

Wedding Organizer – wedding planning web application

A dissertation submitted for the Degree of Master of Information Technology

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ABSTRACT

Preparing for weddings is always tedious, especially when it does not involve hired help. Long checklists await soon-to-be brides and grooms before their auspicious wedding ceremony. Without experienced assistance, these brides and grooms face frustrating situations in hunting for suitable bridal products and services. This work presents an ideal one stop solution, called the "Wedding organizer", for the brides and grooms to retrieve information on available bridal products and services in the shortest possible time. This web based wedding planning system provides a platform for brides and grooms to acquire information on bridal products and services, as well as information of vendors registered with wedding organizer. The couple has the ability to filter favorite wedding vendors by shortlisting them and then contact them for best quotes. The system provides the checklist feature with detailed task of what the couple has to do to prepare for the special day. Also, has the ability to add own items or remove existing ones, add notes, see what percentage have finished, and keep track of what still needs to be done. The system assists brides and grooms in making decisions based on their preferences and budget function can manage the cost of individual expenditure items and all the amounts are immediately added once the couple finalize the vendor.

DECLARATION

The thesis is my original work and has not been submitted previously for a degree at this or any other university/institute.

To the best of my knowledge it does not contain any material published or written by another person, except as acknowledged in the text.

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TABLE OF CONTENTS

List of Figures	vi
List of Tables	viii
Acknowledgement	ix

CHAPTER 1 – INTRODUCTION

1.1 Introduction	1
1.2 The client	1
1.3 Motivation	1
1.4 Problem Domain	2
1.5 About the project	2
1.5.1 Aim	2
1.5.2 Objectives	2
1.6 Scope of the project	3
1.7 Structure of Dissertation	4

CHAPTER 2 – BACKGROUND

2.1 Background Study	5
2.2 Review of similar systems	6
2.3 Alternative Technologies	9
2.4 Requirement Elicitation	9
2.5 Functional Requirements	10
2.6 Non-functional Requirements	10

CHAPTER 3 - METHODOLOOGY

3.1 Introduction	11
3.2 Selected methodology for the system	11
3.3 Selected Technology and Architecture for the system	12
3.4 UML Design	13
3.4.1 Use case Diagrams	
3.4.2 Sequence Diagrams	17
3.4.3 Activity Diagrams	19
3.5 Database Design	22
3.5.1 Entity Relationship Diagram	22
3.5.2 Database and table structures	
3.6 Interface Design	
-	

CHAPTER 4 – EVALUATION

4.1 Testing	31
4.1.1 Introduction	31
4.1.2 Test Plan	31
4.1.3 Scope of testing	32
4.1.3 Test Strategy	33
4.1.4 Test Approach	33
4.1.4.1 Unit Testing	33
4.1.4.2 Integration Testing	33
4.1.4.3 Smoke Testing	33
4.1.4.4 System functional Testing	34
4.1.4.5 Regression Testing	34
4.1.4.6 UI/Navigation Testing	34
4.1.4.7 Browser compatibility Testing	34
4.1.4.8 User Acceptance Testing	34
4.1.5 Test Cases	35
4.2 Critical Appraisal	37
4.2.1 Introduction	37
4.2.2 System Evaluation	38
4.2.3 Analysis of the feedback	39
4.2.4 Objectives Covered	43
4.2.5 Lesson Learnt	43
CHAPTER 5 – CONCLUSION	
5.1 Conclusion	44
5.2 Future Work	44
REFERENCES	45

LIST OF FIGURES

Figure 3.1 – Life cycle of the RAD Model	
Figure 3.2 – Three tier Architecture)
Figure 3.3 – Use case diagram for user14	ŀ
Figure 3.4 – Use case diagram for vendor15	5
Figure 3.5 – Use case diagram for admin16	5
Figure 3.6 – Sequence diagram for user1	7
Figure 3.7 – Sequence diagram for vendor	3
Figure 3.8 – Sequence diagram for admin18	3
Figure 3. 9 – Activity diagram for login1	9
Figure 3.10 – Activity diagram for add checklist	20
Figure 3.11 – Activity diagram for search vendor2	0
Figure 3.12 - Activity diagram for update guest list2	1
Figure 3.14 – Database Structure	2
Figure 3.15 – Budget table structure	3
Figure 3.16 – Checklist table structure	3
Figure 3.17 – Guest table structure	3
Figure 3.18 – Task table structure	!3
Figure 3.19 – User_details table structure	24
Figure 3.20 – Wedding_details table structure	24
Figure 3. 21 – Vendor_registration table structure	24
Figure 3.22 – Payment table structure	25
Figure 3. 23 – User login page2	:5
Figure 3.24 – Home page of the user	6
Figure 3.25 – Add new task	26
Figure 3.26 – Add new expense	:7
Figure 3.27 – Upload guest list	7
Figure 3.28 – Vendor manager page2	:8
Figure 3.29 – Payment summary page2	:9
Figure 3.30 – Vendor home page	:9

Figure 3.31 – Dashboard of the administrator panel	30
Figure 4.1 – Ease of use of the wedding planning system	39
Figure 4.2 – Errors clearly described in the wedding planning system	40
Figure 4.3 – Navigation ratings of the wedding planning system	40
Figure 4.4 – User interfaces ratings of the system	41
Figure 4.5 – Security ratings of the wedding planning system	41
Figure 4.6 – Maintenance ratings of the system	42
Figure 4.7 – Easy to learn ratings of the system	42

LIST OF TABLES

Table 2.1 – Comparison between WeddingChannel.com and Easyweddings	6
Table 2.2 - Comparison between WedNet and Wedding Planning Software	7
Table 2.3 - Wedding planning systems with their features and functions	8
Table 4.1 – Functionalities	32
Table 4.2 – Questionnaire for user evaluation	
Table 4.3 – Test case: User login	35
Table 4.4 – Test case: Vendor login	
Table 4.5 – Test case: Assign task	35
Table 4.6 – Test case: Add new guest	36
Table 4.7 – Test case: Request for pricing from vendors	36
Table 4.8 – Test case: User registration	36
Table 4.9 – Test case: Search vendors	37
Table 4.10 – Test case: Add new task	37
Table 4.11 – User evaluation results summary	

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CHAPTER 1 - INTRODUCTION

1.1 Introduction

This chapter provides the introduction of the project, what is it, why is it needed, and who is the client. Going through this chapter, the reader can get a clear understanding about the key modules of the project and its feasibility. Also, this chapter addresses about the problem domain and the criteria of the proposed solution to overcome it.

