- Sensitive data such as payment info must never be stored in plain text.
- Booking data must be backed up daily to prevent loss.

#### 1.2.3 Security Requirements

- All user passwords must be hashed using a secure algorithm.
- Business owners must be verified by admin before activation.
- System must support role-based access control (user, owner, admin).

#### 1.2.4 Software Quality Attributes

- **Usability:** System should be user-friendly and mobile-responsive.
- Maintainability: Modular design to allow easy updates.
- **Reliability:** System uptime must be 99.5% or higher.
- **Scalability:** Should support growth in users and service types.

## 2.1 Competitive Analysis / Existing Applications

Feature / App	Bookeria	BookEvent	BookMyVenue
2 Factor Authentication	✓	×	<b>√</b>
360 deg Images	×	×	<b>√</b>
Multi-Service Booking (Hall + Food)	×	×	✓
Discounts and Offers	×	×	✓
Payment Integration	✓	✓	<b>√</b>
Real-Time Availability	×	×	✓
Notifications	✓	<b>√</b>	<b>√</b>

## 2.2 Technology Stack:

• Frontend: React.JS, HTML, CSS

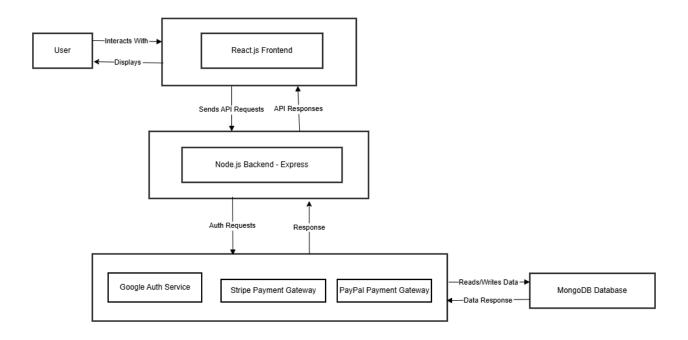
• Backend: Node.js

• **Database:** MongoDB

• Authentication: Google Auth

• Payment Gateway: Stripe / PayPal

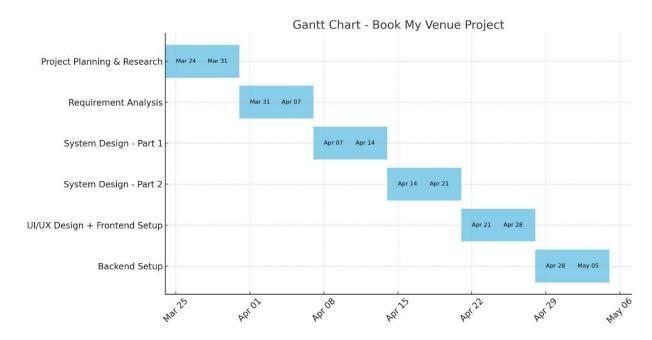
## **Architecture Diagram:**



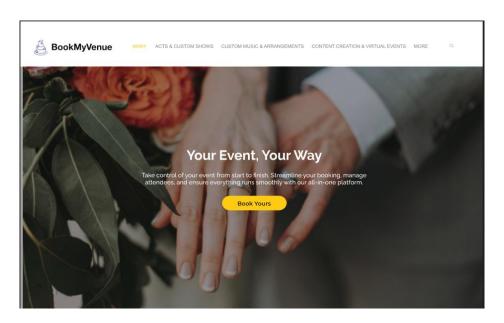
#### **SDLC Model:**

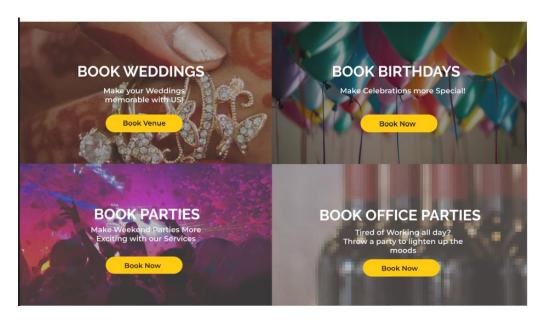
- Model: Agile
- Why: Allows iterative development with regular feedback and adjustments.
- Stages:
  - o Planning & Requirement Gathering
  - o Design
  - Development (sprints using MERN Stack)
  - o Testing & Quality Assurance
  - o Deployment
  - Feedback & Maintenance

#### **Gantt Chart:**



#### Mockups:





We recently celebrated our wedding at Lords Complex, and we couldn't be happier with the entire experience. From the moment we stepped in for our first visit, the staff was professional, attentive, and genuinely committed to making our day special.





