

MIS 160 Project

Group Number 6



Systems Recommendation Report for Moody Matcha

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System Recommendations

Transmittal letter

November 21, 2025

Moody Matcha

Hina Qazi
Sacramento, CA

Dear Hina Qazi,

On behalf of Group 6 in MIS 160, we are pleased to offer the final System Recommendation Report for your assessment. Throughout the semester, our team has worked together to examine your present business processes, identify areas for enhanced organization and structure, and build a complete solution that fulfills both your immediate operational needs and long-term goals.

This report combines all previous deliverables into a single coherent document. It highlights our findings, shows the options we evaluated, and explains our ultimate suggestion. After careful consideration, we found that creating a WordPress-based website powered by a reputable hosting provider will give Moody Matcha an organized, user-friendly, and scalable system for handling reservations, sharing information, and boosting your digital presence beyond Instagram.

Included in this submission are:

- A full Executive Summary of the identified problems and the proposed solution
- A cost/benefit analysis with updated present value calculations
- An outline of the systems study and detailed analysis results
- Evaluations of multiple system alternatives
- Systems analysts' final recommendations
- Project schedule and implementation timeline (Appendix D)
- Updated versions of the Feasibility Study (Appendix A), Business Analysis (Appendix B), and Systems Analysis (Appendix C)

We truly appreciate the chance to work with you on this project. Your expertise and willingness to discuss your company's demands aided our team in developing a system that is not only practical and economical but also capable of supporting Moody Matcha's future development.

If you have any concerns or need clarification on any aspect of this report, please do not hesitate to contact us.

Sincerely,

MIS 160 – Group 6

Abdulsalam Mohammed, Liza Yaftali, Shayan Khan, Ahtisham Ali, Reagan Eisenlauer, Suzette Dupre

Executive Summary

1. Description of Problems

The main objective of this project was to create an information system that could aid the client, MoodyMatcha, in their business interactions. Initially, all business inquiries and scheduling were done through the social media app, Instagram. While this provided a way for the business to communicate, it lacked the specific design needed to support the business processes occurring. When communicating solely through direct messaging on this platform, customers do not have key information readily available to them. They either have to scroll through the entire profile or directly ask the owner for the information and wait. This can result in clients finding another alternative or losing interest quickly. Furthermore, it can be difficult to keep track of things through messaging. There is no clear way to see on the app who is requesting what, when events are booked, or what customers are currently looking at. What has been designed for the client will promote key support, including forms for contact, information about the business, booking inquiries, invoices, and more. By moving this process to a website instead of solely through an app, the interaction is more closely fitted to the business and its objectives. Customers can now have a more defined process to inquire and book with, while still seeing the day-to-day operations through social media. The goal is not to replace social media entirely for this business, but instead to shift the focus of its use.

2. The Proposed Solution

The proposed solution for this business is to create a custom website that will support access to information and a more organized booking system. The suggested method of doing this is a WordPress website that is hosted on WordPress. The actual features of the website will include a variety of pieces of information. Users will be able to access the mission statement, which is the core identity of the brand. They can learn why the business was started, and what long-term goals may be. They can also access information regarding certain packages, booking forms, contact information, and a mailing list. The website will also assist in helpful error messages. For example, when someone fills out a form, it ensures that they put their crucial information. This will help the business owner get a more complete scope of customer data. The site will act as a primary hub that will not only provide information but also connect this information to other platforms. Site visitors can access social media from the account in order to see the business in action. They can also find information on where they can securely pay through third-party applications. Customers will come to the website and feel a sense of brand identity, paired with organized information that can help them navigate to what they are looking for.

3. Cost/Benefit Analysis

Part of the website is determining where and how it should be hosted. The team determined that utilizing the WordPress platform would provide the best result. This is due to the website's affordability, security, and its beginner-friendly interface. These are important attributes for two reasons. First, the price makes it affordable for a small business to use. Since MoodyMatcha just began operating earlier this year, it makes sense to begin their platform building with an option that they will be able to continue to afford as they grow. According to the estimated cost-benefit analysis prepared in **Appendix A: Economic Feasibility**, it is estimated that the costs to do this will be around \$100 annually for the first two years. This will be affordable for the owner, as other alternatives quote prices higher into the hundreds.

Secondly, the business and website will be managed by the business owner. It is key that they can update their site as needed so that customers can obtain the most current and accurate information. Hostinger also guarantees a 99.9% uptime, meaning that the business owner will rarely if ever have to worry about reliability. For a small business owner who is managing a website for the first time, affordability and ease of use are key components to success. According to the estimated cost-benefit analysis prepared (**Appendix A**), the business owner should expect to see a profit from implementing this business in Year 2, with increased revenue from the implementation. This increased revenue is derived from tangible benefits and intangible benefits. Some of the tangible benefits identified are increased revenue from customers having a place they can directly book and better product estimation for events. Furthermore, intangible benefits are the satisfaction of the customer. They would now be able to share the business with those who do not have social media, expanding the customer base. Customers will also be able to easily send a link to their friends, family, and peers who may ask about the business. Overall, implementing this website will generate both tangible and intangible benefits for the client, despite there being an initial start-up cost in Year 0.

4. Time Frame of Implementation

Should this recommendation be followed, the business owner should expect to see the website completed in by the end of our Spring Semester, May of 2026. This time frame is estimated by the team in order to ensure that fully informed decisions are used in making the website reliable, accessible, and business-friendly. Customers will feel the presence of a more organized platform, and have easier access to information that will help them book. They can also learn more about why they should support this specific business, and what it has to offer them. Depicted in a clear Gantt chart format, see **Project Schedule Appendix D** for the entire path taken to complete this project.

5. Outline of Systems Study

a. Detailed Results of Analysis

- i. The website will fix issues caused by relying only on Instagram by centralizing the menu, booking requests, and contact options while keeping payments external.
- ii. Requirements include secure, mobile-friendly pages; booking and contact forms; an event calendar; and protections like HTTPS, reCAPTCHA, and verified email.
- iii. Analysis shows the system is technically feasible, easy for the owner to manage, financially beneficial, and supported by workflows, diagrams, and a clear implementation plan.

b. Systems Alternatives

- i. Specific alternatives, including mobile apps, different hosting/web services, hardware, and software options, were evaluated by the team in order to determine the best fit for MoodyMatcha.
- ii. The web-based approach entails an organized, professional, and accessible way for clients to compare options, book, and get their information quickly and accurately.

- iii. While a mobile app was considered, it was found that it would be too expensive, time-consuming, and not provide everything the business was looking for. A more beginner-friendly option was needed so that the owner could continue to update and maintain the information system.
- iv. More technical systems, such as Dupra, were considered but were found to be more advanced and costly systems, something that would not benefit the client at this point in time. Less technical systems, such as continuing to use social media, were also considered. This option would not improve the current process and would create the same obstacles that are currently happening.
- v. Choosing a hosting platform like WordPress promotes reliability and lowers security risks compared to self-hosting. While it does introduce a cost, the safety of customer data and the guarantee of a high uptime is invaluable for this business.

c. Systems Analysts' Recommendations

- i. A web-based design will suit this business best. It provides a clear layout for customers and the business owner to use. It can be used with the current configuration (Instagram), ensuring that the updates will be able to reach customers.
- ii. At this point in time, utilizing personal devices to access and maintain the website is the most practical option. This is cost-effective and should be sufficient to do the necessary maintenance and tasks.
- iii. WordPress (Personal Plan) is the ideal solution, as it is user-friendly and cost-effective.

Grounded in the owner's priorities and everyday reality, the analysis aimed to clarify what the website needs to do right now and what it should be prepared to support as Moody Matcha continues to grow. Currently, most discovery and contact happen through Instagram, which makes it tricky for customers to view offerings, book appointments in an organized way, or receive timely responses. The website will bridge that gap by centralizing information and inquiries while maintaining your personal touch for pricing and payments. Through interviews and qualitative research with the owner, we identified an immediate need for a professional, straightforward way to request bookings, check out the menu, and get in touch with the business without processing payments online. The team also recognized a longer-term goal of managing larger events and handling increased traffic as the brand evolves. These insights led to a clear set of functional, security, performance, and usability requirements: contact and booking forms with confirmation, menu management, an event calendar, exportable submissions; external payment options (like Zelle, Venmo, or Cash App) instead of card processing; HTTPS, reCAPTCHA, limited data collection, and verified email (SPF/DKIM); plus fast, mobile-first pages that meet basic accessibility standards. To see the full requirement statements and how they connect from goals to features, refer to **Business Analysis Appendix B**.

Detailed Results of Analysis

To validate the scope and minimize risk early on, the team modeled how users and the system interact from the first visit through request handling and follow-up. The Systems Analysis outlines the main use cases (like submitting a booking, viewing the event calendar, managing invoices, and updating menu/content) and illustrates the end-to-end flow with BPMN, so you can see where data is captured, who takes the next action, and what the system automates versus what remains your responsibility. A class-level view highlights the core information your site manages (submissions, bookings, menu items, promotions, and testimonials). To conduct an in-depth analysis of these diagrams, refer to Business Analysis Appendix C. The team took a close look at feasibility from several perspectives: on the technical side, the necessary features like responsive pages, confirmation forms, social links, and basic email functions can definitely be handled by a managed CMS without much hassle; from an operational standpoint, shifting from informal direct messages to structured forms makes the intake process smoother with just a bit of training; and when it comes to finances, our cost/benefit analysis shows a solid positive return over the planning period, even with conservative estimates. The timeline fits perfectly within your course schedule and includes risk management strategies like spam controls (reCAPTCHA), verified sending (SPF/DKIM), backups, and brief training for owners with checks during launch week. For more details on the feasibility narrative, cost tables, breakeven visuals, and the milestone calendar, refer to FSR Appendix A; and for the specific process flows (BPMN/use cases) that outline how requests are received, reviewed, and communicated, refer to System Analysis Appendix C.

System Alternatives

1. Design Architecture

a. Web-Based Application

Based on your needs for Moody Matcha, one possible design architecture to implement would be a web-based application. This option would create a website for Moody Matcha customers to explore that would work in tandem with your current system on Instagram. Users will be able to explore the drink options in detail, such as a description and an ingredients list. Users can explore future events that Moody Matcha will be a part of in an Event Calendar page. Users will be able to connect with the Moody Matcha experience through a Learn More page that will explain its upbringing and its mission to its customer base. To address your need of having an external platform to handle booking inquiries, the website will allow users to send a formal request for their event. Users will enter contact and event information on the site, which will send an email for you to review outside of Instagram.

The benefits of such a system are that it addresses your needs to expand the branding of Moody Matcha. Having a website will create a sense of authenticity and formality to current and new customers. Having a website will also solve your need to separate your clientele into customers and vendors. Instagram will handle most of your social media presence and create a customer base that can engage and view your promotional content. The website will be primarily focused on addressing the needs of vendors who'll have an easier time contacting you for a booking request. This website will be accessible on any device, such as one's laptop or phone, and not be tied directly to an app, such as Instagram. It will also allow for personalization, as the website can be designed in any style or design of your choosing, not specifically just Instagram's user interface.

It is worth considering the drawbacks associated with creating a web-based application as well. If you decide to host the website locally, your computer must be on 24/7 for others to access it. Locally hosting it on your home computer has its own risks, such as a lack of proper security, low performance from high traffic, the energy costs from running your computer continuously, and being responsible for the technical upkeep to ensure it is running as intended. If you decide to have a third-party platform that can both help create and host your website, it can help handle the technical aspects. However, the costs associated with a third-party platform would certainly be worth considering.

b. Mobile App

Other than expanding Moody Matcha's business on a web-based application, another alternative that can be considered is a mobile application. This option would allow customers to download an app on their phone, consisting of the same features offered on a web-based application. Customers can view drink details, explore upcoming/past events, submit booking requests, and more.

Unlike the web-based application, all booking processes can be accomplished through the app and not externally. Therefore, potential vendors won't have to exit out of the app and wait for an email response, receiving updates through push notifications instead. Booking decisions and invoices will be accessible all within the app. Given that the majority of Moody Matcha's current clientele use the Instagram app on their phone, users can access the mobile app quite readily. Unlike web-based apps, mobile apps can be created to enhance the user experience with more personalization.

Building mobile apps, however, requires much more development and time than a web-based application. While there are third-party companies and software available to expedite the process, these costs can vary beyond the hundreds, far too much for a startup business. Even creating a mobile app would require time and dedication to learn the coding, not to mention testing and maintenance costs as well. Publishing mobile apps on the App Store costs an annual fee of \$99 with a commission rate of 15% on in-app purchases if you wish to have an internal payment system. Google Play Store has a one-time fee of \$25 with a 15% commission rate on purchases as well.

c. Remain Unchanged

Instead of implementing a new design architecture, another alternative would be to simply do nothing and stay with your current system. This would mean utilizing only Instagram as your entire architecture to engage with your audience and talk to vendors regarding booking requests. This would be beneficial in regard to your costs and training. Instagram is a free mobile app platform that you used to initially start Moody Matcha. You and your associates are already familiar with Instagram and its capabilities to run a small business. Therefore, you won't be taking on any risks and challenges from integrating a new architecture. The drawbacks are evident, as it doesn't solve the problems you stated for our team to work on. You won't be able to organize your business information, such as past events, potential requests, and payments. Only using Instagram will keep your business brand unprofessional to potential vendors who prefer to work with someone more established. Having a website would enhance your image to others. You risk slowing down the brand and financial growth of Moody Matcha by not integrating an external structure other than Instagram for your customer base to utilize.

2. Hardware

a. Personal Devices

Based on the design chosen to move forward with, the actual hardware to run our system on and edit with will be vital as well. One method would be to use personal dedicated devices to access the Moody Matcha system. As the client, you are able to use your devices, such as phones, tablets, a desktop computer, or a laptop to access the Moody Matcha web system. Your customers will also be able to use their personal devices to access the web system as well. Furthermore, to be able to create and make changes on the web page, it's likely that a personal computer would be most suitable to carry out that process.

The benefits of this hardware utilization are that there are no additional costs associated with using your personal devices, other than handling their upkeep and maintenance, but those costs are not associated with the web system. This also ensures that all different operating systems work efficiently on the web system. Whether it be Windows or Mac for one's personal computer, or Android and iOS for mobile devices. With any hardware used, they do depend on being functional, having an internet connection. Depending on the devices used, such as a mobile device, it limits the extent to which one may be able to make administrative changes due to its screen size and lack of keyboard and mouse.

b. Dedicated Business Computer

One alternative would be to have a dedicated business-related computer to use. This computer will be solely for managing and editing the web system. This will also include a dedicated email to process booking requests and send out invoices to vendors.

The benefits are that all business-related activities will be in one centralized location. This will help you separate your personal computer activities from your business. In case some external action hinders your personal computer, it will not affect any work-related activities you perform on your business computer.

The downside of this alternative is the added costs of purchasing a new computer. This also limits those who are able to access your web system if you wish to consolidate all business activities on your business computer. Your associates will need to access your computer to manage the web system, which can hinder your efficiency.

c. Remain Unchanged

Another possible alternative would be to stay with the current system you are working with. This would mean using your personal mobile device to manage Moody Matcha through Instagram. All customer and vendor communication will be done through Instagram's message feature. This can be seen as beneficial, as there are no additional setup requirements or any additional costs associated with staying on Instagram. Simply using your mobile device limits you in how functional you can be. While you can still enable email communication, the lack of a desktop computer limits screen size for editing, tedious to write long messages or descriptions, unable to handle multiple tabs as compared to a desktop and more inconveniences.

3. Software

a. WordPress

There are many software applications available in the market to create a system that complements Moody Matcha and solves the current problems you are facing. One option available would be to expand outside of Instagram and use a software application such as WordPress to create a web system. WordPress has an intuitive process to create websites, and allows for extensive plugins to have variety and unique processes. WordPress would be chosen as the platform to create the website.

The benefits of WordPress are its user-friendly interface, which requires minimal skill to utilize it. You won't necessarily need to rely on a web administrator to make changes, as you would be more than capable of grasping basic editing processes. WordPress offers a plethora of highly customizable themes and plugins to help utilize your website to its fullest. You are able to create a form editing process for your clients, and an external email process to send/receive booking/invoice information. WordPress allows you to integrate a database system to store customer information and perform basic analytics on your clientele.