1.2 The Client

The Wedding Planning System is a web-based platform for couples and vendors. Each user has different perspective towards the system, depends on the needs in terms of their roles in the system.

Couple

Couples are brides and grooms who are initiating their wedding planning. They use the system to help them make decision based on their preference and budget when taking in pricings for their desired wedding services and products. They are responsible for specifying their desires and needs of every aspect of the wedding such as themes, styles, locations, dates, vendor brands and etc. They can make changes anytime during the planning process.

Vendor

Vendors are persons or companies who provide wedding services and products. They use the system to market their products and services and attract more prospective clients. In addition, they can interact with clients through the system.

1.3 Motivation

Wedding arrangements are the most important things in one's life and it should be perfect without any mistakes and flaws that needs you to be a magician for managing budgets, bookings, suppliers, guest list and to-do list on a daily basis [1].

Nowadays couples face frustrating situation in looking for wedding products and services here and there and they want support from some other person. Unfortunately, the professional wedding planners are quite expensive and not provide much relevant ideas and schedule to the couple. Even though, there are handful websites which provide information to the user are not more popular in the Sri Lankan culture and they have so many issues as not much user friendly ,questionable relevance to the specific user and doubt with reliability.

"Wedding organizer" web application has been proposed as a solution to the current issues which provide important key features which are expected from young couples. They are notifications sending facility as a reminder of events, managing to-do list, manage guest list and enable to find the vendor details.

1.4 Problem Domain

Traditionally, planning a wedding has always been a long process which involves a lot of time, money, effort, stress and high risks. In the modern society due to competitive vendors the wedding has become a fashion for both the couple and their parents [2]. Many brides do not want to take on the stress of planning and stage managing their own wedding. Wedding planners help by providing planning services up to the wedding and coordinating the event on the big day. A wedding planner is a professional who assists with the design, planning and management of a client's wedding. But their cost is very high and the couple cannot afford it. They provide a key role in making sure that you enjoy your wedding day as you have dreamt of, and they will make sure that all things will go smoothly according to the plan [2]. But wedding planners give their own suggestions and they control the couple's ideas with their own planning. They are ready to introduce their own dealers who provide commissions for them once the wedding planner will arrange clients. A wedding planner can charge a flat fee for services, tact a percentage on to the key wedding expenditures. Therefore, there is always chance the couple will go over budget and not even realize it.

Arranging bridal materials, making guest list and send the invitations are very challenging tasks but wedding planning applications make it too easy. At the wedding day there are series of activities such as speeches, dances, family pictures etc to be done involving many guests but the couple does not have time to waste on finding the right guest for each activity. The proposed system has 'Task Management' function that assign ownership of each task to the couple's family members and keep track of their progress. It will help the wedding couple to enjoy the wedding day without any hassle.

1.5 About the project

Mainly this project is focused on couples who face frustrating situation in looking for wedding products and services here and there, and vendors who have difficulties to expand their customer base. The Wedding Planning System designed to be a one-stop web-based platform used by couples and vendors. Each user has different perspective towards the system, depends on the needs in terms of their roles in the system. Couples use the system on their wedding design, plan and management. Vendors use the system to sell their services and products.

1.5.1 Aim

The aim of this project is to help wedding couples to specify their desires and needs of every aspect of the wedding such as themes, styles, locations, dates, vendor brands and more and vendors to expand their market.

1.5.2 Objectives

The "wedding organizer" is a web based platform that aims to help organize successful wedding event. The system assists the couples in the decision making and planning processes associated with all aspects of a wedding organization. The system offers features that the couples can retrieve information for wedding products and services as well as information of vendors in the shortest possible time. Also, vendors can gain benefit of getting more recognition from clients and generating more revenue. The proposed system has the ability to explore wedding goods/service suppliers (Vendors) across thirteen relevant categories and allow vendors to enter and manage all relevant information such as price, client list, models, previous work details, locations, exhibition details and more.

Wedding couple has the ability to register themselves in the web application by entering name of the bride, name of the groom, and date of wedding. Managing the guest list is another important task provide by the proposed system. Check who has already confirmed and who has not.

Balancing the budget is one of the hardest aspects of planning a wedding. The wedding couple has not experience of dealing with paying vendor in the countdown to a wedding. Most couples have never thrown a celebration like a wedding before. Therefore, they do not know how to budget for a wedding [2]. The proposed system will help the wedding couple to figure out a budget for the event that is just right for them. It will also help them to stay within budget when planning their big day.

So many things that need to be done on the wedding and prior this day. So planning is very important to make the wedding day special and memorable. The wedding checklist is generated for that. It helps to prepare for the big day without missing any of the bits and pieces that involved in planning.

1.6 Scope of the project

The proposed system will be a comprehensive web based wedding planning system designed using PHP. This system will be capable of planning, scheduling, monitoring and evaluating all the activities related to the wedding. The web application will let the couple to manage the budget against the supplier's goods and services. It will also help them to stay within budget when planning their big day.

The proposed system is intended to cover the following functional aspects:

Wedding couple Registration

Wedding couples have ability to register themselves in the web application. Name of the bride and groom, wedding date, and homecoming date are needed.

Explore wedding goods/service suppliers (Vendors)

The bride or groom will be able to find suppliers across thirteen relevant categories using extensive filters such as cost, location or other required factors. Following are the thirteen categories:

- Venues
- Catering
- Photographers
- Videographers
- DJ/Band
- Wedding car
- Flowers & decorations
- Wedding jewelry
- Wedding cakes
- Wedding invitations
- Bridal Accessories
- Groom Accessories
- Health & Beauty

Wedding Checklist

Check items as done, and keep a track of the pending ones with own wedding countdown. See what percentage have finished, and keep track of what still needs to be done.

Guest List

Keep track of guest status. Build your wedding guest list and easily keep track of guest attendance.