#### The Business Opportunity

Event planning in Pakistan remains highly fragmented and manual, relying heavily on personal networks, physical visits, and word-of-mouth referrals. This leads to scheduling conflicts, service mismatches, and limited visibility for venue owners and service providers. *BookMyVenue* solves this by offering a centralized digital platform that streamlines booking of event halls, catering, and decorations—all in one place.

#### **Company Description**

BookMyVenue is a tech-driven platform that simplifies event planning by connecting users with verified venues and service providers. Our platform allows users to explore, compare, and book venues, catering, and decoration services seamlessly. Simultaneously, it empowers service providers by offering tools to manage bookings and showcase their offerings to a larger digital audience.

#### **Industry Analysis**

The Pakistani event management industry is growing rapidly, fueled by increasing urbanization and tech adoption. Competitors like VenueHub.pk and Bookirea offer partial services but lack integration of multiple service types in one system. The success factors in this industry include a user-friendly interface, vendor reliability, real-time availability, and secure payment gateways.

#### **Implementation Timeline**

- Week 1: Project Planning & Research
  - Conduct market research, competitor analysis, and finalize business goals and platform objectives.
- Week 2: Requirement Analysis
  - Gather functional and non-functional requirements; define user roles, system architecture, and scope.
- Week 3: System Design Phase 1
   Initial database modeling, backend structure planning, and API flow setup.
- Week 4: System Design Phase 2
   Complete design of user flows, admin panel logic, and third-party service integration (e.g., Stripe).
- Week 5: UI/UX Design & Frontend Development
   Develop a responsive, user-friendly interface using React.js with a focus on mobile compatibility.
- Week 6: Backend Setup & Integration
   Setup Node.js backend, connect MongoDB, implement authentication, and integrate payment gateway.

#### **Financial Summary**

#### Fixed Costs:

- Server hosting and infrastructure
- Salaries for dev & operations team
- Marketing & branding

#### Variable Costs:

- Transactional fees
- Customer support operations
- Commission to vendors (if applicable)

#### Revenue Streams:

- Commission on each booking
- Premium listings and ads for vendors
- Subscription plans for high-traffic venue owners

#### Sales Goals:

- o Year 1: 1000+ bookings/month from Lahore
- Year 3: Expand to 5 major cities and reach 10,000+ monthly users

#### Team

- Daniyal Wajid Tech Lead & Backend Developer (BSSE, Riphah)
- Uzair Hassan Product Manager & Frontend Developer (BSSE, Riphah)

Both team members bring strong technical backgrounds in full-stack web development, project management, and are deeply familiar with the local market needs.

#### **Target Market**

Our primary users are:

- Individuals planning weddings and parties
- Corporates organizing conferences, seminars, and exhibitions
- Event planners looking to coordinate multiple services efficiently

#### **Marketing Plan**

We will focus on digital-first marketing using:

- Social Media Ads (Instagram, Facebook, TikTok) targeting event hashtags and geolocation
- Google Ads for venue-related searches
- Influencer Collaborations with event planners and vloggers
- Referral Discounts for user acquisition and retention

## Fixed Costs (Annual) – Year 1

Category	Details	Annual Cost (PKR)
Server Hosting & Infrastructure	Basic cloud hosting, storage, backups	240,000
Development Team Salaries	2 developers + freelance UI/UX + basic QA	900,000
<b>Operations Team Salaries</b>	1-2 customer support/admin staff	480,000
Marketing & Branding	Ads, SEO, vendor outreach	600,000
Office Rent & Utilities	Co-working/shared office	300,000
Legal & Administrative	Business registration, legal fees	120,000
Total Fixed Costs		2,640,000

## Variable Costs (Annual) – Year 1

Category	Details	Annual Cost (PKR)
Payment Gateway Fees	Based on ~2.5% per transaction	100,000
Customer Support Operations	Part-time/outsource	150,000
Commission to Vendors	10% paid to vendors	500,000
Transaction Fees	Bank charges, disbursements	50,000
Total Variable Costs		800,000