To fully integrate your business onto WordPress, there are additional costs associated with using its platform. Your costs can increase as you install more sophisticated themes and plugins, not to mention the cost of hosting and registering your web domain name. With more add-ons, you can degrade your site's speed and connectivity, which can impact the user experience. While it is not difficult to understand a new environment such as WordPress, it can be challenging for a first-time user, and the abundance of plugins and theme customization can become overwhelming for new users.

b. Drupal

Another alternative to WordPress would be to use software such as Drupal. Drupal is similar to WordPress in that it offers an open-source content management system, but with a heavier emphasis on technical and developer-oriented software. The process would initiate the same, one would create a web system with all required functions. Since Drupal doesn't offer a hosting service, you would have to explore external hosting sites such as Hostinger. Using Drupal has its consequences because of how complex it can be to navigate it, from editing pages to installing themes and such. Drupal also has plugins called modules that offer a wide range of capabilities. Unlike WordPress, most of these modules don't have a cost associated with them due to their open-source community, to keep them as available as possible. Implementing these modules, however, is complex and requires users with some technical experience for proper installation. Depending on how complex you'd want the system to be, there may be costs associated with more complex designs.

c. Remain Unchanged

The other possible alternative would be to not utilize any external software and rely on the current setup of Instagram. You would still be utilizing Instagram's messaging system, their story, and post features to engage with your audience and communicate with your clients. This can be seen as beneficial as you won't be required to put in extensive time to learn a new system, unlike WordPress and Drupal. You also won't have to worry about costs associated with plugins, themes, and finding a suitable host for your web system.

Not taking advantage of a web system, however, can be very detrimental to Moody Matcha's brand and business opportunities. Instagram doesn't offer any scalable features, such as an organized booking or invoice feature. You or your associates will be responsible for managing all incoming

messages, keeping track of their information, down payment costs and full event costs, and more. There is no dedicated database add-on, unlike what WordPress and Drupal can offer, so you will suffer from a lack of organization. Furthermore, you aren't able to utilize other features such as a dedicated menu page that lists all of your drinks, a lack of a home page where customers can learn more about Moody Matcha, and your personal mission to customers. This will also impact your brand image if your business is only associated with Instagram, and not a dedicated website that would show you put time and effort into your business.

4. Network

a. WordPress

Once a web application is created within a software, the next step is to find a suitable platform to host it on. This is necessary as it will indicate where the files, database, and system infrastructure will reside in, allowing for your customers the ability to access it. Choosing a reliable hosting provider ensures a fast and readily accessible network connection between the users and your site. One proposed option is to use WordPress's own managed hosting service to host the website. As a Platform-as-a-Service, WordPress also offers Infrastructure-as-a-Service functionality as well.

As with any IaaS, they provide their servers to use and their operating systems. However, users are responsible for uploading and managing their own web content on the platform. Using WordPress's built-in hosting service is beneficial as it can handle the infrastructure, provide security, and reliable uptime at a professional-grade level, something that would be hard to implement as a small business. It allows for control over the layout and design of the website while not disturbing networking connections. This option also provides scalability, which allows for upgrading storage or bandwidth as site traffic grows easily. While such an implementation requires some technical knowledge, it is manageable enough to ensure a proper setup. These platforms also require additional costs to host your website.

b. Local Host

Another potential alternative would be to self-host the website on your own computer. This would require using software such as XAMPP to host your site locally. This alternative would provide some benefits as allowing you to have complete control of the web design, hosting, networking, security, and more technical aspects. Therefore, it would require no external hosting costs because it is all run through your computer. Hosting a site locally, however, requires a great deal of technical knowledge to have external users access a locally hosted site. Knowledge about ports and networking, and security is required for such a possibility to even occur. Allowing external users to have access to your site in such a way leaves you very vulnerable to bad actors infiltrating your computer.

c. Remain Unchanged

The alternative of doing nothing is also available, simply using Instagram's application to run all aspects of your business is a possibility to consider. You would not need any technical background to host your

site on an IaaS platform or host it locally on your computer. You would also not need to worry about any additional costs that would be associated with hosting on an IaaS, such as Hostinger. This again would negatively affect your business in the long run. You would lack a professional website presence and would be stuck at the limited capabilities that Instagram offers. While there is the added safety and assurance of Instagram's reliability to provide professional security features and a reliable connection to their app, you are limiting the possibilities that can be offered on an external web-based application.

System Analyst's Recommendation

1. Web-Based Application

To ensure your needs as our client have been met, we have detailed and evaluated each different configuration of design architecture, hardware, software, and networking that considers a range of potential solutions. The most suitable design architecture would be a web-based application. This design will support and complement your current system on Instagram, providing a secondary platform that your audience can access. It will provide your audience with an expanded overview of your business and offerings. Users can view all available drink options, their descriptions, and ingredients. Users will be able to gain insight about you and your business with a dedicated Learn More page to provide better, personalized connections. The website will also allow for you to utilize a platform that'll support your vendor's needs. There will be a dedicated booking page for them to send a formal request for your business. Furthermore, you will be able to access an organized layout of your business requests in a dedicated location, away from Instagram. Your website will also allow you to fully control and customize it to your liking. Themes, color, branding, logo, and other design features will be customizable and not limited to what Instagram has.

Creating a mobile app, while similar in concept, would require much more extensive time and learning to implement. Hosting your app on the App Store or Google Play Store alone would cost annual fees, not to mention the commission fees they would take as well. Mobile applications would work best for a more established drink business such as Starbucks or Dutch Bros, that are in a competitive market that relies on millions of returning customers. For a small startup such as Moody Matcha, a mobile app is far too extensive and time-consuming to be worth considering.

2. Personal Devices

The most suitable hardware configuration that would complement your web-based application would be relying on your personal devices for site management. Using personal devices is the most cost-efficient method, given that Moody Matcha is a startup business. Personal devices are more than capable of ensuring the website is running effectively and efficiently. It ensures sites can run effectively across different operating systems as well, such as Windows/Mac and Android/iOS to be accessible to all site visitors. Using a personal computer allows for the most efficient way to edit your site, whether it be inputting new images, text, description, adding new plugins and more. Purchasing a dedicated computer to manage all business activities may appear effective, but such an alternative is more suitable in environments that require employees to develop and test coding on their work computers. Moody Matcha is too small of a business to need such internally associated computers for your associates to work on. Editing web content can be readily accessible through a shared account.

3. WordPress

The most suitable software that would complement the previous configurations would be WordPress. WordPress specializes in a user-friendly interface that allows for anyone, regardless of technical

experience, to create and manage a website. It is highly customizable, though its extensive options of themes and plugins allow for unique processes to take place. Its software also allows you to implement a database system to store vendor information to review booking requests and perform basic analytics on it as well.

Software such as Drupal are beyond the scope of what Moody Matcha is trying to achieve. It relies heavily on the users having some level of technical skills to manage web content. Installing plugins, modules are not as simple as on WordPress. Regardless of the cost benefits associated with Drupal, accessible web management should be a top priority for you, thus, WordPress works best in this situation.

4. WordPress Hosting

The most suitable networking platform that the website will be hosted and accessed through WordPress's hosting service. [WordPress.com](https://www.wordpress.com) offers a seamless integration from a website creation software to a hosting platform as well, allowing for people to pay for their servers to run their websites. The user is in full control of the web design, and has the technical aspects such as networking and security details be handled by WordPress's professional-grade platform. As your website and audience count grow, WordPress is able to provide scalability, allowing Moody Matcha's website to handle heavy traffic by upgrading storage/bandwidth as needed.

This is a much safer and faster option than hosting the site locally on your personal computer. This method would require more technical knowledge and installation of other applications, like XAMPP to allow external users to visit your locally run site. This would open the possibility of potential hackers exploiting this connection, causing extensive time and additional costs to maintain security.

5. Economic Analysis

Based on the recommended configuration chosen, the costs of the chosen system will also have to be considered. The WordPress software to create a website is 100% free and open-source. You are able to install a wide range of free themes and plugins that suit the design choices you wish to have for the website. Since it is recommended to use your personal devices for managing the site, you will not have any additional costs in regards to hardware. You may choose to upgrade your current setup to a higher-performing computer. However, those costs won't be associated with the current plan in mind. Currently, the only costs that will be included for this configuration are those with the network. Based on pricing from [WordPress.com](https://www.wordpress.com), the chosen plan will be the Personal plan. "Create your home on the web with a custom domain". The Personal Plan costs \$4 per month, billed every 12 months. It offers 6 GB of storage, unlimited pages/posts/users/visitors, and dozens of premium themes and plugins. Furthermore, it provides a free domain for one year, which is charged the regular pricing afterwards of \$13. This differs from other plans, such as Premium and Business, as they cost more, but offer additional features such as Google Analytics or GitHub deployments. These features, while interesting, are beyond the scope that is necessary for your website. These costs have been accurately reflected within the NPV Table provided. It also accounts for any additional costs that you may incur, such as training, additional hardware, and maintenance, to reflect any real-world situations that may occur within your business.

Costs of System		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Development		\$-	\$-	\$-	\$-	\$-	\$-

Implementation		\$0.00	\$-	\$-	\$-	\$-	\$-
Website Annual Costs		\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00
Domain Cost		\$-	\$13.00	\$13.00	\$13.00	\$13.00	\$13.00
Additional Hardware		\$-	\$5.00	\$10.00	\$15.00	\$20.00	\$25.00
Training Costs		\$-	\$15.00	\$15.00	\$30.00	\$30.00	\$30.00
Maintenance		\$-	-	\$90.00	\$180.00	\$180.00	\$180.00
Total		\$48.00	\$81.00	\$176.00	\$286.00	\$291.00	\$296.00

Benefits of System		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Increase Revenue from Booking		\$ -	\$200.00	\$250.00	\$300.00	\$350.00	\$400.00
Automation		\$ -	\$25.00	\$25.00	\$100.00	\$100.00	\$150.00
Customer Satisfaction		\$ -	\$20.00	\$25.00	\$30.00	\$35.00	\$40.00
Total		-\$48	\$245.00	\$300.00	\$430.00	\$485.00	\$590.00
Net Financial Information		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Net Benefits/Costs		-\$48.00	\$164.00	\$124.00	\$144.00	\$194.00	\$294.00
Net benefits/cost (NPV @ 8%)		-\$48.00	\$150.88	\$114.08	\$132.48	\$178.48	\$270.48
Cumulative NPV		-\$48.00	\$102.88	\$216.96	\$349.44	\$527.92	\$798.40
B/E Ratio		0.48					

Proposal Summary

The system we recommend gives Moody Matcha a stable place to run its online activity and manage customer interactions without relying on scattered messages or separate platforms. Using a simple content management system like WordPress allows the business to keep its information in one place, from the menu to booking requests to general inquiries. It also creates a clearer structure for visitors, helping them understand the brand and find what they need without confusion. The website supports all the functions identified in earlier stages of the project while staying easy for the owner to maintain, which was one of the most important requirements. Overall, the system matches the goals discussed with the client and strengthens the foundation needed for the next steps of the business. This approach also keeps the system flexible, so new pages, features, or adjustments can be added later as the business grows. It provides a clean starting point that can evolve naturally without forcing the owner into complicated tools or major changes.

This system also prepares Moody Matcha for steady growth by giving the owner a more organized and dependable way to manage the increasing interest in pop-ups and private events. Customers will have a smoother path to learn about services, browse the menu, and submit booking requests, which

helps build trust and improves their overall experience. The owner gains better control of communication and can update content whenever needed, keeping the website accurate without extra tools or training. With low yearly costs and manageable upkeep through WordPress's own hosting service, this solution brings long-term value and supports the business as it expands its reach and builds stronger relationships with its community. It also creates a consistent digital identity that customers can rely on, giving Moody Matcha a stronger presence across different platforms. As interest grows, the system will make it easier to keep up with demand and maintain a smooth process for both customers and the owner. By setting up a stable structure now, the business can focus more on its craft and on building meaningful connections with its audience instead of worrying about scattered tasks. Over time, this stronger foundation will help the brand move naturally into new opportunities and handle growth with confidence.

Appendix A-Feasibility Study Report

Service Request

1. Company Information

Client Company: Moody Matcha

Address: N/A

Line of Business: Drink Vendor (Specializing in matcha-based beverages)

Company Contact: Hina Qazi, Owner

Phone Number: 916-605-8883

Email: MoodyMatcha.eg@gmail.com

2. Project Initiation

This project was initiated by a member of the student project team who reached out to Moody Matcha, a local drink vendor, to develop a website for the business. The goal is to assist the company in expanding its digital presence and provide a structured way for customers to contact the vendor and learn about its products and services.

Project Initiator: Abdulsalam Mohammed

3. Business Drivers

Currently, Moody Matcha does not have an online platform or digital contact method other than Instagram. Customers cannot easily find information about the business, its menu, or how to place orders or book events. The project aims to address this issue by designing a website that will:

- Allow customers to easily contact the vendor
- Provide visibility to the business through an online presence
- Offer a platform to showcase the brand, menu, and upcoming pop-up events.

These factors create both a problem (lack of accessibility) and an opportunity (reach more customers and improve business operations)

4. Anticipated Business Benefits

Developing the new system (website) is expected to bring several key benefits to Moody Matcha:

- Increased customer reach by making the business accessible to a wider audience online.
- Improved communication through a contact form or inquiry system.
- Enhance brand image by establishing a professional digital identity.
- Streamlined event inquiries and pre-orders that reduce manual coordination.
- Data collection opportunities (emails, feedback, interest areas) for marketing purposes.

5. System Capabilities

The proposed system will have the following capabilities:

- Contact form/ inquiry submission: Allows customers to send service or event requests directly to the vendor's email.
- Menu and Product display: showcases available drinks, pricing, and seasonal items.

- Event booking request form: enables users to request Moody Matcha's services for private events or pop-ups.
- Social media integration: Links to Moody Matcha's Instagram and other platforms for marketing and engagement
- Mobile-friendly Design: ensures accessibility and smooth navigation.

6. Company size and location

Moody Matcha is a small local business based in Sacramento, California, with no primary operating location. The business primarily operates through local pop-up events, community markets, and private event bookings.

7. Organizational Chart

Moody Matcha Organizational Structure		
Role	Name	Position
Owner	Hina Qazi	Management / Operations
Employee	Farzana Mohammed	Service

8. Business Transaction Types

Moody Matcha primarily operates as a mobile drink vendor specializing in handcrafted matcha beverages sold through local pop-up events. The business is currently expanding to include private event catering.

Types of Business Transactions

- Retail drink sales at community pop-ups and markets
- Prepaid bulk orders for special events
- Private event bookings (upcoming service to be launched)
- Mobile payment processing through systems such as Square and Venmo

Goals and Objectives

1. Statement of the mission of the organization

Moody Matcha exists to create moments of comfort, reflection, and connection through matcha. Each cup is a reminder to slow down, care for yourself, and find balance - no matter what mood you're in.

2. Organizational goals

- Build brand presence through Sacramento and Elk Grove
- Launch private event services with clear flat-rate pricing, contracts, and a booking form.
- Strengthen community engagement and customer relationships

3. SMART Business Objectives

- Increase Customer Engagement: Launch the website within three months and achieve at least 100 unique visitors within the first month of launch.
- Improve Event Bookings: Through the new event booking feature, achieve a 20% increase in private event requests within six months of implementation.
- Enhance Brand Visibility: Connect the website to social media and track at least 150 new social media followers within three months of launch as a direct result of the website.
-

Feasibility Study

1. Technical Feasibility

Problem–Solution: The client currently has a limited digital presence, relying solely on Instagram. This leads to scattered customer communication, an over-dependence on phone calls, and difficulties in scaling operations. Additionally, vendors might view an “Instagram-only” strategy as unprofessional for more formal inquiries. By creating a dedicated website with organized forms and basic automation, these issues can be effectively addressed while also establishing a more professional online presence.

Scope of the Technical Solution:

- Contact/inquiry forms that route to the vendor’s email (organized intake).
- Menu/product display with pricing and seasonal items.
- Event Booking Request Form (Pop-Ups & Private Events).
- Social media integration (link out to Instagram).
- Mobile-friendly design.
- Basic outbound engagement via an email chain/weekly emails to retain customers.
- Simple payments reference (Zelle/Venmo) to inform customers; checkout flow must remain “simple.”