Task management

Has the ability to assign ownership of each task with your family members and keep track of their progress.

Budget Calculation

Manage the cost of individual expenditure items (DJ, Florist, photographers ...etc,) and all the amounts are immediately added once the couple finalize vendors

Keep the track of payments such as actual cost incurred, estimated cost, amount paid and amount need to be paid.

1.7 Structure of Dissertation

In background chapter a review of similar systems will be provided. A comparison of alternative design strategies will also be included in this chapter. Compare how the project requirement are satisfied through each alternative as well as the costs involved in each and select with justification a single design strategy for implementation.

The design of the system will be described in methodology chapter. The implementation environment (hardware/ software), tools, existing systems that reused, database table structures, backup strategy design, test plan, etc will also include in this chapter.

Evaluation chapter will give a critical evaluation of the system. It will discuss whether the project objectives were satisfied and if not, the reason for them. Lesson learnt during the course of the project will also be expanded upon. Provide all the aspects of the system have been tested and specification has been met.

CHAPTER 2 – BACKGROUND

2.1 Background Study

Weddings have forever been a significant and important celebration for many people around the world. They celebrate the binding love between two people and the journey into a new life together. Often times, weddings are events that brides have been dreaming about and looking forward to their entire lives. Many brides would even agree that, "a wedding is the celebration of a lifetime, and whether that celebration is a grand fete for hundreds or an intimate gathering of family and friends, it is a day when dreams come true" [3].

This idealistic, romantic view about weddings has not always been the way it is today. For much of human history it was rare that love was the main reason for people to get married. Until very recently, many civilizations believed in the economic functions of a marriage over personal satisfactions [4]. Marriages were made for family and economic benefits, with the hope that the marriage would result in love later on [5]. As a result of this traditional approach, arranged marriages were very common for many years. Only in recent years did the idea of marriage for love become popular.

This new concept of a wedding speaks to many brides and encourages them to make their fantasy weddings come true. The feeling of a dream wedding as a necessity intensifies the lavishness of weddings each year. Significantly more money is spent to create a dream wedding [6]. The average budget for a wedding is now estimated at nearly \$27,000 [7]. Couples are going above and beyond to make their weddings perfect. Every year is different when it comes to creating a dream wedding. In order to keep up with the changes, brides now tend to follow popular trend throughout their planning process.

The wedding budget can be the biggest limiting factor for a bride when planning a wedding. The budget is considered in every decision about the wedding and determines how big and extravagant or simple and small the wedding must be [8]. Normally, the wedding planning period is thought of as a period of overwhelming excitement during which couples are much more likely to forget about their worries and go on a wedding planning spending spree [9]. It is becoming more apparent in recent recessionary years that couples have had to become more aware of their wedding-related expenditures [9]. Although the overall wedding budget is much higher than budgets of the past, couples are still leaning toward the new trend of stricter, mindful wedding budgets. In order to stay within their budgets, brides are spending more time in their wedding planning process to make sure they avoid any extra spending [10]. Some brides are even cutting costs by adopting a "good enough" attitude when planning their wedding [10]. Weddings can be a daunting expense for many couples. Luckily, new trends are helping couples tighten up their budgets by finding new cost-effective ways to make their wedding special.

Venues are also key to the celebration of a wedding. They create the atmosphere that is forever linked to the memories of the wedding [9]. According to Daniels et al., "the venue is generally one of the first decisions made, thus driving many other wedding purchases". Couples can choose to be as traditional or creative with their venues as they wish. It has even recently become popular to choose a venue based off of a wedding theme [11]. Destination weddings have also become popular in recent years. Destination weddings are weddings that are held in a location that the couple does not reside in, often in an exotic or popular tourism destination. These kinds of weddings allow many couples to live out their dream wedding. In order to accommodate for these new venue desires, most couples will choose a venue early in the planning process so that there is more flexibility in dates [11].

2.2 Review of Similar Systems

A brief literature review has been done on the conventional practice of wedding planning and existing online wedding planning systems.

In the conventional practice of wedding planning, soon-to-be brides and grooms have to face some common hassles, including registration of their marriage, taking wedding photographs, sourcing a location for the occasion, planning the dinner ceremony, finalizing guest lists, planning seat placements and so on. Without expert guidance and recommendations, these soon-to-be brides and grooms face the unpleasant experience of hunting for suitable bridal products and services, either from the internet or from visiting one bridal service provider to another simply to complete the check list. They usually have to come up with a wedding plan from the available information based on trial and error. Most of the time, this cumbersome task often leads to frustration and failure.

Alternatively, a better way for these soon-to-be brides and grooms to find the most suitable products and services is from the bridal expo. From the point of view of the wedding service providers, they are losing out potential clients in the long run if they have to wait only for the expo event to promote their products. Setting up booths and advertising at bridal fair are limited to printed materials, recommendations and word of mouth marketing strategies to attract customers to their services.

Another method of marketing wedding products and services is through the internet. Currently, there are many web based planners available on the internet such as WedNet, Wedding Planning Software, WeddingChannel.com and Easyweddings.

WeddingChannel.com	Easyweddings	
1) Embeds the DSS function under the budget calculator module [12].	Embeds the DSS function under the wedding budget calculator module [13].	
2) Users are only required to fill in their expected budget amount and the number of expected guest.	Easyweddings only required users to provide total budget and total number of guests' information when performing budget planning.	
3) The system will assist the users to calculate and distribute the budget amount into the Fashion, Ceremony, Reception, Food and Drink, Invitations and Stationery, Flowers and Decorations, Music, Photo and Video, Wedding Rings, Transportation and Lodging, Gifts, Other Common Expenses and Tax/Tips/Etc categories.	The total budget for Easyweddings will be distributed based on pre-fix weightage into the Fashion and Beauty, Reception, Ceremony, Wedding Rings, Photo and Video, Decorations, Flowers, Entertainment, Stationery, Gifts, Wedding Cake, Transport and Accommodation and Miscellaneous Items categories.	
4) Users are allowed to remove any unnecessary allocation from the related category and redo the budget planning	y Users are allowed to remove any unnecessary d allocations from the related categories and redo the budget planning	
5) WeddingChannel.com has poor organization of information.	Easyweddings has better organization of information.	