#### Revenue Streams (Conservative Estimates – Year 1)

#### 1. Commission on Bookings

• Average Booking Value: PKR 30,000

• Commission: 10% = PKR 3,000 per booking

• Estimated Monthly Bookings: 200

• Annual Revenue: 200 × 3,000 × 12 = PKR 7,200,000

#### 2. Premium Listings & Ads

• 200 vendors × PKR 2,500/month = PKR 500,000/month

• Annual Revenue: PKR 6,000,000

#### 3. Subscription Plans

• 25 venues × PKR 10,000/month = PKR 250,000/month

• Annual Revenue: PKR 3,000,000

Revenue Source	Annual Revenue (PKR)
<b>Booking Commissions</b>	7,200,000
Premium Listings & Ads	6,000,000
Subscriptions	3,000,000
Total Revenue	16,200,000

#### Profit & Loss Summary – Year 1

Category	Amount (PKR)
Total Revenue	16,200,000
Total Fixed Costs	2,640,000
<b>Total Variable Costs</b>	800,000
Net Profit	12,760,000
Net Profit Margin	78.77%

## **Cash Flow Summary (Quarterly)**

Ougates	Revenue	Fixed Costs	Variable Costs	Net Cash Flow
Quarter	(PKR)	(PKR)	(PKR)	(PKR)
Q1 (M1–M3)	4,050,000	660,000	200,000	3,190,000
Q2 (M4–M6)	4,050,000	660,000	200,000	3,190,000
Q3 (M7–M9)	4,050,000	660,000	200,000	3,190,000
Q4 (M10–M12)	4,050,000	660,000	200,000	3,190,000
Total	16,200,000	2,640,000	800,000	12,760,000

#### Summary

Total Revenue: PKR 16.2 million

• Total Costs: PKR 3.44 million

• Net Profit: PKR 12.76 million

• Break-even: ~85 bookings/month

• Required Investment: PKR 2.5 million

## Risk Analysis:

## **Operational Risks**

Risk	Description	Mitigation Strategy
	System outages, bugs, or	Regular maintenance,
Technology	slowdowns due to tech stack	automated backups, use of
Failures	(MERN), affecting user	cloud infrastructure with high
	experience.	availability, and skilled IT team.
	Performance degradation as	Use scalable cloud solutions
Scalability	users and vendors grow,	(e.g., AWS, GCP), optimize
Challenges	especially across multiple	databases, and implement load
	cities.	balancing.
	Potential breaches involving	Encrypt data, conduct security
Data Security	personal or financial user	audits, secure payment
Data Security	data.	gateways, use hashed
	data.	passwords, and enable MFA.
Service	Poor service from listed	Vot vandors thoroughly, collect
	vendors (e.g., venues,	Vet vendors thoroughly, collect
Provider	caterers) can harm customer	reviews, monitor performance,
Reliability	trust and brand reputation.	and de-list unreliable providers.

**Market & External Risks** 

Risk	Description	Mitigation Strategy
Competition	Strong players like VenueHub.pk and Bookirea may capture market share with better marketing or faster innovation.	Offer distinct features (e.g., multi-service booking), superior UX, strong customer support, and promotional offers.
Market Adoption	Resistance from traditional vendors and event planners unfamiliar with online platforms.	Educate through webinars, workshops, and offer free listings or reduced commissions for early adopters.
Economic Instability	Inflation or political uncertainty could reduce customer budgets for events.	Offer budget-tier services, flexible pricing, and target both premium and cost- conscious segments.
Regulatory & Legal Risks	Changes in tax, data protection, or digital payment laws may affect costs and compliance.	Retain legal counsel, track relevant changes, and adjust business processes proactively to remain compliant.

## **Financial Risks**

Risk	Description	Mitigation Strategy
	Initial revenues may be	Secure startup capital, implement
Cash Flow	slower than forecast,	phased marketing, and manage
Issues	affecting operational	cash flow with monthly tracking
	sustainability.	and forecasting.
Vendor	Delays in payments to	Use reliable payment systems,
	vendors may impact	establish clear payment terms in
Payment	relationships and customer	vendor agreements, and automate
Delays	satisfaction.	payout processes.

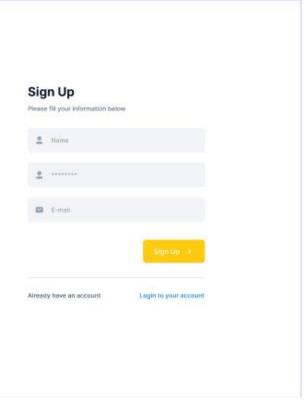
## **Customer & User Risks**

Risk	Description	Mitigation Strategy
Customer Dissatisfaction	Poor platform usability or service quality could lead to negative reviews and churn.	Ensure intuitive UI/UX, responsive support, and frequent feedback-driven improvements.
Fraudulent Activities	Risk of scams or fake vendors/users undermining trust.	Enforce strict verification, monitor transactions, use secure payment gateways, and offer buyer protection.