Recommended Architecture (Low-risk & maintainable): When it comes to front-end presentation, creating a responsive website using a popular hosted platform like Hostinger (we will use it to host our website by uploading our files to their server, connecting our domain, and managing everything like database and email through their control panel so the site is live and accessible online.) on managed hosting or a no-code builder such as Wix or Squarespace will easily fulfill the “professional website + mobile-friendly” criteria while keeping the risk of custom code to a minimum. Both options offer solid support:

- Templated menu pages, contact and booking forms, and Instagram linking.
- Email notifications on form submission and basic list capture (for the “email chain/weekly emails” plan).

Forms & Email. Use a vetted form plugin/module (e.g., WPForms/Gravity Forms or the builder's native Forms) that:

- Sends inquiries to the client's email, creates a timestamped record, and supports basic spam control (reCAPTCHA). A third-party spam control website created by Google that distinguishes between real users and automated bots, therefore safeguarding online forms, login pages, and other interactive elements against spam, fraud, and harmful assaults. By evaluating user interactions and performing simple verification activities, it improves security and data integrity while preserving a pleasant user experience. Implementing reCAPTCHA is a low-cost approach for small businesses to decrease cyber dangers, save time and costs, and enhance consumer confidence, all while integrating seamlessly into current systems. To use reCAPTCHA on our clients build website, we sign up on Google's reCAPTCHA site, register our domain, and get two keys. A site key and a secret key. Then we add a small script with the site key to our built website form and use the secret key on our server to verify users. This helps block bots while letting real people submit forms safely and easily.
- Exports contacts to support weekly email sending via an email tool; aligns with the "develop a website email chain" request.
- Email automation in a lightweight way. Start by using the email list from your site platform along with a basic campaign tool. You can set up automated promotional send-outs, whether that's monthly or bi-weekly, in line with the idea that "promotional material via text/email will be automated." (We can hold off on SMS for now.)
- When it comes to payments, since the client accepts Zelle & Venmo, the site will clearly inform customers about the accepted payment and provide QR codes or handles right on the "Order/Booking" page. This approach helps avoid storing card data, which reduces both technical and compliance risks, all while keeping the checkout process nice and simple.
- For hosting and operations, consider using managed hosting or the builder's hosted plan. This will take care of automated SSL, backups, and updates, which fits perfectly with the client's desire for minimal training and a low-overhead operational model.

Integrations & Data Flows (at MVP):

- Forms → Email inbox: Contact and event booking forms submit to vendor email for action; entries are stored in the site's dashboard for follow-up.
- Menu & content → Website CMS: Owner can update items and pricing through a visual editor (managed platform).
- Social → Instagram link-out: Header/footer/CTA buttons link to the existing account to retain social momentum.
- Email list → Campaign tool: Export contacts collected via forms for weekly emails/promotions.

Non-Functional Requirements (NFRs):

- Usability/Mobile: The site must be responsive, readable, and easy to navigate on mobile devices.
- Reliability: Managed hosting with daily backups and uptime SLAs; forms tested end-to-end before launch.
- Security & Privacy: HTTPS by default; no storage of card data; form submissions limited to business contact information; enable reCAPTCHA and email authentication (SPF/DKIM) to improve deliverability and reduce spoofing. SPF purpose is to verify who can send emails from

your domain while protecting against fake “from” addresses and DKIM purpose is to verify the integrity of the message while protecting against tampering or forged content. We will set up SPF and DKIM in our domain’s DNS settings to protect outgoing emails from our website. SPF will verify that our website’s mail server is allowed to send emails, while DKIM will add a digital signature to confirm the emails are authentic and have not been tampered with. Security and privacy safeguards are critical for preserving corporate data and consumer confidence. Using HTTPS by default guarantees that all data transmitted between users and the system is secured and safe. By not keeping card data and restricting form submissions to necessary company contact information, the danger of sensitive data exposure is considerably decreased. CAPTCHA helps to prevent automated assaults and spam submissions, whilst email authentication standards like SPF and DKIM increase email delivery and guard against spoofing and phishing attempts. Together, these safeguards provide a safe, privacy-conscious environment that boosts system integrity and user confidence for our clients websites.

- Maintainability: Use mainstream, supported themes/plugins; provide a one-page “owner guide” for updates. Minimal training anticipated.
- Scalability: Traffic targets are modest (e.g., launch in 3 months, 100 unique visitors in the first month); any standard hosted plan will handle this comfortably.

Constraints & Assumptions:

- Single owner/small team: Limited time for content maintenance; prioritize low-code tools and an intuitive CMS.
- Payments remain external (Zelle/Venmo) to avoid PCI scope and custom gateway work.
- Instagram remains in use (coexistence, not replacement).
- Email marketing = light automation; deep CRM/loyalty features are out of MVP scope.

Project Risk Assessment (Risks & Mitigations):

Below, each risk factor is classified under 4 different sections with their own mitigation.

Indicators for our project → potential consequences → mitigation/owner.

Section 1: Project size → small (Low -Medium Risk):

- Indicators: Our team; single small-business client; 3-month launch target with simple traffic goals (100 unique {customers} first month).
- Consequences if unmanaged: Schedule slips if content (menu, photos, event details) is late; integration churn; testing squeezed.

Mitigations for section 1:

- RACI + WBS for content, forms testing; weekly deliverables with acceptance criteria.
Owner: PM/BA.
- Content freeze one week before launch; use placeholders only if approved.
Owner: Client + Content lead.
- Scope guard: MVP = forms + menu = social link + email list; defer e-commerce.
Owner: PM

Section 2: Project Structure - New system replacing ad-hoc DMs (Medium Risk):

- Indicators: Moving from Instagram DMs to structured web forms and light email marketing.
- Consequences: Process change may cause missed inquiries, outdated menu info, or inconsistent follow-up if the owner does not adopt the new flow.

Mitigation for section 2:

- Admin quick guide (1 page) + launch - week coaching (30-45 mins).
Owner: BA/UX
- Redundant alerts: form → email + dash log; verify email deliverable (SPF/DKIM) before go-live.
Owner: Dev/Ops
- Post-launch checks: Day 2, Week 1, Week 2 inbox sweep; confirm no missed inquiries.
Owner: PM + Client.

Section 3: Development Group – Student team + managed stack (Low-Medium Risk):

- Indicators: Student developers; reliance on managed hosting/builder to reduce custom code; minimal training desired by client.
- Consequences: Tool unfamiliarity could create rework or plugin misconfiguration; security hardening skipped.

Mitigations for section 3:

- Choose mainstream theme + form module with strong docs and spam protection; enable reCAPTCHA.
Owner: Dev lead.
- Checklists for SSL, backups, updates, form tests (happy path + negative) across mobile devices.
Owner: QA.
- Handoff doc (admin guide) and backup/restore steps captured.
Owner: Dev/Ops.

Section 4: User Group – Single owner + occasional staff (Medium Risk):

- Indicators: Small operation; pop-ups/private events; needs “simple checkout,” email chain, and mobile-friendly UX.
- Consequences: Low adoption of email list; inconsistent content updates; confusion between website forms and Instagram DMs.

Mitigations for section 4:

- Single source of truth: Website forms for all inquiries; Instagram links back to the site. Owner: Client + PM.
- Update cadence: Monthly 15-min content review; menu/price changes logged. Owner: Client.
- Light automation only: Start with monthly emails; expand after usage proves value. Owner: Client + BA.

Security, Privacy, and Reliability (NFR risks):

- Risk: Spam/bot submissions → Mitigation: reCAPTCHA/honeypots on all forms; rate-limits. Honeypots are a simple but efficient security tool for detecting and preventing automated spam or bot inputs. They function by incorporating hidden form fields that are invisible to human users but may be discovered and completed by bots. We will add a hidden input field in our website's form using HTML and CSS. Then, we will set up our form handler to detect and reject any submissions where that hidden field is filled out, identifying them as bots.

Owner: Dev.

- Risk: Email deliverability → Mitigation: Configure SPF/DKIM, test across accounts before launch.
Owner: Dev/Ops.
- Risk: Data mishandling → Mitigation: Collect contact basics only (no card data), HTTPS by default, admin access limited.
Owner: PM/Dev.
- Risk: Downtime/data loss → Mitigation: Managed hosting with daily backups; test restore.
Owner: Dev/Ops.

- Risk: Usability on mobile → Mitigation: Mobile-first testing on multiple screen sizes before sign-off.
Owner: QA.

Implementation Approach (fits the schedule): A small student team can deliver this MVP by selecting a managed platform + form module, then implementing content and styles to match the brand (warm, cozy, inviting) and integrating with the current Instagram presence. The SMART goal suggests a 3-month launch window with simple visitor targets, which is realistic for the recommended stack.

Technical Feasibility Conclusion: Feasible. The required capabilities informational pages, contact/booking forms, social links, mobile-friendly UI, and light email engagement are all achievable with standard, low-risk web tooling, within the stated timeframe, and with minimal training burden for the owner.

2. Economic Feasibility

Introduction: Economic feasibility determines the possible costs and benefits in implementing an Information System. There can be tangible benefits, which are measured in money or some other certain way. Intangible benefits are not measurable in such a specific way, but can still aid in improving the flow of business, customer interaction, and customer retention. In addition to these benefits, economic feasibility also assesses the tangible/intangible costs associated with information systems as well.

Appendix DD gives a table breakdown of these benefits and costs.

Tangible Benefits of Implementing IS: For the client, some of the most crucial aspects of maintaining strong business practices are error reduction, flexibility, and improved management. In this case, the client can benefit strongly from organization in their business. By being able to clearly schedule and communicate with clients, the business owner will run less risk of making a scheduling error, allow clients to easily purchase products, and better understand their wants and needs. These activities will boost the revenue made from customers. This is a tangible benefit that can be measured over time.

Intangible Benefits of Implementing IS: Intangible benefits can help contribute to increased revenue as well. With more ease of booking and dependency on the business owner, there is a higher chance of customer retention. Retaining customers and maintaining a positive relationship with customers is what keeps them coming back and recommending to others, which for a small business, is imperative. It can also help the business owner make better, faster decisions. The IS can help manage what products are best sellers, when peak times are, what customers are drawn to, and much more. Understanding and catering to the customer will be some of the most crucial decisions for this business.

Tangible Costs: Tangible costs are inevitable when implementing an information system. For the project in mind for the client, costs would include the cost of hosting the website and its domain name, coming around to \$65 a year. As the business grows bigger, additions would be needed to maintain its level of traffic. Additional hardware, training costs, and maintenance are expected to grow in a linear fashion as the number of years increases. This would account for additional web plug-ins or training new employees.

Intangible Costs: Introducing a new platform to the client, while beneficial for their economic and digital presence, will have potential issues for them as well. Having to maintain, upkeep, and manage an entirely different application requires putting in multiple hours to make sure all aspects are running smoothly, not to mention maintaining their Instagram account as well. The client will find purpose in the website as a way to improve the marketing for MoodyMatcha. This will however, require more commitment to ensure they're brand is competitive and stands out. Such as analyzing user data coming across their website to

understand user behavior/preference or going through vendor/customer online surveys regarding their product.

Summary Reflecting Benefits & Costs for MoodyMatcha's Website

Cost of System: Evaluating the costs and benefits of a new platform will be key to ensuring the success of MoodyMatcha internally, and give a projected outcome of the benefits they will receive as well.

Appendix AA gives a clear breakdown for the costs and benefits associated with implementing a website. Development costs will be \$0 as described for the project requirements. True costs will be implementing the website, paying for WordPress's web hosting services, and the domain name. Additional hardware, training, and maintenance costs are expected to grow annually given our estimated calculations for increased traffic and business expansion in terms of number of employees. As the site grows and sees a higher number of visitors, additional data may be needed to keep transactions running efficiently. Recurring costs such as upgrades to hardware and software, maintenance on the system, and security updates will be necessary in order to ensure the best performance of the system. These one-time and recurring costs will deliver what the client needs, but also make certain that as the needs of the customer and owner change, the system will be able to keep up.

Benefits of System: Based on our clients limited transaction history, the cost per cup is around \$5 with paying customers ranging from 30 to 40, with events occurring one every 3-4 months on average. Since the business began in July of 2025, there is limited financial information to fully predict the benefits the system will bring. The estimations were made in order to not over promise to the client what can be done for their business by implementing this system. Increased revenue, customer satisfaction, and automation were all estimated using the information that the cost of the product ranges from \$5-6(USD), and the total sales for the year are estimated to be around \$1000 (USD). With easier access to information, customers will sense a feeling of professionalism, organization, and security when booking events. This will increase the retention rate, and increase overall satisfaction, leading to recommendations to others and positive reviews. The automation will also save the business owner time, as it will allow for booking to be more organized, and automate a large number of tasks that are currently being done by the owner.

Financial Ratios: Key financial ratios were used in order to create this feasibility report. Time value of money is the idea that money is worth more today than it will be in the future. By calculating the present value, net present value, and discount rate, there is a better understanding of what these costs and benefits will do for the business in the future. The net present value describes how much a future amount of cash is worth today, with the discount rate used to convert it. In this case, the cumulative difference of the NPV of benefits and costs is used to show if the project will break even, lose money, or gain money. From the analysis, it was found that in Year 0, money will be lost in order to implement the system, but in Year 1, the value becomes positive again and stays positive, illustrating that the system will be beneficial in the next few years. The break-even ratio as seen in **Appendix BB**, depicts how long it will take before the system becomes profitable. With the value of 0.46 of a year, one can estimate that it will become profitable in approximately 5.5 months. Based on these measures and estimates, it is predicted that the system will become profitable within the first few years.

3. Operational Feasibility

Current Problems: Currently, the client has been facing significant issues regarding their business. The client's only online platform is through the social media app, Instagram. The client has been using the platform as a primary means to connect with potential customers. This has been negatively impacting being able to create a seamless experience for the customer and business owner. Instagram's UI was not

built with the operational needs of a small business in mind. Managing customer messages can quickly become disorganized and doesn't allow for any sort of control to take place. Not to mention, Instagram is a phone-based application, limiting the accessibility it can offer.

Secondly, the client has requested assistance in expanding their digital presence and providing a structured way of communicating with their vendors. While Instagram helps by providing a source to gain user engagement, there are certainly other applications to boost presence in the modern digital world. To a more high-end, potential vendor, simply having an Instagram account may be seen as unprofessional and be less likely to contact Moody Matcha for their business. Any confirmation of the vendor's request will only be if our client is currently active on Instagram to send a response. The client needs to establish a platform to boost their digital identity to gain a greater audience reach, but also have a platform that will assist in customer engagement.

Proposed System: The proposed system in development is to create a website for the client that helps solve their business problem. Instead of putting 100% of utilization on Instagram, the client would now be able to make a clear distinction regarding user engagement and customer management, or more professional inquiries about their business. The client can distinguish between users who have a simple question, such as product offerings, and potential vendors who wish to hire them and need to inquire about pricing. Communication from vendors will be sent to the client through the website for an organized and formal request with detailed specifications.

Having a website would also assist in expanding their current digital presence from just Instagram to a professional website. This will assist in new user discovery of Moody Matcha, and potentially increase possible vendors as well. The website will provide an attractive UI for its users to learn about Moody Matcha's products and services. It will also provide a structured form of communication directly with the client, utilizing an inquiry system to additionally help the client organize their clientele.

Impact on Daily Operations: Implementing a website for the client will change how they contact vendors. Communication will now be in an organized form filled through the website, instead of chatting through Instagram. The client will need minimal training to self-manage the website, but there are potential risks to be wary of. The client will need to be familiarized with the website UI and how to access analytical data to venture into marketing purposes. If the client is unable to become accustomed to a new platform, it can negatively impact their business. It can lead to missed inquiries from vendors, inaccurate product information, and hurt their goal of increasing their digital visibility.

In order to mitigate this possibility, the client, with the assistance of the project initiator, Abdulsalam Mohammed, will be responsible for the website's upkeep, ensuring that accurate information is available and any new requirements from the client are handled as well. Introducing a website will not have any issues with integrating their current operations, as the website will work alongside their Instagram account. Features such as sending promotional material either through text or email will be automated as well, increasing customer retention.