The table 2.1 shows the comparison between WeddingChannel.com and Easyweddings.

6) Users are not allowed to allocate higher	Users are not allowed to allocate higher	
weightage for their preference categories	weightage for their preference categories when	
when performing the budget planning.	performing the budget planning.	

Table 2.1 - Comparison between WeddingChannel.com and Easyweddings

The table 2.2 shows the comparison between WedNet and Wedding Planning Software.

WedNet	Wedding Planning Software
 WedNet is a web based portal whereby it provides in-depth wedding information [14]. It also has a vendor module which allows vendors to advertise their products or services and upload their company web links. 	Wedding Planning Software is also a web portal that allows users and vendors to search and advertise their products or services respectively [15].
2. Provides only static information with very limited interactivity.	It provides static information with very limited interactivity
3. Poor organization of information.	The organization and presentation of the information in the Wedding Planning Software is less complex
4. WebNet only works as an informative portal and it does not have a budget planning system to help in the calculating and planning of expenditure for these soon-to-be brides and grooms.	It does not have a budget planning system.

 Table 2.2 - Comparison between WedNet and Wedding Planning Software

An Interactive Web-Based Wedding Planner with Comparative Analysis Decision Support System	System for providing wedding management	Internet-based wedding planning device with multiple-interactive capabilities and method of use
 This web based wedding planner provides a platform for brides and grooms to acquire information on bridal products and services, as well as information of vendors registered with Wedding Arc [16]. 	A system including a terminal and a network configured to communicatively couple with the terminal [17].	An internet-based, inter- active wedding planning and management program [18].
2) Make wedding planning reservations online with the simple click of a mouse	Network including a database configured to store information concerning the user and a wedding card	Allows a wedding group, including the brides, grooms, guest, and wedding planner to interactively plan the wedding.
 Long and tedious task of information gathering has been shortened and made more convenient 	Server configured to provide web services that include receiving personal information concerning a user, determining whether to authorize the user based on the personal information, granting a wedding card to the user based on the determination to authorize the user	The bride is the primary account owner and can give each invited guest different usernames and passwords, along with the ability to give administrative access to others.
 4) Functions as a web based comparative analysis decision support system. 	Website provides a wedding management system assisting the user in planning the upcoming wedding.	The bride and her administrative users can assign tasks to various guests.
 5) Allows the brides and grooms to subscribe to a service that will assist them in the process of wedding planning and preparations. The system assists brides and grooms in making decisions based on their preferences and budget. 		Provides online and interactive features to assist in wedding planning and management, including budget calculators, wedding item organizers, task lists, calendar functions, guest manager functions, a message center and community chat, printing managers, wedding day schedulers, and a wedding checklist.

The table 2.3 demonstrates the some more wedding planning systems with their features and functions.

Table 2.3 - Wedding planning systems with their features and functions

2.3 Alternative Technologies

There are various types of technologies that are used to implement web-based wedding planning systems. One of the most popular one is Content Management System (CMS). There are benefits as well as drawbacks of using these technologies. CMS is a system that needs periodic upgrades such as security patches, upgrades. In that case system has to undergo certain regular maintenance. Hence, the proposed system will be based on PHP and Mysql. PHP is one of the robust tools for developing dynamic websites. Many of the large and most successful commercial websites running on internet today were in built in PHP. PHP provides fast and robust performance in comparison with other server side languages. As the proposed system is a web application that deals with database, PHP was a good option as developing tool. PHP even supports good database connectivity with the MYSQL database.

2.4 Requirement Elicitation

Requirement elicitation refers to the techniques that use to gather data, which is required to perform other tasks. i.e., it is the ways that use to collect information.

A wide range of requirement elicitation techniques exist for requirements development. It is essential to understand what is available to you and then choose your techniques based on your situation and your organization. Using multiple techniques to elicit requirements information can be very powerful and produce higher quality results. Following are the requirement elicitation techniques that are used for the project to collect information.

Questionnaires

Set of questions are given to the recently married couples and get their opinions.

Interviews

Several interviews are taken place between married couples and the some people those are willing to marry. Get their ideas and ask about the problems they are encountered while planning their wedding.

Gather data from existing wedding planning websites

Go through the existing wedding planning websites and see the reviews of clients and get the clear understanding of the couple's requirements.

2.5 Functional Requirements

Functional and non – functional requirements need to be carefully selected in order to ensure that they make sense in the context of the final outcome of the project.

Functional requirements are functions or features that must be included in the developed system to satisfy the business needs and be acceptable to the users. Functional requirements may be calculations, technical details, data manipulation and processing and other specific functionality that defines what a system is supposed to accomplish. Functional requirements are expressed by the users of the system.

As a result of the requirements elicitation techniques that are used, following are the key functional requirements.

- Wedding couple Registration
- Explore wedding goods/service suppliers (Vendors)
- Wedding Checklist

Check items as done, and keep a track of the pending ones. Add notes, see what percentage have finished, and keep track of what still needs to be done. Also, has the ability add own items or remove existing ones.

• Wedding guest list

Keep track of guest status. Build your wedding guest list and easily keep track of guest attendance.

- Task management
- Budget calculation

2.6 Non- functional Requirements

Non-functional requirement will describe how a system should behave and what limits there are on its functionality.

<u>Availability</u>

This is to make sure there is very low downtime of the database server and assuring the system is always available and ready.

<u>Reliability</u>

Since lot of calculations are involved, higher reliability of the system is highly expected by the users. System should be able to perform all the relevant functions and produce correct output.

Robustness

Meaningful error messages will be appear when incorrect data is fed in, allowing the user to understand the problem.

Appearance and Interactive

Website should be more attractive and interactive. Appearance of the site should be beautiful and the visitors should not feel bored to visit the site.

CHAPTER 3 – METHODOLOGY

3.1 Introduction

This chapter describes the methodology that is used to develop proposed web-based wedding planning system. It also explains the consisting techniques that have used to design the system such as use case diagrams, ER diagram and activity diagrams to illustrate the new system. Consequently, design of the database, table structures and the user interfaces also describe here.