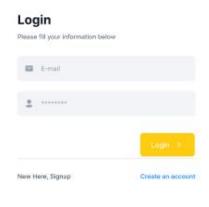
## **Operational & HR Risks**

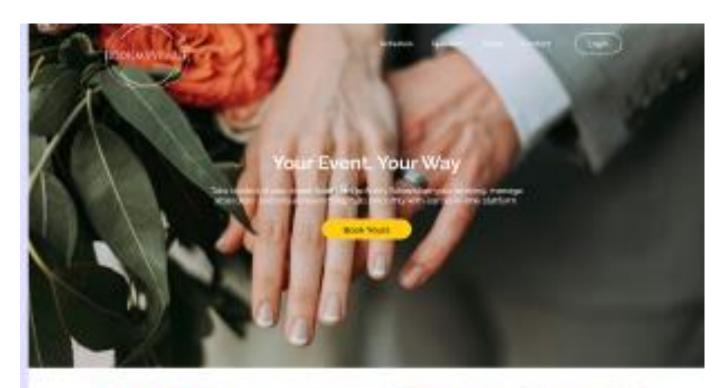
Risk	Description	Mitigation Strategy
Team Turnover	Losing key personnel could delay development and affect business continuity.	Offer competitive packages, promote growth opportunities, maintain strong documentation, and foster team culture.
	Over-reliance on vendors for	Build loyalty through incentives,
Vendor	service variety; drop in	regular communication, and
Dependency	vendor engagement could	value-added support like
	hurt platform appeal.	promotions and analytics.









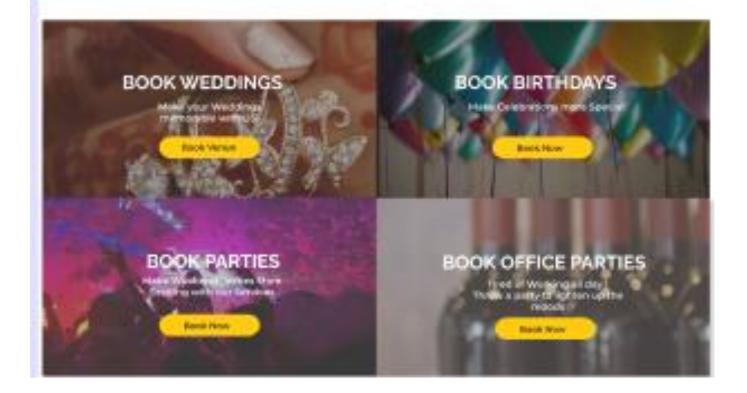














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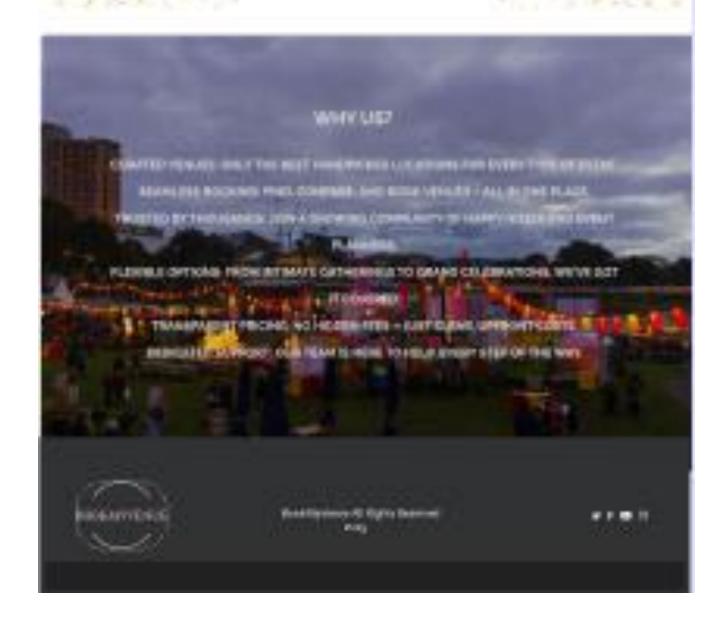
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