4. Schedule Feasibility

Schedule Overview: This project will run from September 3rd to December 1st. The plan follows the course deadlines: Team Composition due Sept 8, Project Schedule due Sept 17, Feasibility Report due Oct

13, Business Analysis Oct 27, Systems Analysis Nov 12, System Recommendation Nov 19, Prototype Nov 26, Client Presentation Dec 1.

The project timeline is divided into eight main deliverables that align with the system development process. Each stage builds upon the previous one, ensuring smooth progress from research to implementation. The deliverables have been allocated enough time to complete it thoroughly. The table below shows a basic outline of each deliverable, its duration, and the key activities involved.

Deliverable	Duration	Key Activities
Team Composition	Sept 3 to Sept 8	Create & respond to team video profile
Project Schedule	Sept 9 to Sept 17	Develop project timeline & allocate resources
Feasibility Report	Sep 18 to Oct 13	Define scope, analyze feasibility types
Business Analysis	Oct 14 to Oct 27	Interview client, gather requirements
Systems Analysis	Oct 28 to Nov 12	Model system, create diagrams
System Recommendation	Nov 13 to Nov 19	Evaluate alternatives, finalize proposal
Prototype	Nov 19 to Nov 26	Build and test the interface
Client Presentation	Nov 27 to Dec 1	Prepare and present results

Given that the client is aware of the constraints of the project time, its due date will be the same for when the client themselves request the project to be available for their customers/vendors to access.

Potential Risks: The project schedule requirements are very time-specific to ensure a fast and reliable delivery. Team members may run into the risk of personal conflicts interfering with completing the project. This may include issues occurring at home, or timing conflicts with other classes they are taking as well. Other risks may include being unaware of what tasks need to be completed, and what team member is responsible for what task.

Mitigations: In order to mitigate these potential risks involved with the project, the most appropriate method is to implement a resource allocation schema in order to keep track of each team member and allocate project resources enough so team members don't feel overwhelmed with the workload as well.

Appendix EE shows the perfect schema to allocate resources, a Gantt Chart. The Gantt chart is essentially a bar chart that shows a timeline of a project, where each deliverable makes up the chart itself. This helps to mitigate the issue of task responsibility, as deliverables are divided into individual subtasks that are assigned to each member. This ensures a timeline that everyone is held accountable to, and shows

due dates so everyone is aware of when a deliverable is due. Subtasks are split among two members to help tackle them more efficiently and build strong team coordination.

While a Gantt chart shows when tasks happen on a timeline, a network diagram shows how the tasks are connected through dependencies among each task. **Appendix FF** highlights the network diagram for this project where it can be seen how each deliverable is dependent on the prior one being accomplished. It assists in visualizing tasks that can be accomplished in parallel and help determine risks early.

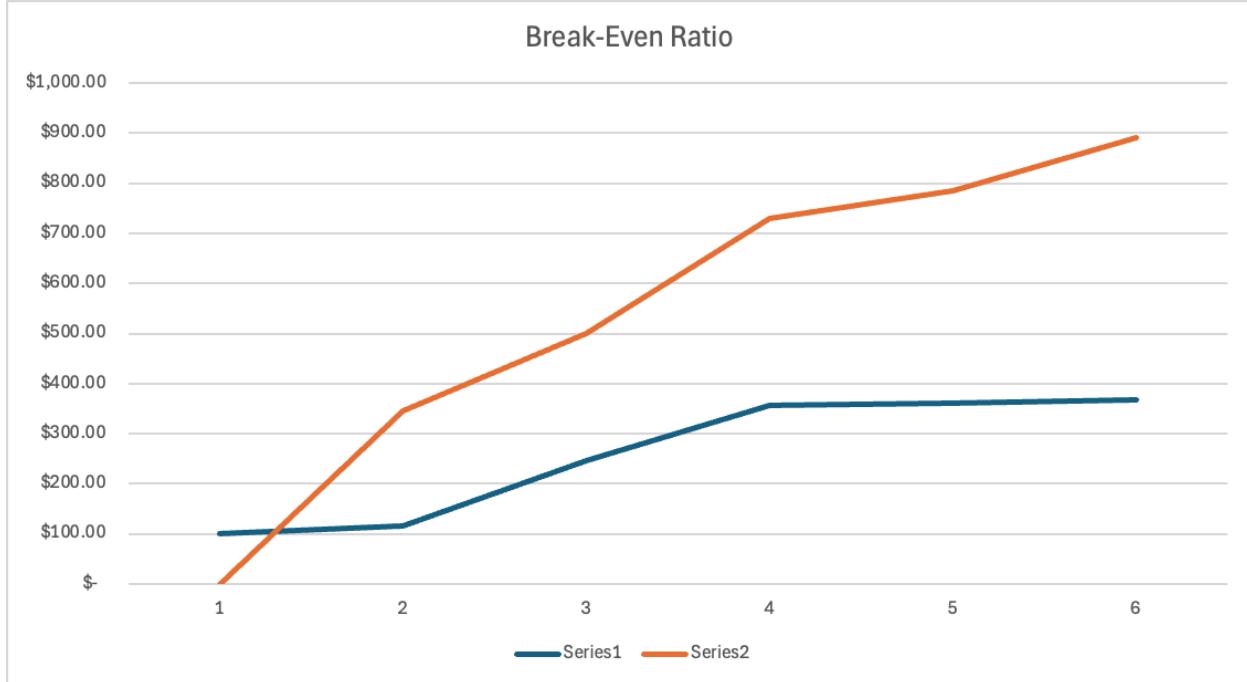
Appendix

Appendix AA

Economic Feasibility Report						
Moody Matcha						
Costs of System	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Development	\$-	\$-	\$-	\$-	\$-	\$-
Implementation	\$0.00	\$-	\$-	\$-	\$-	\$-
Website Annual Costs	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00
Domain Cost	\$-	\$13.00	\$13.00	\$13.00	\$13.00	\$13.00
Additional Hardware	\$-	\$5.00	\$10.00	\$15.00	\$20.00	\$25.00
Training Costs	\$-	\$15.00	\$15.00	\$30.00	\$30.00	\$30.00
Maitenence	\$-	\$-	\$90.00	\$180.00	\$180.00	\$180.00
Total	\$48.00	\$81.00	\$176.00	\$286.00	\$291.00	\$296.00

Benefits of System	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Increase Revenue from Booking	\$ - .00	\$200.00	\$250.00	\$300.00	\$350.00	\$400.00
Automation	\$ - .00	\$25.00	\$25.00	\$100.00	\$100.00	\$150.00
Customer Satisfaction	\$ - .00	\$20.00	\$25.00	\$30.00	\$35.00	\$40.00
Total	-\$48.00	\$245.00	\$300.00	\$430.00	\$485.00	\$590.00
Net Financial Information	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Net Benefits/Costs	-\$48.00	\$164.00	\$124.00	\$144.00	\$194.00	\$294.00
Net benefits/cost (NPV @ 8%)	-\$48.00	\$150.88	\$114.08	\$132.48	\$178.48	\$270.48
Cumulative NPV	-\$48.00	\$102.88	\$216.96	\$349.44	\$527.92	\$798.40
B/E Ratio	0.48					

Appendix BB



Series 1: Costs, Series 2: Benefits

Appendix CC

Cost Benefit Analysis						
Year	0	1	2	3	4	5
Net Economic Benefit	0	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00
Discount Rate (15%)	1	\$0.87	\$0.76	\$0.66	\$0.57	\$0.50
PV of Benefits	0	\$2,608.70	\$2,268.43	\$1,972.55	\$1,715.26	\$1,491.53
NPV of All Benefits	0	\$2,268.43	\$4,536.86	\$6,509.41	\$8,224.67	\$9,716.20
One Time Costs	\$450.00					
Recurring Costs		\$1,400.00	\$1,400.00	\$1,400.00	\$1,400.00	\$1,400.00
Discount Rate (15%)	\$1.00	\$0.87	\$0.76	\$0.66	\$0.57	\$0.50
PV of All Benefits	\$450.00	\$1,217.39	\$1,058.60	\$920.52	\$800.45	\$696.05
NPV of All Costs	\$450.00	\$1,667.39	\$2,725.99	\$3,646.52	\$4,446.97	\$5,143.02
Cumulative Difference	-\$450.00	\$601.04	\$1,810.87	\$2,862.90	\$3,777.70	\$4,573.18

Appendix DD

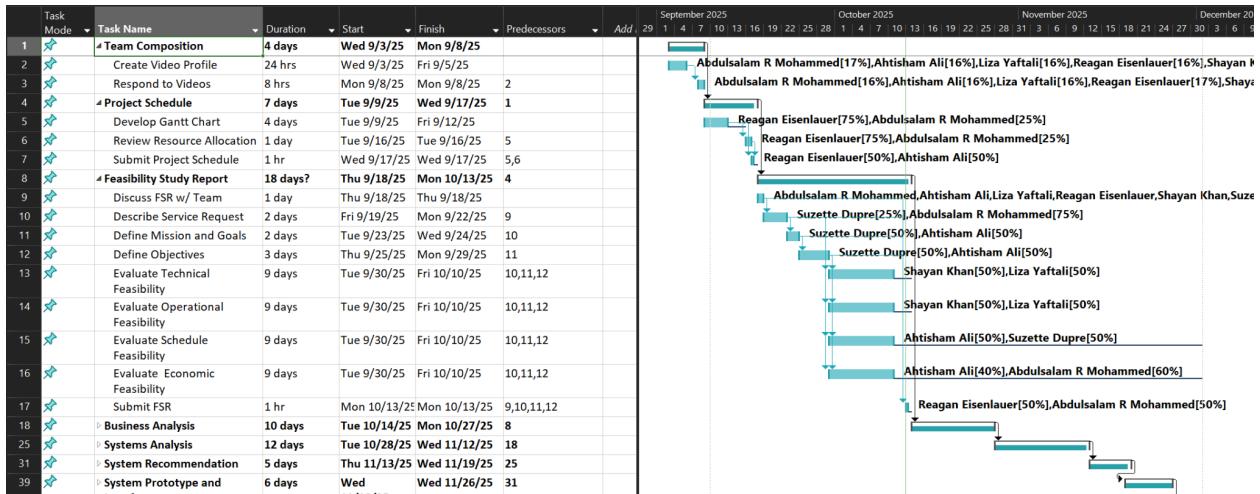
Tangible Benefits	Benefit in US \$
Error Reduction	\$900.00
Planning and Control	\$500.00
Speed	\$600.00
Sales Opportunity	\$1,000.00
Total Tangible Benefits	\$3,000.00

Tangible One-Time Costs	Cost in US \$
New Hardware	\$100.00
New Software	\$200.00
Development*	\$-
User Training	\$150.00
Total Cost	\$450.00

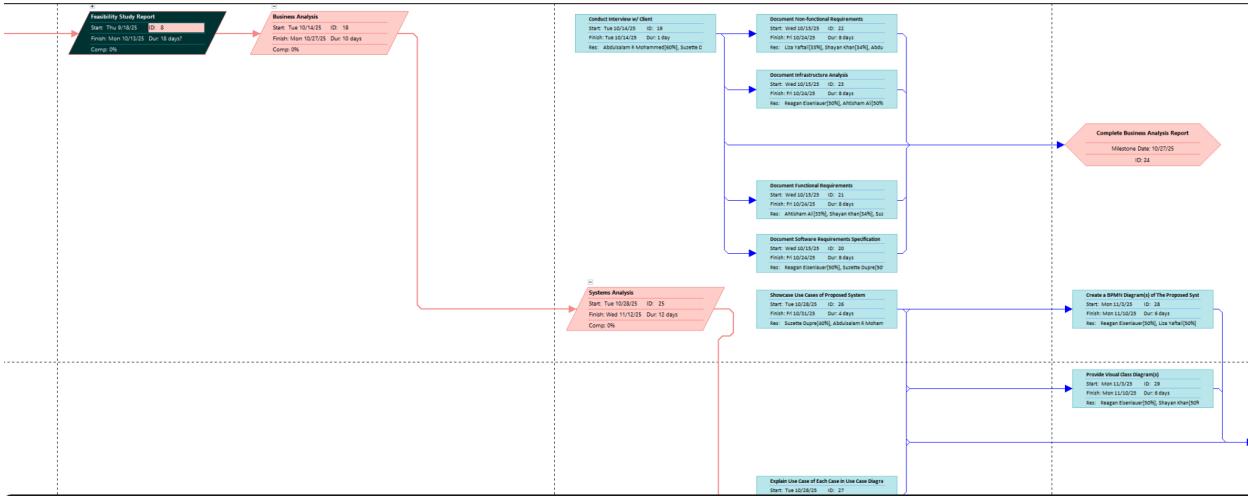
Tangible Recurring Costs	Cost in US\$
Maintenance	\$900.00
Data Storage	\$200.00
Updates	\$300.00
Total Cost	\$1,400.00

Appendix DD : *Development of system done by students in MIS 160 class at CSUS as part of an assignment to further real-world applications of in class topics. For this case, development cost is \$0.00 (USD), but is not a true representation of costs in other situations when working with a development team.

Appendix EE



Appendix FF



Appendix B-Business Analysis

Conduct of Analysis

1. Analysis methods used

Interviewing and a mix of Nominal Group Technique (NGT) and Qualitative Analysis (QA) were performed to be the analysis method due to the general newness of the business. NGT was implemented by having team members do their own research on Moody Matcha's Instagram page and to prepare questions for interviewing the client. Preparing questions beforehand gave the opportunity for each member to have unique questions, providing potential ways to support Moody Matcha that aligned with the client's goals. This was similarly expressed with QA.

Given that there was no historical or clear current data to perform a quantitative analysis on, the QA can clearly outline what a business owner wants for their clients. Obtaining this data began with contacting the business owner in order to determine the requirements of the system. From this interview utilizing primarily open-ended questions, it was discovered that the client sought a platform that could simplify scheduling, display product information, and eventually support large-event booking. Using open-ended questions supported the team in performing the qualitative analysis.

2. End-users contacted

Currently, the only stakeholder that has been contacted is our client. Other stakeholders such as customers and vendors have not been contacted regarding this system. However, their consideration is key in making sure the website operates in a way that fulfills their needs, even though the client is the only stakeholder who has given a description of what the system should incorporate.

3. Records, forms and reports analyzed

Considering that Moody Matcha is currently a small pop-up drink vendor with less than a year of operation, there aren't any formal documents to be analyzed. Any information given about Moody Matcha has been through communication with the client and information available on their Instagram page. The client has provided an estimated number of customers that arrive to each event and their cost per drink. The main issue is that business insights are loosely organized with the client and mostly based off informal observations. Not to mention how recent Moody Matcha has been in operations.

4. Processes observed

Moody Matcha's Instagram sheds light into the various matcha drinks available and some insight to different events they have been a part of. This can help build insight to the aesthetics Moody Matcha wishes to express with their customers and vendors, a warm, welcoming environment where drinks are handcrafted on spot, building a relationship with their clientele. Current business processes rely on communication through Instagram for customers and potential vendors, such as drinks available and locations for future events. The issue being there is no formal system that supports Moody Matcha, Instagram has its limitations for a business owner and not all business processes can be handled on such a limiting platform. While it's great for communicating to a vast audience, it can negatively affect their brand if they're unable to expand their digital presence and unable to provide a professional platform for business inquiries.

5. Problems encountered with data collection

There were notable constraints that prevented getting all of the necessary data. First, the business is in its beginning stages, so there is no quantitative historical data to include in reports. This makes it difficult to anticipate customer response and needs in the information system. Additionally, the team found that information was needed to complete certain requirements that were not present, and had to reconnect with the client to get that information. While there had to be additional communication outside of scheduled meetings, the client promptly responded with the specific information needed.

6. Data collection instruments (i.e., all questions asked, all surveys sent, etc.)

Given that the client has only recently established Moody Matcha as a pop-up event service, the majority of the business information are tied with the client, with no formal method to access their data. As such, the Project Initiator Abdulsalam Mohammed has been acting as the intermediary between the team and the client. The Project Initiator has provided some data based on their involvement with Moody Matcha. Information like financial transactions, for example, come off as estimated costs based on the few pop-up events the client has been a part of.