3.2 Selected methodology for the system

The Rapid Application Development (RAD) method is used as the software development methodology for implementing this system. Rapid application development is a form of agile software development methodology. Unlike Waterfall methods, RAD emphasizes working software and user feedback over strict planning and requirements recording. In other words, RAD is less talk, more action. While RAD de-emphasizes strict planning, there are still a handful of steps or phases each development project goes through when using the rapid application development methodology [21]. Figure 3.1 shows the life cycle of the RAD model.



Figure 3.1 –Life cycle of the RAD Model

RAD methodology is a way to create software quickly and efficiently, without having to resort to development models like the Waterfall model, which is inflexible, making it difficult to change functions and features once you've built the software. RAD methodology is designed to be flexible to changes and to accept new inputs, like features and functions, at every step of the development process [22].

3.3 Selected Technologies and Architecture for the system

"Wedding organizer" is a web-based wedding planning system which will use PHP, Apache and MySQL as web technologies. Nowadays, most people have access to internet. Therefore, the system can be used by anyone whenever they want. Hence, there are no boundaries for people to use this service.

There are various programming languages such as Java, .NET, PHP, C#, C++ for developing webbased systems. In this project PHP is used as the programming language. Hypertext Preprocessor (PHP) is a programming language that allows web developers to create dynamic content that interacts with databases. PHP is basically used for developing web- based software applications [23]. There are many benefits that can be gain from using PHP as the programming language. Some of them are Easy and simple to learn, extremely flexible, easy integration and compatibility and efficient performance.

This system is a three-tier architecture that consists of client, web server and a database which is shown in Figure 3.2. Three-tier architecture is a client–server software architecture pattern in which the user interface(presentation), functional process logic ("business rules"), computer data storage and data access are developed and maintained as independent modules, most often on separate platforms [24].



Figure 3.2 – Three tier Architecture

Here are 5 benefits of separating an application into tiers.

- It gives us the ability to update the technology stack of one tier, without impacting other areas of the application.
- It allows for different development teams to each work on their own areas of expertise. Today's developers are more likely to have deep competency in one area, like coding the front end of an application, instead of working on the full stack.
- We will be able to scale the application up and out. A separate back-end tier, for example, allows us to deploy to a variety of databases instead of being locked into one technology. It also allows us to scale up by adding multiple web servers.
- It adds reliability and more independence of the underlying servers or services.
- It provides an ease of maintenance of the code base, managing presentation code and business logic separately, so that a change to business logic, for example, does not impact the presentation layer [25].

3.4 UML Design

Unified Modeling language (UML) is a standardized modeling language enabling developers to specify, visualize, construct and document artifacts of a software system. Thus, UML makes these artifacts scalable, secure and robust in execution. UML is an important aspect involved in object-oriented software development. It uses graphic notation to create visual models of software systems. The UML architecture is based on the meta object facility, which defines the foundation for creating modeling language. They are precise enough to generate the entire application. A fully executable UML can be deployed to multiple platforms using different technologies and can be used with all processes throughout the software development cycle [23].

3.4.1) Use case Diagrams

There are three actors/users in the proposed system.

- 1. User (Wedding couple)
- 2. Vendor
- 3. Admin

Following are the Use cases diagrams related to major functionalities performed by main actors.

• Use case diagram for user

Figure 3.3 shows the use case diagram for user.



Figure 3.3 – Use case diagram for user

• Use case diagram for Vendor

Figure 3.4 shows the use case diagram for vendor.



Figure 3.4 – Use case diagram for Vendor

• Use case diagram for Admin

Figure 3.5 shows the use case diagram for admin.



Figure 3.5 – Use case diagram for Admin

3.4.2 Sequence Diagrams

• Sequence diagram for **user**

Figure 3.6 shows the sequence diagram for user.



Figure 3. 6 – Sequence diagram for user

• Sequence diagram for **vendor**

Figure 3.7 shows the sequence diagram for vendor.



Figure 3.7 -Sequence diagram for vendor

• Sequence diagram for Admin

Figure 3.8 shows the sequence diagram for admin.



Figure 3.8 – Sequence diagram for Admin

3.4.3 Activity Diagrams

Following are the important activity diagrams of the proposed wedding planning system.

• Activity diagram for login

Figure 3.9 shows the activity diagram for login.



Figure 3.9 – Activity diagram for login

• Activity diagram for add checklist.

Figure 3.10 shows the activity diagram for add checklist.



Figure 3.10 – Activity diagram for add checklist

• Activity diagram for search vendor

Figure 3.11 shows the activity diagram for search vendor.



Figure 3.11 – Activity diagram for search vendor

• Activity diagram for update guest list

Figure 3.12 shows the activity diagram for update guest list.



Figure 3.12 – Activity diagram for update guest list

3.5 Database Design

A database is a collection of information that is organized so that it can be easily accessed, managed and updated. Data is organized into rows, columns and tables, and it is indexed to make it easier to find relevant information. Data gets updated, expanded and deleted as new information is added. Databases process workloads to create and update themselves, querying the data they contain and running applications against it [26].

3.5.1 Entity Relationship Diagram

An entity-relationship diagram (ERD) is a graphical representation of an information system that shows the relationship between people, objects, places, concepts or events within that system. An ERD is a data modeling technique that can help define business processes and can be used as the foundation for a relational database.

ER diagram of the proposed wedding planning system is represented in APPENDEX B.

3.5.2 Database and table structures

- ✓ Database Name wedding_organizer_db
- ✓ Tables
- > Budget
- Checklist
- ➤ Guest
- ➤ Task
- ➢ User_details
- ➢ Wedding_details
- Vendor_registration
- ➢ payment



Figure 3.14 – Database Structure

Figure 3.14 shows the database structure of the proposed wedding planning system.

Figure 3.15, Figure 3.16, Figure 3.17, Figure 3.18, Figure 3.19, Figure 3.20, Figure 3.21, and Figure 3.22 show budget table structure, checklist table structure, guest table structure, task table structure, user_details table structure, wedding_details table structure, vendor_registration table structure, and payment table structure respectively.

• Budget table

#	Name	Туре	Collation	Attributes	Null	Default	Comments	Extra	Action		
1	id 🔑	int(11)			No	None		AUTO_INCREMENT	🥜 Change	Drop	➡ More
2	Expense	varchar(350)	latin1_swedish_ci		No	None			🥜 Change	Drop	▼ More
3	category	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	Drop	▼ More
4	Estimatedcost	int(20)			No	None			🥜 Change	🔵 Drop	▼ More
5	Finalcost	int(20)			No	None			🥜 Change	Drop	▼ More
6	PaymentDueBy	date			No	None			🥜 Change	🔵 Drop	▼ More
7	user_name	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	Drop	▼ More

Figure 3.15 – Budget table structure

• Checklist table

#	Name	Туре	Collation	Attributes	Null	Default	Comments	Extra	Action			
1	id 🔑	int(11)			No	None		AUTO_INCREMENT	🥜 Change	Drop	▼ M	lore
2	Taskname	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	🔵 Drop	▼ M	lore
3	Timeline	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	Drop	▼ M	lore
4	category	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	🔵 Drop	▼ M	lore
5	user_name	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	Drop	▼ M	lore

Figure 3.16 – Checklist table structure

• Guest table

#	Name	Туре	Collation	Attributes	Null	Default	Comments	Extra	Action			
1	id 🔑	int(11)			No	None		AUTO_INCREMENT	🥜 Change	Drop	▼	Nore
2	firstname	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	🔵 Drop	▼	Nore
3	lastname	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	Drop	▼	Nore
4	family Side	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	🔵 Drop	▼	Nore
5	status	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	Drop	▼	Nore
6	user_name	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	😂 Drop	▼ 1	Nore

Figure 3.17 – Guest table structure

• Task table

#	Name	Туре	Collation	Attributes	Null	Default	Comments	Extra	Action		
1	id 🔑	int(11)			No	None		AUTO_INCREMENT	🥜 Change	Drop	▼ More
2	Name	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	Drop	▼ More
3	Taskname	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	Drop	▼ More
4	Contactno	varchar(15)	latin1_swedish_ci		No	None			🥜 Change	🔵 Drop	▼ More
5	Assigndate	date			No	None			🥜 Change	Drop	▼ More
6	Duedate	date			No	None			🥜 Change	🔵 Drop	▼ More
7	Status	varchar(100)	latin1_swedish_ci		No	None			🥜 Change	Drop	▼ More
8	user_name	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	🔵 Drop	▼ More

Figure 3.18 – Task table structure

• User_details table

	#	Name	Туре	Collation	Attributes	Null	Default	Comments	Extra	Action		
ĺ	1	id 🔑	int(11)			No	None		AUTO_INCREMENT	🖉 Change	Drop	▼ More
C	2	fname	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	Orop	➡ More
ĺ	3	Iname	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	Drop	➡ More
C	4	email	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	Orop	▼ More
ĺ	5	password	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	Orop	▼ More

Figure 3.19 – User_details table structure

• Wedding_details table

#	Name	Туре	Collation	Attributes	Null	Default	Comments	Extra	Action			
1	id 🔑	int(11)			No	None		AUTO_INCREMENT	🥜 Change	Drop	▼	More
2	user_name	varchar(250)	latin1_swedish_ci		No	None			🥜 Change	🔵 Drop	▼	More
3	groomName	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	Drop	▼	More
4	brideName	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	🔵 Drop	▼	More
5	weddingdate	date			No	None			🥜 Change	Drop	▼	More
6	homecomingdate	date			No	None			🥜 Change	😑 Drop	▼	More
7	phonenumber	varchar(20)	latin1_swedish_ci		No	None			🥜 Change	Orop	▼	More

Figure 3.20 – Wedding_details table structure

• Vendor_registration table

#	Name	Туре	Collation	Attributes	Null	Default	Comments	Extra	Action			
1	id 🔎	int(11)			No	None		AUTO_INCREMENT	🥜 Change	Drop	➡ More	e
2	email	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	🔵 Drop	➡ More	e
3	password	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	Drop	▼ More	е
4	businessName	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	🔵 Drop	▼ More	e
5	category	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	Drop	➡ More	е
6	contactno	varchar(20)	latin1_swedish_ci		No	None			🥜 Change	🔵 Drop	▼ More	e
7	website	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	Drop	➡ More	е
8	emailld	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	🔵 Drop	▼ More	е
9	description	varchar(500)	latin1_swedish_ci		No	None			🥜 Change	Drop	▼ Mor	е
10	image	longblob			No	None			🥜 Change	🔵 Drop	➡ More	e
11	address	varchar(400)	latin1_swedish_ci		No	None			🥜 Change	Drop	▼ More	е
12	city	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	🔵 Drop	▼ Mor	е

Figure 3.21 – Vendor_registration table structure

• Payment table

#	Name	Туре	Collation	Attributes	Null	Default	Comments	Extra	Action		
1	id 🔎	int(11)			No	None		AUTO_INCREMENT	🥜 Change	Drop	➡ More
2	Expense	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	🔵 Drop	▼ More
3	Category	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	Drop	➡ More
4	Amount	int(11)			No	None			🥜 Change	🔵 Drop	▼ More
5	Paymentdate	date			No	None			🥜 Change	Drop	➡ More
6	Paymentdue	date			No	None			🥜 Change	🔵 Drop	▼ More
7	Payer	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	Drop	➡ More
8	PaymentMethod	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	🔵 Drop	▼ More
9	user_name	varchar(255)	latin1_swedish_ci		No	None			🥜 Change	Drop	▼ More

Figure 3.22 – Payment table structure

3.6 Interface Design

User interface (UI) design is the process of making interfaces in software or computerized devices with a focus on looks or style. Designers aim to create designs users will find easy to use and pleasurable. UI design typically refers to graphical user interfaces but also includes others, such as voice-controlled ones [27].

• Login page for the user (couple)

Figure 3.23 shows the user login page and users are required to login to the system before they are able to fully utilize the web based application.

	Login Register Vendor Login Vendor Registration
Wedding	
	×
PASSWORD	S
Login	
	Plan Your Meddine

Figure 3.23 - User login page

• Home page

Figure 3.24 shows the home page of the user.