-Can you give a brief overview of your business? Like what do you think it means to you? What sort of customers are you trying to appeal to? What kind of goals do you want to accomplish through our help?

Well, now that I have launched it, my main goal is to just to put smiles on people's faces, a lot of my target audience are people who don't really like matcha, I just think everyone can like it. As of right now, I'm looking for a professional image to my business, more like an inquiry form that people can come together and find all of my info. If it's a private event and people want to book or want to see information about Moody Matcha, or they need to consider what I offer before booking, then they can just look all in one place. I don't know exactly what I want it to look like in design, just one place with all my info, a form they can fill out for inquiries. One place where I am not going between email and my Instagram to talk people with.

-Can you go a bit more in detail about the target audience?

I want to appeal to people who don't like matcha, I want to find a way for them to like it. In terms of business goals, my target audience is anyone. One of my goals is outreach and getting my name out there and serving people at events. While I'm doing my own events and public areas, I want to get into more private events like weddings or baby showers. Instagram is my biggest platform, so maintaining that kind of relationship through a screen is big for me. I want people to have a relationship with a face behind a brand, getting people to catch on that is something I want to do and create.

-Do you feel like private professional events are your goals on a large scale? Do you prefer more of a pop-up/public event or both?

I do want to do both, the pop-up situation is something more self-initiated as I have reached out to people at their events and ask if I am able to pop-up and serve drinks. My goal is to have people know me enough to where they want to book me for private events. Right now most of my outreach is through these public vendor popups I'm doing right now.

In terms of branding and design, do you have a preferred logo/design you are interested in? Are there any websites that you find inspiration in that we can incorporate with Moody Matcha?

I do have a logo and a color palette set in place, I do also have an aesthetic I hope I am portraying to everyone. I guess it's more so "warm and cozy", happy and jolly. I hope people can catch onto that through my posts or my engagement with them.

-What's your payment system you'd like to see? Would you be interested in setting this up through the website?

No, for payments on private events, I'd like it to be done through my personal choice of payment like Zelle or Venmo. I don't want to establish a payment method through an online system, only because these things require communication, creating a quote, what the event is, what they need. I would not put my prices or a payment option on there, that is something I'd like to discuss privately.

-Based on our conversations, and I want to make sure I'm understanding correctly, would you consider yourself as a vendor?

As right now, yes, a little vendor I guess. I have just started so I have only gotten to a few places so far.

-Were you looking to expand to an actual store location? Or is that too far in the future?

Yeah, I think that's something I'd do much later on once I have an established audience to help launch that. I want to put a name to my brand and create a relationship enough to where people would trust a new store that'd open up, cause they'd already know what that store is. If they saw me running a Moody Matcha store, they'd be able to say something like "Oh yeah we know who that is, she's really cool". That relationship is already there for me to start getting business that way. And that's a really big step, it's something I want to start establishing now, but it is a goal I want eventually.

-Something I think would be cool to integrate into the system, considering that you said people aren't as familiar with your business, is taking Word-of-Mouth and transforming that into some sort of review-based system.

Yes, definitely I agree with you, navigating a system like that has been difficult on social media, but if we can figure out a system like that, I would be interested in it.

7. Synopsis of interviews

Through interviewing with the client, important qualities to the new system were discussed. First, the client was generally asked what they needed the system to do now, and what they would like it to do in the future. Since the business has just started this year, the client is currently doing pop-ups and smaller events, but specified that they will want to transition to larger events as their business grows. For them, it is important to have an information system that can support booking for larger events, and eventually support higher traffic to the website as the business grows. Furthermore, the client requested that something should be implemented to aid in scheduling. While their current model revolves around Instagram DM's, they are seeking a more professional form to book with clients. This could aid in simpler scheduling, avoiding conflicts, and allow clients to adjust their bookings. Finally, a main point of discussion was how an implemented system can help the business grow and develop. A professional and user-friendly platform was discussed, which can guide a user to understand what the company is, how to get in contact with them, prices, and availability. These can all aid in the success of the growth of the business, as they provide the user with the information they need to make a decision and see if this business can fit their needs. There are also certain system aspects that the client wishes not to implement, like payment through the website. The client mentioned how they'd prefer a more one-on-one conversation with vendors to discuss the costs of Moody Matcha's service.. While it is not a quality that is currently sought, the team takes note to consider choosing a web hosting service that has the capabilities to implement such a feature if required by the client in the future. Long-term goals like establishing a store location is not currently being sought, but the client discusses how implementing a website is the foundation they'd want to fully establish before moving on to other goals.

Software Requirements Specification (SRS)

Background: Moody Matcha is a small business in Sacramento, CA that sells matcha-based drinks and desserts at local markets and pop-up events.

Currently, the business relies mainly on Instagram (@moodymatcha.eg). The new website shall serve as a central hub for customers to view the menu, contact the business, request bookings for pop-up events, and join the mailing list for promotions.

The system implemented for the client's use does not necessarily use any direct external interfaces. The third-party payment platforms used by the client will not be directly integrated. While they appear on the system, no financial data will be processed or stored by the system. Similarly, Instagram will also not be considered an external interface. The purpose is to provide external social media platforms to help enhance brand visibility and support customer engagement. The system will display an icon that will direct site visitors to Moody Matcha's Instagram page, and vice versa. No data will be exchanged across either platform.

Scope: The system shall:

- Display information about the business and menu items.
- Provide online forms for contact, order, and event booking requests.
- Allow users to subscribe to receive promotional emails.
- Present payment options (Zelle/Venmo/Cash App) as references only.
- Allow the owner to manage website content and customer submissions through an admin interface.

The system shall **not process online payments**. All payments shall occur externally via Zelle, Venmo, and Cash App. Providing QR codes for vendors to complete transactions.

1. External Interface Requirements

1.1 User Interfaces

- The system shall provide a **Home Page** displaying the brand introduction, history, mission, promotions, and clear navigation to booking or contact forms.
- The system shall provide a **Menu Page** listing items with names, descriptions, prices, and optional seasonal labels.
- The system shall provide an **Order Page** allowing customers to request items for pickup or events.
- The system shall provide a **Booking Page** where users can submit event details such as type, date, location, and number of guests.
- The system shall provide a **Contact Page** with a form for general inquiries.
- The system shall include **links to Instagram** and other social media in the header and footer.
- The system shall display the accepted payment methods (Zelle, Venmo, and Cash App) as informational references only.
- The system shall be **responsive**, automatically adjusting layout and content for mobile, tablet, and desktop devices.

Admin (Client) Interface:

- The system shall provide an **admin dashboard** for the business owner to view form submissions, export data, and edit website content.
- The system shall allow the admin to update text, images, menu items, and prices without requiring coding knowledge.

1.2 Hardware Interfaces

- The system shall operate on standard internet-connected devices, including smartphones, tablets, and computers.
- The system shall require no specialized hardware.

1.3 Software Interfaces

- The system shall be built using a **Content Management System (CMS)**.
- The system shall use a **form module** to handle user submissions and email notifications.
- The system shall integrate with an **email campaign tool** to support customer outreach using exported contact lists.
- The system shall include **social media integration** linking to Instagram.

1.4 Communication Interfaces

- The system shall communicate securely over **HTTPS**.
- The system shall send **email notifications** to the business owner for all form submissions.
- The system shall store all form data in the CMS database and make it available for export.

2. Functional Requirements

The SRS specifies a breakdown of the available functions that will be accessible on the system by patrons, potential vendors, and the client themselves. The functions describe specific features that must be performed to meet our clients' goals.

ID	Requirement Statement
FR-1	The system shall contain a Home page that introduces <i>Moody Matcha</i> , including its business overview, logo, and mission statement. The purpose of this page shall be to provide first-time visitors with a clear understanding of what the business represents and its commitment to delivering quality, handcrafted drinks. The Home page shall also include a main navigation menu with links to the Home , Menu , Event Calendar , Booking Request , and Learn More pages. This structure shall ensure clear and simple navigation for visitors. Depending on their needs, visitors may view the Menu page to explore available drinks, the Learn More page to contact the owner for inquiries, or the Booking Request page to submit an event application.
FR-2	The system shall allow the admin to create, edit, or delete menu items, including names, prices, descriptions, and seasonal indicators.
FR-3	The system shall display all available and limited-time drinks on the Menu page, including each item's name, photo, description, and ingredients. Seasonal items shall be visually highlighted to attract attention and help visitors make informed choices based on preferences or allergies. The system shall include an administrative interface that allows the client to easily update drink offerings and specifications without requiring technical expertise.
FR-4	The system shall provide a contact form that collects name, email, phone, and message, and sends a notification to the owner's email.
FR-5	The system shall provide an Event Calendar displaying scheduled catering dates, times, and locations for Moody Matcha. This feature shall help visitors stay informed about upcoming events and assist potential vendors in planning around existing bookings.
FR-6	The system shall allow users to submit order requests by selecting menu items and quantity (no online payment). The system shall also include an Event Booking Form that collects event type, date, location, guest count, and additional notes for new booking requests, as well as a Contact Form that gathers a visitor's name, email, phone number, and message and sends a notification to the owner's email.

- FR-7** The system shall display all accepted payment methods, including Zelle, Venmo, CashApp, and cash, using scannable QR codes and simple instructions for completing payments externally. The client shall manage all payment transactions independently outside the website.
- FR-8** The system shall allow visitors to subscribe to promotional emails through a checkbox or subscription form located on the **Learn More** page. This feature shall serve as an additional marketing channel beyond social media, keeping subscribers informed about new drinks, events, and updates.
- FR-9** The system shall use a database management system (DBMS) to store all form submissions, including user details, inquiries, and booking information, each with timestamps. The system shall allow authorized users to retrieve, modify, and delete records as needed, providing an organized method for managing client data and supporting future marketing efforts as Moody Matcha grows.
- FR-10** The system shall provide the client with a user-friendly interface to review collected business data and identify customer trends. It shall also allow the admin to export this data as a CSV file for marketing and business analysis purposes.
- FR-11** The system shall allow customers to submit testimonials for review by the business owner before publishing.
- FR-12** The system shall include external links to Moody Matcha's Instagram account on the **Learn More** page and other key sections of the website to promote cross-platform engagement and brand visibility. The **Learn More** page shall also provide a brief introduction to the client and the history of Moody Matcha to build trust, credibility, and enhance the overall customer experience.
- FR-13** The system shall restrict access to the administrative dashboard to the client and authorized users through secure login credentials. Authorized users shall have access to tools within the CMS to edit website content, images, and layout as needed.
- FR-14** The system shall send an automated email notification to the client when a new form is submitted, as well as an automated email confirmation to vendors upon submission of a request form and a copy to the client's dedicated business email for review. This confirmation shall acknowledge receipt of the vendor's information, allowing the client to follow up within a reasonable time by email or phone.
- FR-15** The system shall be fully functional, responsive, and visually consistent across all devices, including mobile phones, tablets, and desktops, ensuring readability and easy navigation for all visitors.

→ Security

ID	Requirement Statement
SR-1	The system shall enforce HTTPS protocols to ensure all data transmitted between the client and server is securely encrypted and protected from unauthorized access.
SR-2	The system shall implement reCAPTCHA on all forms within the platform to prevent spam and bot submissions.
SR-3	The system shall collect only essential user information, such as name, email, phone, and message, and shall not store or process any payment or credit card data. All payment transactions shall be completed externally through third-party applications (e.g., Zelle, Venmo, CashApp) to reduce security risks, ensure user privacy, and eliminate the need for additional compliance requirements.
SR-4	The system shall restrict admin access to authorized users only and require strong passwords.
SR-5	The system shall configure outgoing emails using verified domains with SPF and DKIM authentication to prevent spoofing and ensure reliable delivery.
SR-6	The system shall perform daily automated backups and allow restoration of data in the event of loss or corruption.
SR-7	The system shall display a privacy policy explaining how user data is collected and used.
SR-8	The system shall include a consent checkbox for users to agree to data collection or email subscription before form submission.

→ Performance

ID	Requirement Statement
PR-1	The system shall load each web page in under three (3) seconds under normal network conditions.
PR-2	The system shall maintain a minimum website uptime of 99.9%.
PR-3	The system shall display a form confirmation message within two (2-3) seconds after submission.
PR-4	The system shall automatically adjust layout and content for different screen sizes and devices.
PR-5	The system shall compress and optimize images to reduce loading time while maintaining visual quality.

- PR-6** The system shall use caching and content delivery (CDN) services if available from the hosting provider to improve loading speed.
- PR-7** The system shall follow accessibility guidelines (readable fonts, image alt text, color contrast) and achieve a usability score of at least 90/100 in web testing tools.

Traceability Summary

Business Goal / Need	Related Requirements
Create a central place for bookings and inquiries	FR-4, FR-5, FR-6
Build professional brand presence	FR-1, PR-1, PR-7
Allow easy menu updates	FR-2, FR-13
Support customer engagement and email marketing	FR-8, FR-10
Ensure website safety and reliability	SR-1, SR-2, SR-6, PR-2
Keep customer data private	SR-3, SR-7, SR-8
Ensure fast, mobile-friendly experience	FR-15, PR-1, PR-4, PR-5

3. Usability Requirements

UR-1. Easy Navigation

The website should be simple to navigate. Every page should have clear links to the Home, Menu, Events, Booking, and Contact pages.

UR-2. Finding the Booking Form

Visitors should be able to find and open the booking form in three clicks or less.

UR-3. Important Buttons

Main actions like “View Menu,” “Book an Event,” or “Contact” should always be visible near the top of each page.

UR-4. Simple Forms

Forms should be short and easy to fill out, asking only for important information like name, email, phone, and message.

UR-5. Helpful Error Messages

If someone forgets to fill out a required box, the website should show a clear message telling them what to fix before sending the form.

UR-6. Confirmation Message

After submitting a form, users should see a success message right away and receive an email confirming their submission.

UR-7. Accessibility

The website should be easy for everyone to use, including people with disabilities. Text should be readable, buttons should be large enough to click, and all images should have descriptions.

UR-8. Clear Brand Message

The home page should show Moody Matcha's warm, cozy vibe and explain what the business is about in a few short sentences.

UR-9. Admin Control

The business owner should be able to log in, update menu items, change pictures or prices, and check form responses without needing to code.

UR-10. Positive Experience

Overall, the site should feel friendly, professional, and easy to use on both phones and computers.

5. Logical Database Requirements

The Moody Matcha website requires a simple yet organized database to manage customer inquiries, event bookings, and subscriber information. While it will not store financial data, it will handle user-submitted forms and records that support communication and operations.

LDR-1. Overview

The system will use a relational database compatible to organize all collected data into clear, manageable tables. Authorized administrators will be able to access, edit, and back up records as needed, ensuring data integrity and reliability.

LDR-2. Major Data Entities

The database will include five main entities: user submissions, event bookings, menu items, promotions, and testimonials.

User Submissions will record data from all online forms, including names, contact details, and messages. Event Bookings will track event requests, linking each booking to the corresponding user submission. Menu items will store details about drinks and seasonal offerings, which can be updated easily through the CMS. Promotions will manage email subscribers and consent information for marketing purposes. Testimonials will hold customer reviews and feedback, displaying approved entries publicly on the website.

LDR-3. Data Storage and Retention

Data will be stored securely and backed up daily by the hosting provider. Records will be kept for up to twelve months unless removed manually. Since no payment data is collected, privacy risks remain minimal.

LDR-4. Data Relationships Summary

Unique identifiers will distinguish each record, and foreign key relationships will link related data, such as submissions and bookings. This structure ensures consistency, supports efficient queries, and helps track user engagement over time.

6. Design Constraints

The design of the Moody Matcha website needs to stay true to the business's existing identity while also being realistic about what can be done with limited resources. The color scheme, font choices, and imagery must stay consistent with what is already displayed on its Instagram page, since that platform currently represents the main source of brand recognition. To maintain this familiarity, all design elements will use the same logo, tone, and soft green palette associated with the company's matcha drinks. From a technical standpoint, while the client hasn't expressed an interest in any particular web hosting platform. The vast variety in these sites can limit how far the development team can customize the layout and features compared to a fully coded site. The team should prioritize a platform that ensures that the client, who has limited technical experience, can easily manage and update the website without developer intervention. Another constraint is ensuring mobile responsiveness. The majority of Moody Matcha's customers interact with the business through their phones (via Instagram), so the website must maintain functionality and visual quality across various screen sizes. This included resizing images, adjusting layout for smaller displays, and ensuring that booking forms are easy to fill out on mobile devices.