Figure 3.24 – Home page of the user

• Add New task

Users have the ability to add their own checklist items using add new task form which is shown in Figure 3.25

\leftarrow \rightarrow C () localhost/web/resources/checklist.php			☆ @ . :
Wedding organizer Home	Add New Task ×	ask Management 🖾 1	Sign Out
1 Benn	A A A A A A A A A A A A A A A A A A A	Berger	
Home / Checklist			
	Task Name		
	Choose category •		
You Have C	Add Cancel	asks	
	ATA I A		
3 Tasks com	pleted 16 Tasks pending		
			Task

Figure 3.25 – Add new task

• Add New Expense

The cost of individual expenditure items (DJ, Florist, Photographers, etc) can be added to the system using add new expense form which is shown in Figure 3.26

\leftrightarrow \rightarrow C (1) localhost/web/resources/budget.php		☆ @
Wedding organizer Home	Add Expense ×	Fask Management 🛛 1 Sign Out
		man Albak
Home / Budget	Expense	
	Choose category • Estimated Cost	Status: UNDER BUPGET
Estin	Final Cost	tal Paid: Rs. 8000
	Payment Due By Save Expense Cancel	+ Expense Payment Summary

Figure 3.26 – Add new expense

• Upload Guest List

Creating guest list is the most complicated task during wedding planning. User has the ability to upload guest list to the system which is in the excel sheet using upload guest list form that is shown in Figure 3.27.



Figure 3.27 – Upload Guest List

• Vendor Manager page

User has the ability to explore wedding goods/service suppliers across thirteen categories using the vendor manager page which is shown in Figure 3.28



Figure 3.28 – Vendor Manager Page

• Payment details page

User has the ability to keep track of the payment details and the summary of the payment details are displayed in the tabular format in the system which is shown in Figure 3.29

← → C ① I	ocalhost/web/resources/payme	nt.php			쇼 💩 🛛 🐱 🗄
Weddin	ng organizer	Home Checklist Budget	Vendor Manager Guest List	Task Management	Sign Out
		Payme	nt Summary		A La
Budget / Paymer	nt summary				
E	xpense	DETAILS		AMOUNT	
F V	lilton Hotel 'enue	Piad on Aug 26, 2019 by Hiruni gamage	By Cash	Rs. 8000	Ť
N F	Aomento creation Photography	Plad on Sep 11, 2019 by Bhagya perera	By Cash	Rs. 10000	

Figure 3.29 – Payment Summary page

• Vendor Home page

Vendor module includes the registration, login, posting and updating data. Similar to the user module, vendors will have to register with the system before they are allowed to post or update any data. Figure 3.30 shows the vendor home page.



Figure 3.30 – Vendor Home page

• Dashboard of the Administrator Panel

The administrator panel allows system administrator to maintain and update the information for the web based wedding planning system. Maintenance of the system includes keeping track of the registration – both vendors and users for the system. Figure 3.31 shows the dashboard of the administrator panel.



Figure 3.31 – Dashboard of the Administrator panel

CHAPTER 4 – EVALUATION

4.1 Testing

4.1.1 Introduction

Software testing is defined as an activity to check whether the actual results match the expected results and to ensure that the software system is defect_free. It involves execution of a software component or system component to evaluate one or more properties of interest. Software testing also helps to identify errors, gaps or missing requirements in contrary to the actual requirements. It can be either done manually or using automated tools. Some prefer saying Software testing as a White Box and Black Box Testing. In simple terms, Software Testing means Verification of Application under Test (AUT) [28].

It can also be stated as the process of **validating** and **verifying** that a software program or application or product:

- Meets the business and technical requirements that guided it's design and development
- Works as expected
- Can be implemented with the same characteristic.

4.1.2 Test Plan

A test plan is a document describing the scope, approach, objectives, resources, and schedule of a software testing effort. It identifies the items to be tested, items not be tested, who will do the testing, the test approach followed, what will be the pass/fail criteria, training needs for team, the testing schedule etc [29].

The test plan is started during the early stage of the software development process and carried through out as parallel activity. The components of the system are tested with respect to Windows environment. Further it is tested on widely used web browsers, such as Firefox, IE and Chrome. The test plan is prepared to ensure that the system archives the expected output. The objectives of the test plan are to confirm that systems provide the maximum benefits, required features and to ensure it work as expected. Sample set of test data is used to illustrate the test cases and results are identified to verify the testing scenarios. In a software system there are many features and functions to be tested.

Furthermore it tested the non-functional requirements as well. User interfaces are tested for user interactivity and flow of event to give smooth user friendliness to the end users. Security testing is carried out to check whether any security issues are there with the system. The recovery testing is performed to ensure that in case of system crash or hardware failure, system can be recovered from the last successfully backup.

4.1.2.1 Scope of Testing

Testing for the system will be limited to the items listed under the following three sections.

- 1. Functional Testing
- 2. UI / Navigational Testing
- 3. Non functional Testing

Functional Testing

It is a type of software testing whereby the system is tested against the functional requirements/specifications. Functions (or features) are tested by feeding them input and examining the output. Functional testing ensures that the requirements are properly satisfied by the application [30].

All the functionalities related to the system is listed in the below table 4.1

No	Function
1	Validations
2	Error messages
3	Click on
4	Key press
5	Data filtering
6	Checklist - add, delete, view progress
7	Budget - add, update, delete, view progress
8	Vendor Manager - search vendors, request for pricing, hire vendors
9	Guest List - add, update, delete, view progress
10	Task Management - assign task, update, delete, view progress
13	Login & Log out
14	User registration
15	Vendor registration

Table 4.1- Functionalities

<u>UI / Navigational Testing</u>

Test all links in webpages are working correctly and make sure there are no broken links. Links to be checked will include -

- Outgoing links
- Internal links
- Anchor Links
- MailTo Links

Non-functional Testing

Non-functional testing is defined as a type of Software testing to check non-functional aspects (performance, usability, reliability, etc) of a software application [31].

Cross browser testing - It is a process to test web applications across multiple browsers. Cross browser testing involves checking compatibility of the application across multiple web browsers and ensures that the web application works correctly across different web browsers [32].