7. Software System Attributes

The following attributes define the website's performance, reliability, and overall quality.

SSA-1. Reliability

The site will maintain at least 99.9% uptime with daily automatic backups and stable functionality during high-traffic periods.

SSA-2. Availability

Moody Matcha's website will remain accessible year-round, excluding maintenance or server outages. Administrators will receive alerts for any downtime or broken links.

SSA-3. Security

HTTPS encryption, secure admin logins, and reCAPTCHA will protect all forms. User information, such as email and phone numbers will be encrypted where possible to ensure privacy compliance.

SSA-4. Maintainability

Built with a site that'll allow non-technical staff to update content easily. Modular plugins and clear documentation will support long-term maintenance.

SSA-5. Portability

The system will be deployable across compatible hosting environments supporting PHP and MySQL. All assets and configurations can be exported for migration or upgrades.

SSA-6. Usability and Performance

The website will target a usability score of at least 90/100, with load times under three seconds and consistent branding across all devices.

SSA-7. Scalability

The system will allow for future growth, supporting additional pages, features, or higher traffic without major structural changes.

Infrastructure Analysis

1. Hardware

The hardware that the client is using for Moody Matcha is a personal computer and a mobile device. These devices are capable enough to handle all business-related activities, such as responding to messages, updating drink selection, and sharing event details with accompanying Instagram posts. This hardware is also suitable enough to viewing/processing payment transactions on third-party applications.

2. Software

The primary software utilized by Moody Matcha is Instagram. The client is currently able to perform most of their needs here. They are able to engage with their audience through posts and showcase their drink varieties. The client also utilizes email communication to acquire event details from vendors. This helps differentiate between visitors viewing their page on Instagram and engaging in a potential event through email. Regarding payment transactions, the client uses third-party software such as Zelle, Venmo, and CashApp to complete payments either from vendors or customers purchasing a drink.

3. Networking

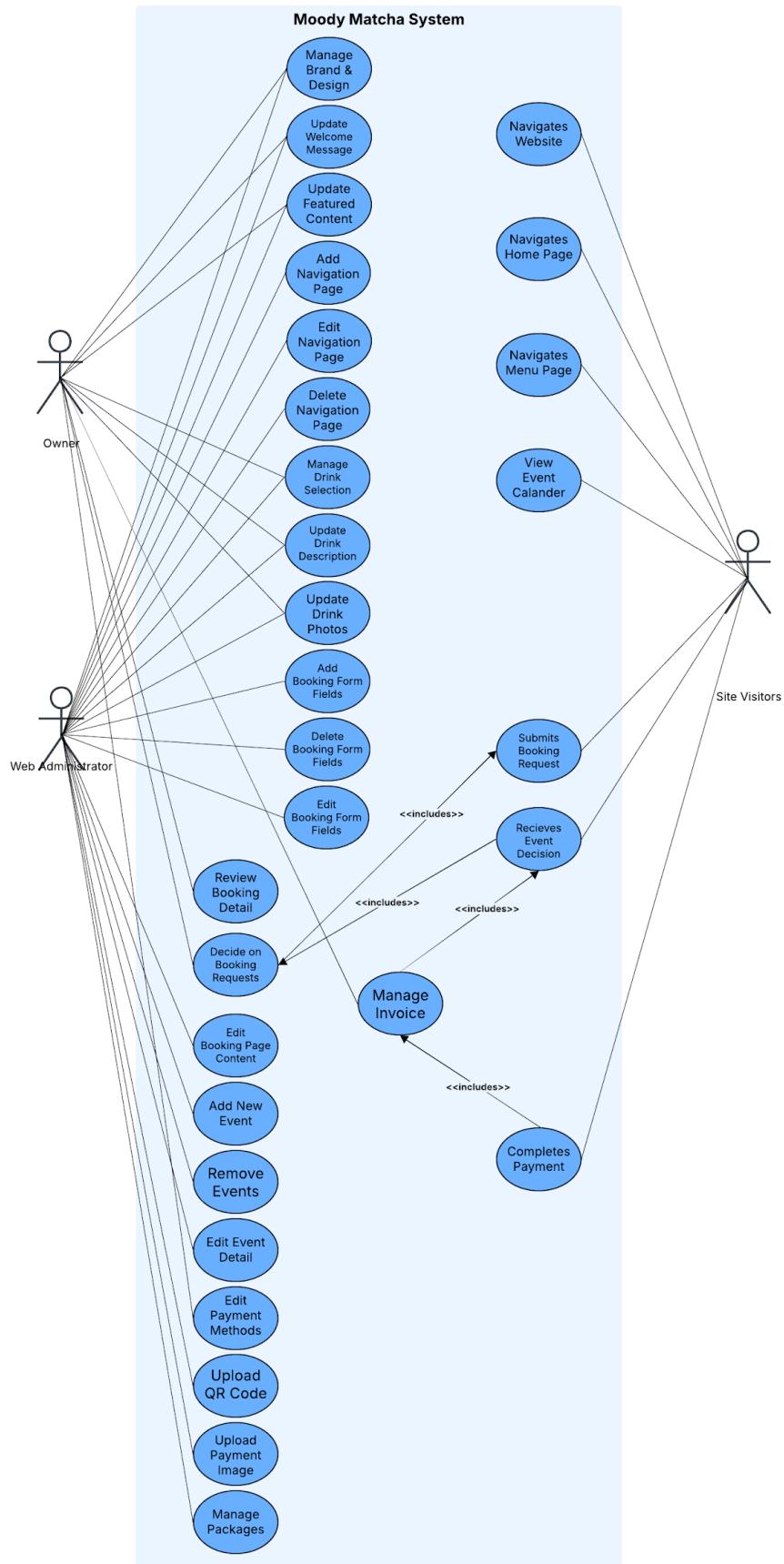
Moody Matcha does not have an internal network infrastructure since its business mainly operates through mobile devices and cloud based tools. The new website will be hosted through a secure web hosting service, which will manage all server connections and provide reliable uptime. The domain name will be registered under the client's ownership and connected through the hosting provider's DNS settings to ensure they maintain full control of their websites.

4. Standards

The client currently has no safety/security/procedural standards that need to be met in regards to the proposed system. The client does, however, want to ensure the standard of Moody Matcha's logo and color palette are consistent across all platforms.

Appendix C-Systems Analysis

Use Cases of Proposed System



Use Case Descriptions

1. Manage Brand & Design

The owner considers a design change. Once a design is selected, it's sent to the web administrator, logs in to the Moody Matcha admin dashboard and navigates to the Brand & Design section. Here, they can update various brand elements like logo, color palette, or banner, and then save their changes. The system will then apply the new theme to the entire site. If there is an issue with an uploaded file or if the changes can not be saved, the system will display an error and keep the previous design intact. To satisfy stakeholders, owner, web admin, or site visitors, new design choices must be visible when entering the website.

2. Update Welcome Message

The owner decides on an introductory message to display on the home page. The web administrator accesses the Home Page settings to change the welcome message. After they save or publish the new message, the system refreshes the home page to reflect the update. If something goes wrong and the update can't be saved or published, an error message will appear, and the old message will remain. To satisfy stakeholders, the owner, web admin, or site visitors, any updated welcome message must be displayed on the home page.

3. Update Featured Content

The owner decides on featuring a new drink or announcement, which is sent to the web administrator. In the Featured Content section, the site administrator selects an item to highlight, like a new drink or an announcement. They can upload a photo if necessary, add a brief caption, and then publish it. The system updates the featured section on the home page and confirms the success of the action. If any required content or media is missing or invalid, the system will show an error and won't publish the changes. Stakeholders such as the owner, web admin, and site visitors must be able to see new features in the featured content section.

4. Add Navigation Page

The site administrator navigates to the Pages section and clicks on Add Page. They enter the title and initial content, enable the navigation link, and hit publish. The system then creates the new page, adds it to the main menu, and confirms the action. If there's a conflict with the title or if validation fails, an error message will pop up, and the page creation will be canceled. Stakeholders such as site visitors must be able to view and click on new navigation pages.

5. Edit Navigation Page

If the site administrator wants to edit an existing page, they can select it from the Pages section, make changes to the title, content, or menu order, and then save or publish those edits. The system will apply the changes site-wide and confirm the update. If the update can't be completed for any reason, an error will be displayed, and the previous version will remain unchanged. Stakeholders, such as site visitors, must be able to see new changes on the pages.

6. Delete Navigation Page

If the site administrator decides to remove a page, they select it, confirm the deletion, and save. The system will then remove the page and its link from the menu, update the database, and confirm that the action was successful. If the page is protected or if there's dependent content that prevents deletion, the system will warn the administrator and cancel the action. Site visitors should not be able to access deleted pages.

7. Manage Drink Selection

The site administrator kicks things off by opening the Menu page to either introduce a new drink or retire one that's no longer on the menu. When adding a new drink, they fill in the name, description, price, optional image, and whether it's seasonal, then hit publish. The system promptly updates the menu list and gives a confirmation. If any required fields are left empty or if there's an issue with the image upload, the system will throw up an error and won't publish the drink. Stakeholders such as web admins, the owner, or site visitors should be able to see newly updated information about the drinks.

8. Update Drink Description

When the administrator wants to update/change a drink in the Menu Manager, they select it, make changes to the description and ingredients (and swap out the photo if necessary), then save or publish the updates. The system refreshes the drink details on the menu and confirms the changes. However, if there's a problem with the text or image validation, or if the save can't go through, the system displays an error and keeps the original information intact. Success is guaranteed when the information is updated.

9. Update Drink Photos

The site administrator launches Menu Manager and picks a drink that requires updated images. They navigate to the photo area for the drink and add fresh photographs from their device. Once the new photographs are added, the system replaces the old ones, updates the drink's gallery, and displays a confirmation message indicating that the change was successful. If a photograph is too huge, the wrong file type, or cannot be uploaded for any reason, the system shows an error and retains the previous photos to ensure that the drink page's graphics are not lost.

10. Add Booking Form Fields

The site administrator navigates to the Booking Form Editor via the dashboard. They click "Add Field" and select a field type like text, dropdown, date, or checkbox. They specify the field label, optional help text, and if it is necessary. After you save, the system will add the new field to the public booking form and confirm the modification. If the necessary information is absent or the field clashes with an existing one, the system issues a warning and cancels the addition.

11. Delete Booking Form Fields

The site administrator enters the Booking Form Editor and selects an existing field to delete. When you click "Delete," a confirmation prompt displays to avoid unintentional removal. Once confirmed, the field is permanently removed from the booking form, and all future reservations are updated to reflect the change. If the field is linked to a crucial function or cannot be securely deleted, the system generates an error and terminates the deletion.

12. Edit Booking Form Fields

The site administrator selects an existing form field from the Booking Form Editor and modifies its label, field type (if applicable), or necessary status. After saving, the system updates the booking form and refreshes the preview, allowing the administrator to validate the changes. If the new configuration clashes with current settings or breaks the form, the system displays an error notice while leaving the original field untouched.

13. Review Booking Detail

The owner or staff member navigates to the booking administration site and chooses a customer's booking request to examine all details. The system shows the whole request, including the date and time, guest count, event type, and any custom form field replies. The employee evaluates the material and may make internal comments if clarification or follow-up is required. If any booking data is missing or corrupted, the system alerts the staff person so that they may seek further information from the customer.

14. Decide on Booking Requests

After considering a booking request, the owner chooses to "Approve" or "Decline." If authorized, the system changes the booking status to confirmed and automatically sends the customer a confirmation message outlining the following steps. If refused, the system notes the reason for the refusal and provides a courteous notification to the consumer with other choices. If the notice cannot be issued, the system notifies the owner to follow up manually. To decide on a booking request is dependent on the site visitor completing the use case of "Submits Booking Request".

15. Edit Booking Page Content

The site administrator uses the Booking Page Content Editor to amend general information, update instructions, or modify the appearance of the booking page. They can change the content, submit new photos, or update FAQs. Following saving, the system publishes the revised page and displays a confirmation message. If anything fails to save or needed pieces are missing from the content, the system shows an error and retains the prior version available so that visitors may continue to access accurate information.

16. Add New Event

The owner logs into the admin dashboard and goes to the Events section. The owner clicks the option to add a new event and enters details like the event name, date, description, and any photos. After saving the event, the system updates the Event Calendar so site visitors can see it.

17. Remove Events

The owner opens the Events section from the admin dashboard and selects an event they want to remove. After confirming the deletion, the system removes the event from the calendar. If the page still shows the old event, the system refreshes the content to hide it from site visitors. Success is guaranteed when said events are not viewable to site visitors.

18. Edit Event Detail

The owner selects an existing event from the Events section and updates details like the date, description, or images. When the owner saves the changes, the system updates the Event Calendar with the new information. If any required fields are missing, the system shows a small message asking the owner to fix them. Success is shown when the event details are updated and viewable by all stakeholders.

19. Add Payment Methods

The owner goes to the Payment Settings page in the admin dashboard. Here, the owner can update payment methods such as CashApp, Zelle, or Venmo. After saving, the system updates the payment options shown to site visitors. If a payment method is removed, the system hides it from the payment page.

20. Upload a QR Code

The owner opens the Payment Settings page and uploads a QR code image through the file upload option. After the image is uploaded, the system replaces the old QR code and updates the payment section so site visitors see the new one. If the file type is not supported, the system shows an error message. Success is guaranteed when the QR code is scanned, leading stakeholders to the external site to complete payments.

21. Upload Payment Image

The owner opens the Payment Settings page and uploads a payment-related image, such as a logo or screenshot. After saving, the system updates the payment page so site visitors see the new image. If the upload fails, the system asks the owner to try another file.

22. Navigates Home Page

The site visitor enters the Moody Matcha website and the system loads the home page. The page shows the welcome message, featured content, and main navigation options. The site visitor can scroll or click around to explore the site. If the home page fails to load, the system shows an error message.

23. Navigates Menu Page

The site visitor clicks on the Menu button from the home page, and the system opens the menu section. Here, the site visitor can view drink categories and all available matcha drinks. The site visitor scrolls through the list to see more items. This includes the drink's name, description, ingredients, and photos. The site visitor reviews the details to decide if they want to book. If the menu doesn't load correctly, the system displays a message saying it can't load the menu.

24. Submits Booking Request

The site visitor fills out a booking form to request an event or service with Moody Matcha. They enter details like the date, time, location, and number of guests. After submitting the form, the system confirms the request and stores it for review. If required fields are empty or invalid, the system asks the site visitor to correct them.

25. Receives Event Decision

After the booking request is reviewed, the owner sends the site visitor a decision message explaining whether the event is approved or denied. The site visitor can check this through their email or through the website's booking status page. The message tells them the next steps if it's approved. If the notification doesn't go through, the site visitor must check the website manually. Receiving an event decision is dependent on the owner completing the use case "Deciding on Booking Request".

26. Completing Payment

Once a booking is approved, the site visitor chooses what type of payment they want to make, such as a deposit or full payment. The system shows the available options. The site visitor selects the type that works for them, and the system moves them to the next step. The site visitor is shown different payment methods, such as CashApp, Zelle, or Venmo, for security deposits. An additional option for cash is shown for the full payment. They choose the method they prefer, and the system prepares the instructions or redirects them to the correct payment process. Once selected, the system gets ready to finalize the payment. If a method can't be used, the system asks the site visitor to choose another one. Completing payment is dependent on the owner completing the use case of "Manage Invoice".

27. View Event Calendar

The site visitor clicks on the Event Calendar to see available dates and upcoming events. The system loads the calendar and displays all scheduled information. The site visitor can browse through the dates to find what they need. Site visitors can also see event details for other events occurring on a particular day as well.

28. Manage Invoices

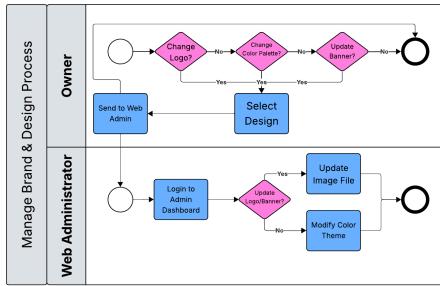
The owner logs into the admin dashboard to the booking page to manage invoices. The owner selects the client and changes their booking status to approved. The owner enters the dollar amount they had agreed upon through external communication, and has the system send an invoice email to the client. Managing invoices is dependent on the decision the user receives, more specifically, if they are approved by the owner.

29. Manage Packages

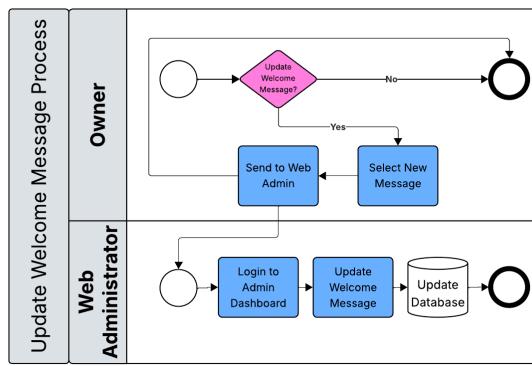
The web administrator logs onto the admin dashboard to the booking page and is able to edit the packages available. They are able to create a new package, which would include drink types and a guest quantity. They are able to delete a package. They are able to edit a current drink package by changing the drink types available and the number of guests as well.

BPMN Diagrams of Proposed System

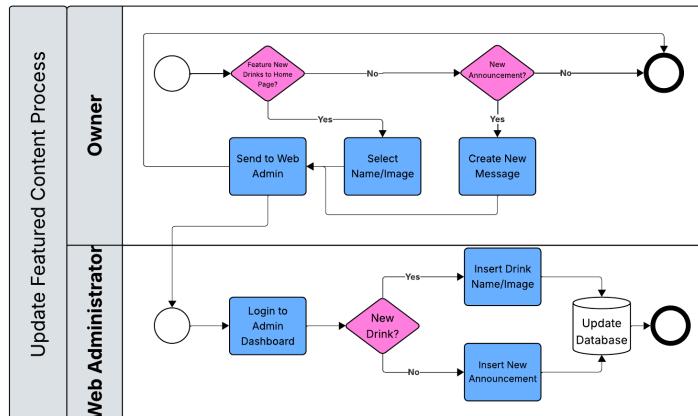
1. Manage Brand & Design: Volume: Initial setup or per owner request, Time: 30 mins



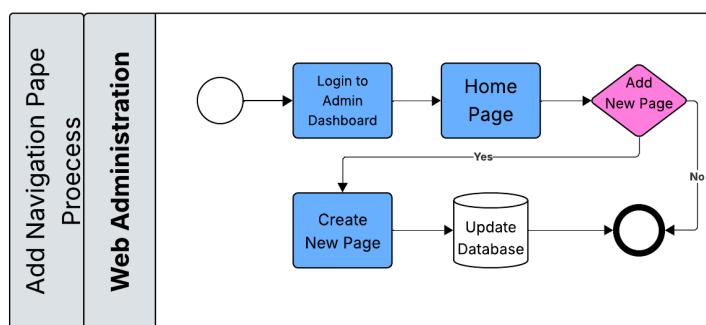
2. Update Welcome Message: Volume: Initial setup or per owner request, Time: 10 mins



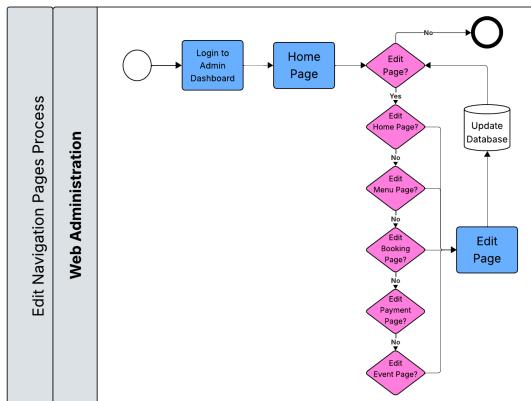
3. Update Featured Content: Volume: Monthly or w/ emergency announcement, Time: 45 mins



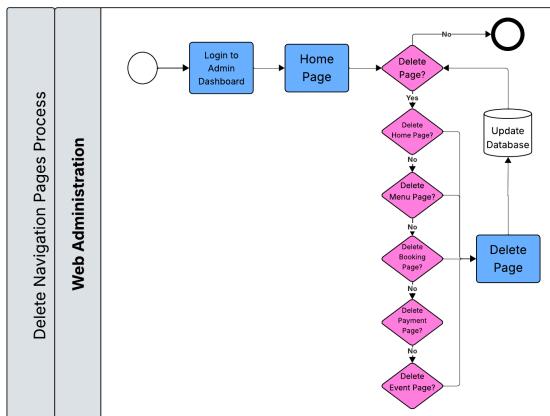
4. Add Navigation Page: Volume: Initial setup or per owner request, Time: 1 hour



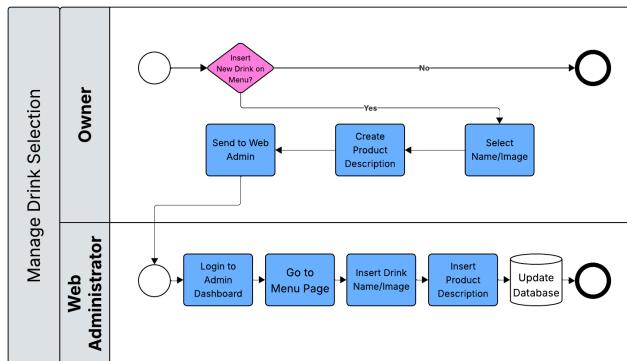
5. Edit Navigation Page: Volume: Per owner request, Time: 20 mins



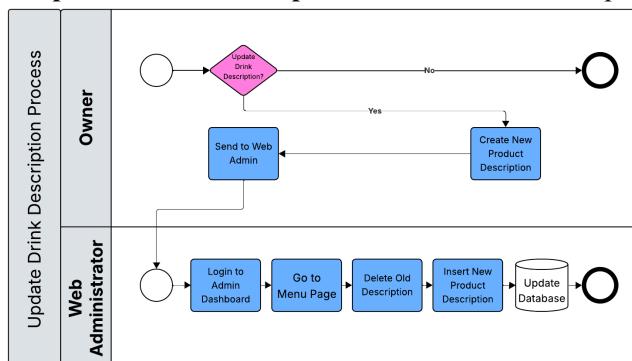
6. Delete Navigation Page: Volume: Per owner request, Time: 10 mins



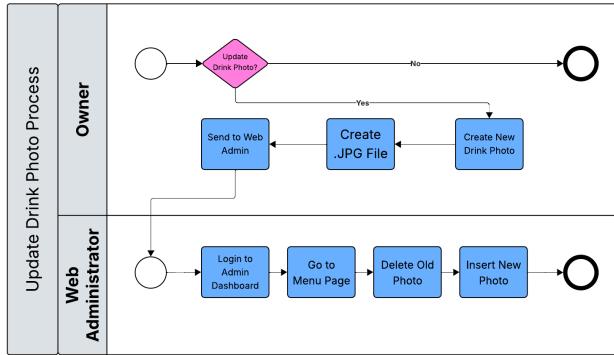
7. Manage Drink Selection: Volume: Initial setup or per owner request, Time: 1 hour



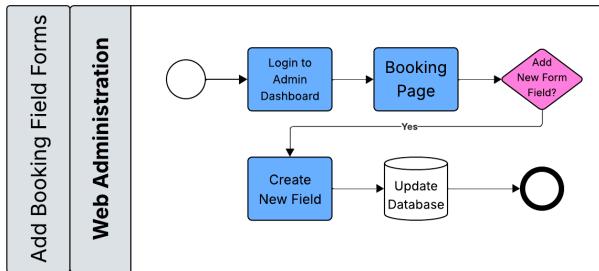
8. Update Drink Description: Volume: Initial setup or per owner request, Time: 5-10 mins



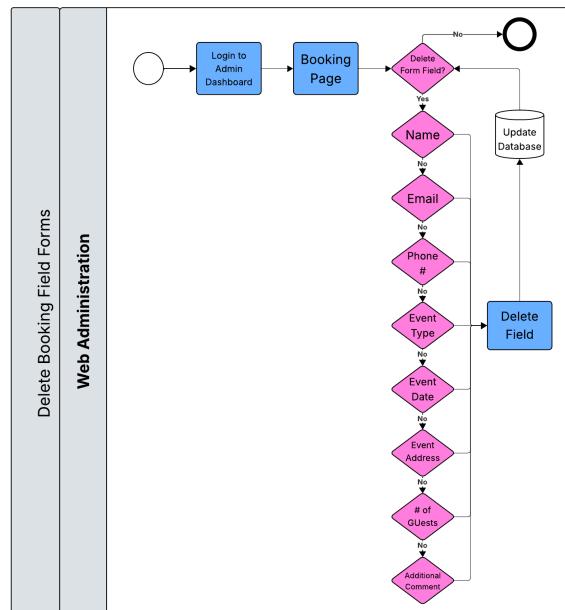
9. Update Drink Photo: Volume: Initial setup or per owner request, Time: 5-10 mins



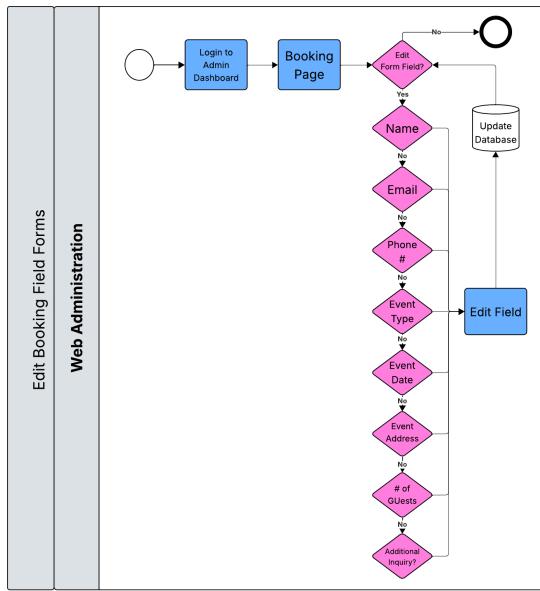
10. Add Booking Form Fields: Volume: Initial setup or per owner request, Time: 5-10 mins



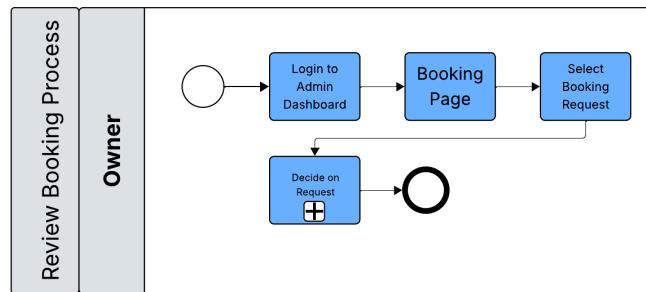
11. Delete Booking Form Fields: Volume: Per owner request, Time: 3 mins



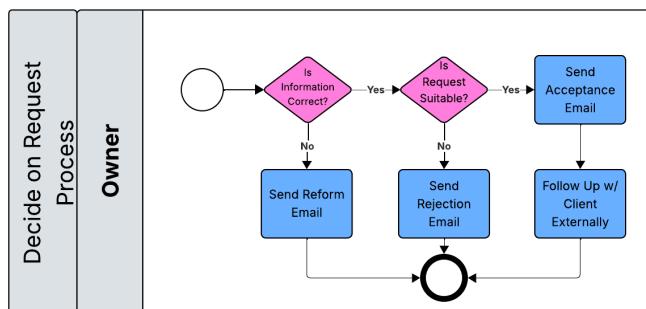
12. Edit Booking Form Fields: Volume: Initial setup or per owner request, Time: 5 mins



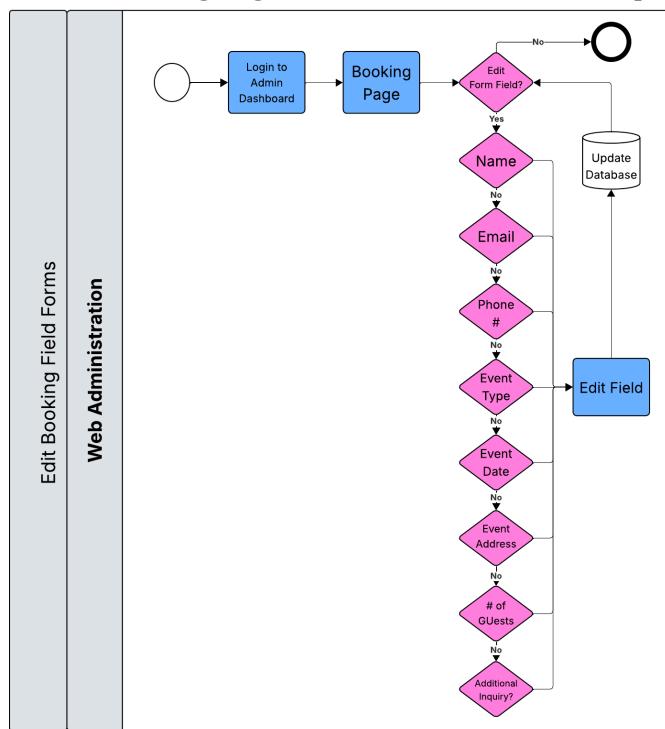
13. Review Booking Detail: Volume: 1 per site visitor submission, Time: 20 mins



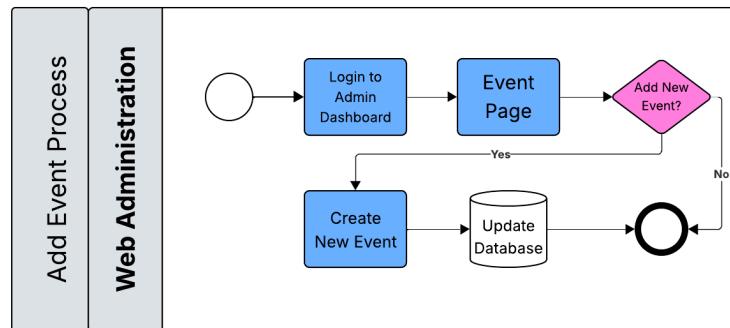
14. Decide on Booking Request: Volume: 1 per site visitor submission, Time: 15 mins



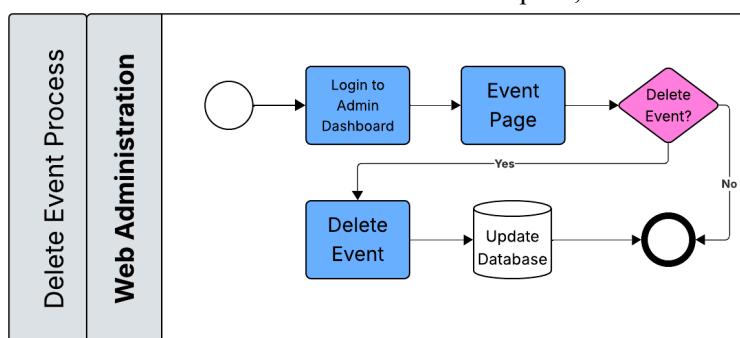
15. Edit Booking Page Content: Volume: Initial setup or per owner request, Time: 10-20 mins



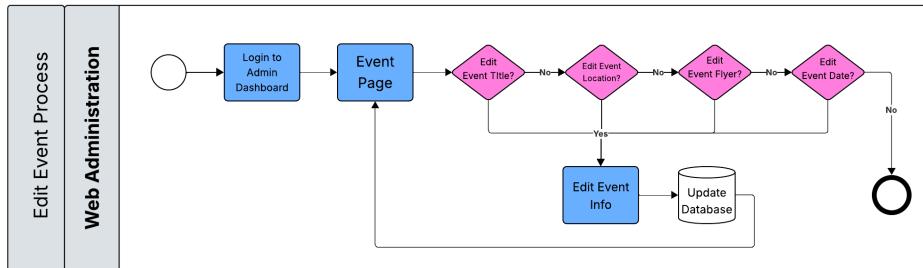
16. Add New Event: Volume: 1 per site visitor approval, Time: 10 mins



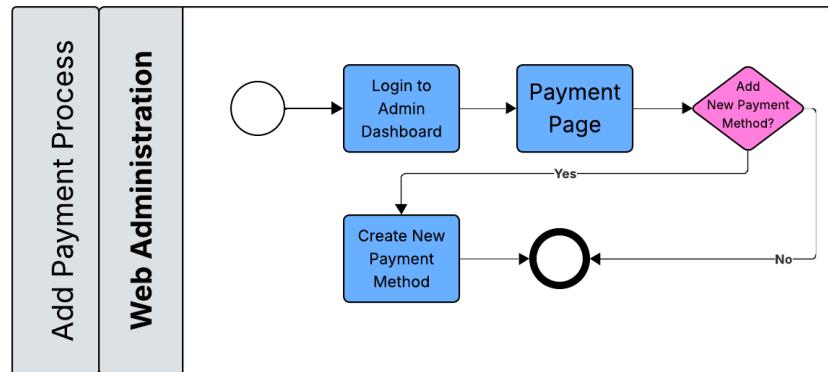
17. Remove Events: Volume: Per owner request, Time: 3 mins



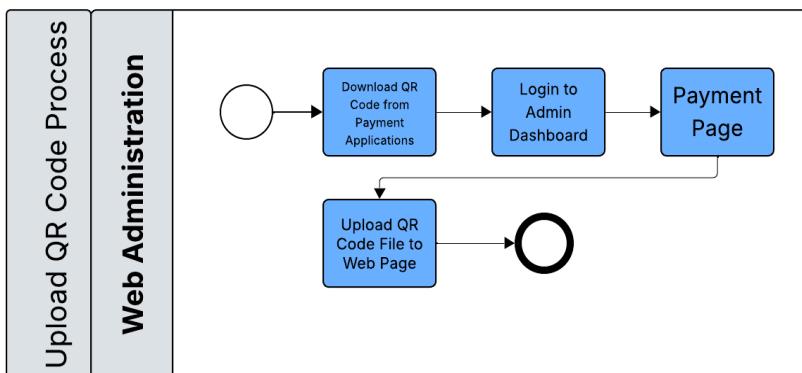
18. Edit Event Detail: Volume: Per owner request, Time: 10 mins



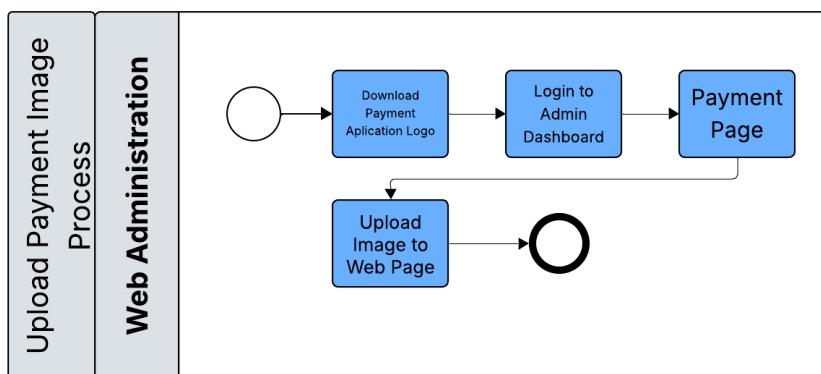
19. Add Payment Methods: Volume: Initial setup or per owner request, Time: 15 mins



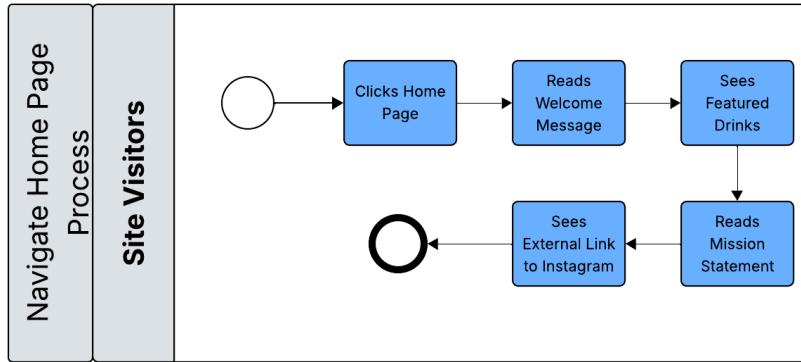
20. Upload a QR Code: Volume: Initial setup, Time: 5 mins



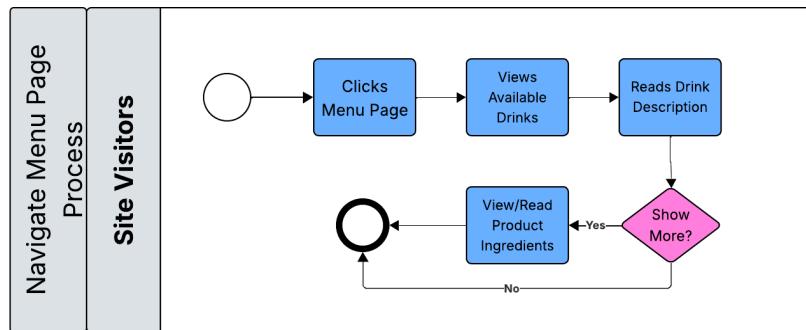
21. Upload Payment Image: Volume: Initial setup, Time: 5 mins



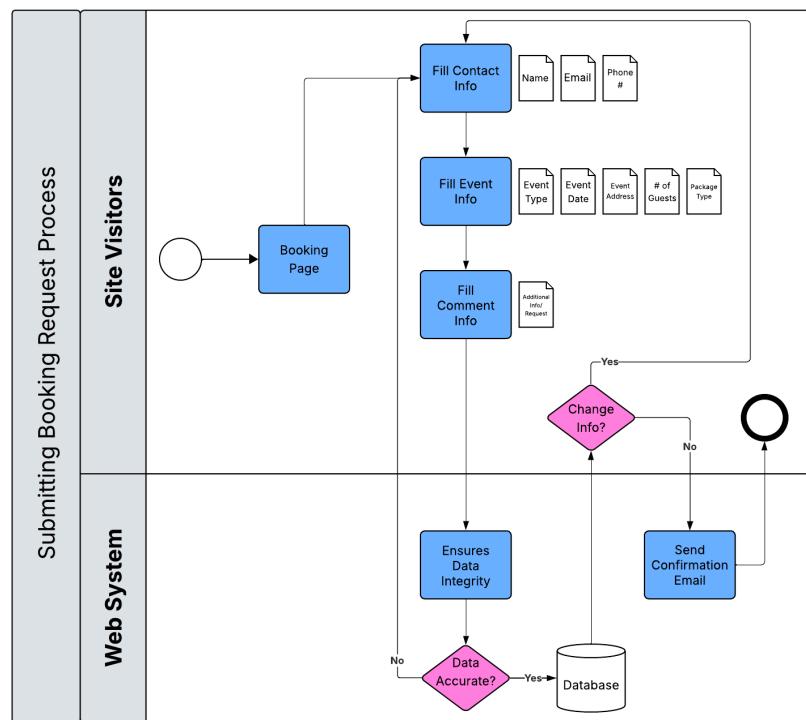
22. Navigates Home Page: Volume: 1 per site visitor visit, Time: 2 mins



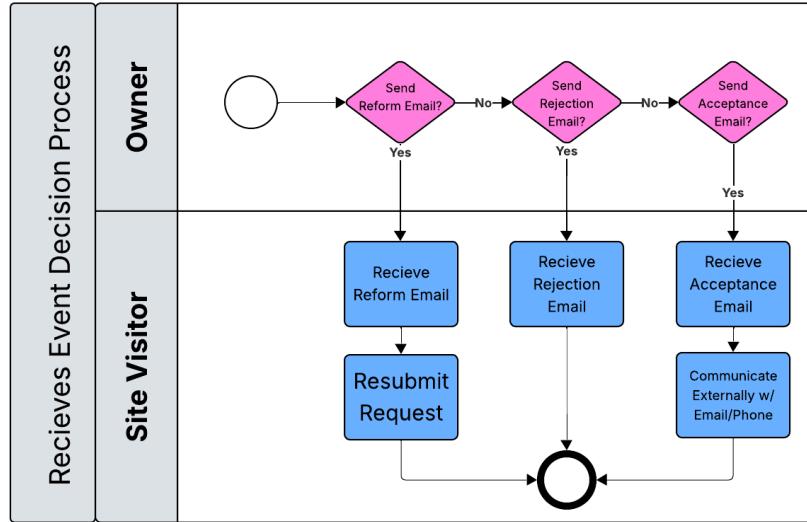
23. Navigates Menu Page: Volume: 1 per site visitor visit, Time: 3 mins



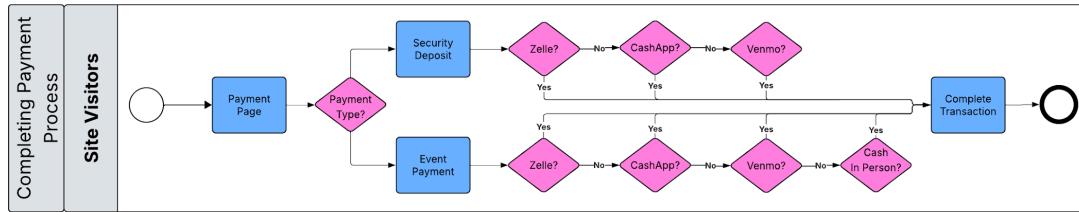
24. Submits Booking Request: Volume: 1 per site visitor submission, Time: 10 mins



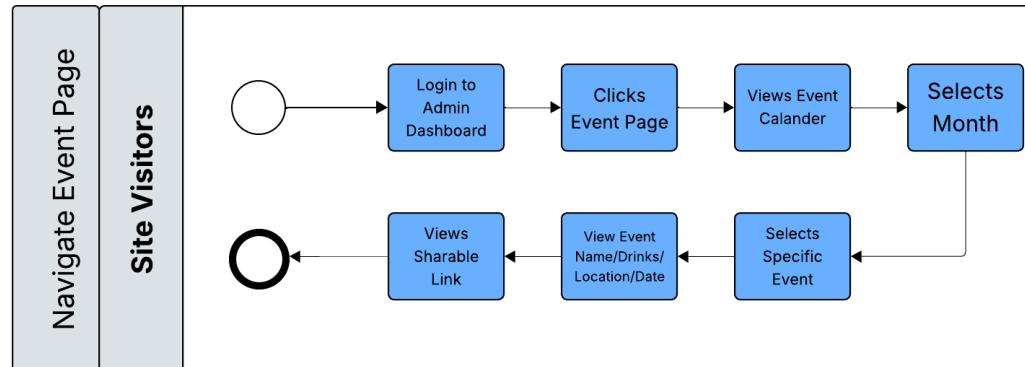
25. Receives Event Decision: Volume: 1 per site visitor submission, Time: 2-20 mins



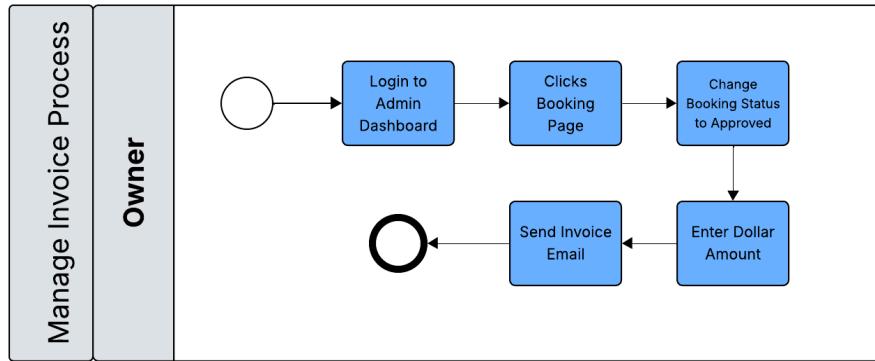
26. Completing Payment: Volume: 1 per site visitor approval, Time: 5-10 mins



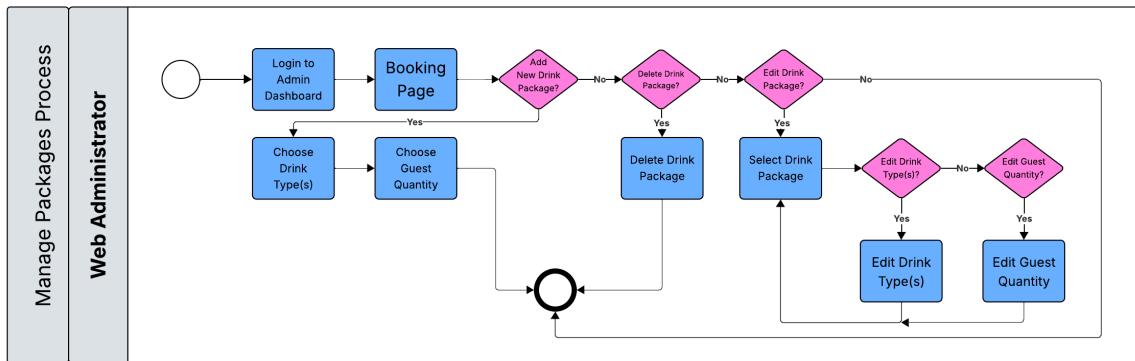
27. View Event Calendar: Volume: 1 per site visitor visit, Time: 5-10 mins



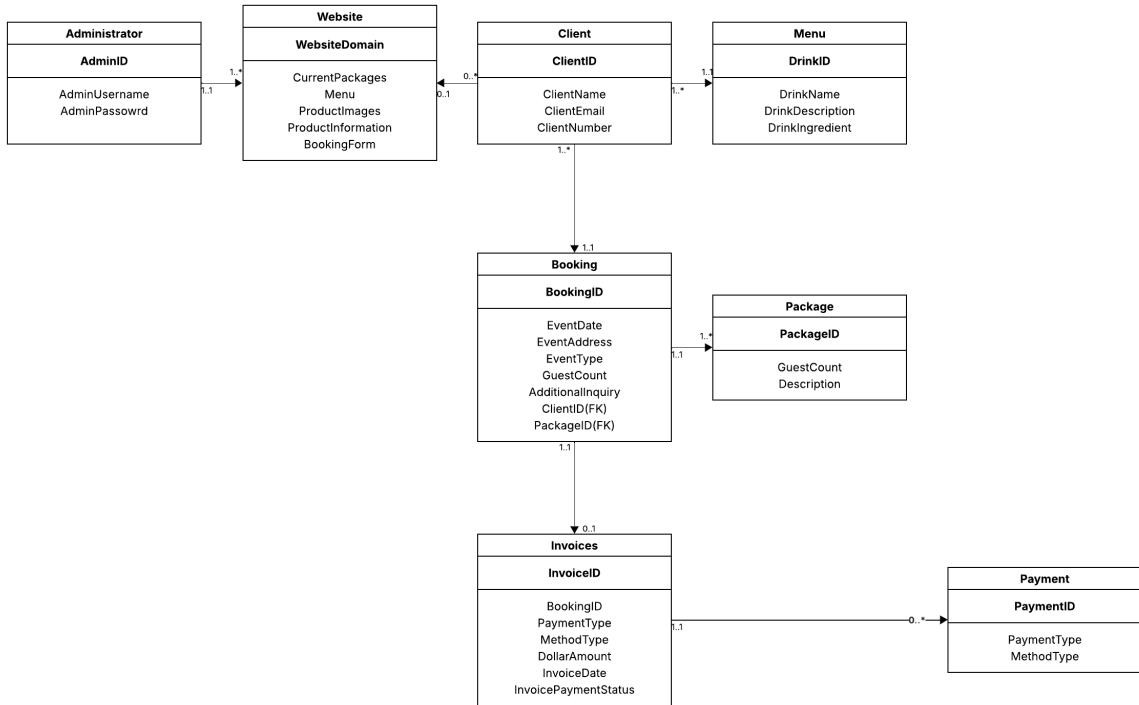
28. Manage Invoices: Volume: 1 per site visitor approval, Time: 15 mins



29. Manage Packages: Volume: Initial setup or per owner request, Time: 30 mins



Class Diagram



Appendix D-Project Schedule