4.1.3 Test Strategy

Manual testing is performed on whole web-based wedding planning system. It is a testing process that is carried out manually in order to find defects without the usage of tools or automation scripting [33]. This testing strategy gives the best opportunity to check every page thoroughly and make sure it works in the expected manner. Manual testing is selected as the testing strategy considering the fact that it is one of the best methods of testing suggested for a beginner. And also, due to the complexity of the various automation tools and the available time frame for testing.

4.1.4 Test Approach

The whole web application will be tested under following criteria for each functional and non - functional testing.

- Unit testing
- Integration Testing
- Smoke Testing
- System Functional Testing
- Regression Testing
- User Acceptance Testing

4.1.4.1 Unit Testing

Unit testing is a level of software testing where individual units/ components of a software are tested. The purpose is to validate that each unit of the software performs as designed. A unit is the smallest testable part of any software. It usually has one or a few inputs and usually a single output [34].

4.1.4.2 Integration Testing

Integration testing is a level of software testing where individual units are combined and tested as a group. The purpose of this level of testing is to expose faults in the interaction between integrated units [35]. Wedding organizer web application is tested with test data that made expected results.

4.1.4.3 Smoke Testing

Smoke testing is the initial testing process exercised to check whether the software under test is ready/stable for further testing. Prior to start *Smoke testing* few test cases need to created once to use for smoke testing. These test cases are executed prior to start actual testing to check critical functionalities of the program is working fine. This set of test cases written such a way that all functionality is verified but not in deep [36].

The smoke testing is carried out to validate below points.

- The database is properly configured for the system to function.
- Major functionalities are working as expected.
- System is ready for further functional testing.

4.1.4.4 System Functional Testing

The System functional testing started after successful completion of the smoke test and it is the entry criteria for functional testing. Functional testing is a way of checking software to ensure that it has all the required functionality that's specified within its functional requirements [37].

4.1.4.5 Regression Testing

Regression Testing is defined as a type of software testing to confirm that a recent program or code change has not adversely affected existing features. Regression Testing is nothing but a full or partial selection of already executed test cases which are re-executed to ensure existing functionalities work fine [38].

4.1.4.6 UI/ Navigation Testing

Test all links in webpages are working correctly and make sure there are no broken links.

4.1.4.7 Browser Compatibility Testing

Same website in different browsers will display differently. Need to test if web application is being displayed correctly across browsers, JavaScript, AJAX and authentication is working fine.

All the test cases documented in the test case document will execute in Google Chrome. Smoke and the UI / navigation test cases will be executed in Internet Explore and Fire fox.

4.1.4.8 User Acceptance Testing

User acceptance testing (UAT) is the last phase of the software testing process. During UAT, actual software users test the software to make sure it can handle required tasks in real-world scenarios, according to specifications. UAT is one of the final and critical software project procedures that must occur before newly developed software is rolled out to the market.

4.1.5 Test Cases

A test case is a document, which has a set of test data, preconditions, expected results and post conditions, developed for a particular test scenario in order to verify compliance against a specific requirement [39].

No: 01	Test case: User login		
Test case	Steps to follow	Expected results	
Successful login verification	Enter correct username and	Display particular client profile	
	correct password	page.	
	Enter incorrect username or	Error message and redirect to	
	incorrect password	login page	
	Attempt to login without user	Error message and redirect to	
	name or password	login page	

Table 4.3 illustrates the test case for user login.

Table 4.3 – Test case: User login

Table 4.4 illustrates the test case for vendor login

No: 02	Test case: Vendor login		
Test case	Steps to follow	Expected results	
Successful login verification	Enter correct username and correct password	Display particular vendor profile page.	
	Enter incorrect username or incorrect password	Error message and redirect to login page	
	Attempt to login without user name or password	Error message and redirect to login page	

Table 4.4 – Test case: Vendor login

Table 4.5 illustrates the test case which was conducted to demonstrate how the system display data when the user assign task to family members.

No:3	Test case: Assign task		
Test Case	Steps to follow		
	User assign task with valid information	Successful message and information will be display in the page	
	User assign task with empty fields	Display error messages	

Table 4.5 – Test case: Assign task

Figure 4.6 illustrates the test case which was conducted to demonstrate how the system display data when the user add new guest details to the system

No: 04	Test case: Add new guest		
Test case	Steps to follow	Expected results	
	User add new guest with valid information	Successful message and display entered data	
	User add new guest with empty fields	Display error message	

Table 4.6 – Test case: Add new guest

Table 4.7 illustrates the test case which was done to test input validations when user was expected to fill the form to request pricing from vendors through the system.

No: 05	Test case: Request for pricing	Test case: Request for pricing from vendors		
Test case	Steps to follow	Expected results		
	Fill all the required fields in the form and submit it	Display the successful message		
	Fill the form with empty fields	Display error message		

Table 4.7 – Test case: Request for pricing from vendors

Table 4.8 illustrates the test case which was conducted to test input validations when user was expected to fill the registration form to register with the system

No: 06	Test case: User registration		
Test case	Steps to follow	Expected results	
	User register with the system with valid information	Successful message and redirect to the login page	
	User register with the system with empty fields	Display error message and redirect to the register page	



Table 4.9 illustrates the test case which was conducted to demonstrate how the system display search results when the user select the required vendor category.

No: 07	Test case: Search vendors		
Test case	Steps to follow	Expected results	
	User select the required vendor	Display the suitable results.	
	category	If there are no vendor for that	
		category display a message	
		that there are no matching	
		results	

Table 4.9 – Test case: Search vendors

Table 4.10 illustrates the test case which was conducted to demonstrate how the system display data when the user add new task.

No: 08	Test case: Add new task		
Test case	Steps to follow	Expected results	
	User add new task with valid information	Successful message and display entered data	
	User add new task with empty fields	Display error message	

Table 4.10 – Test case: Add new task

4.2 Critical Appraisal

4.2.1 Introduction

A review of the Professional Project looking back at both the product and the process. Critical appraisal is the process of systematically examining developed software to judge its value and relevance.

This is the final function in a project. It involves the comparison of overall performance with initial and revised standards in an attempt to identify non - compliance situations and the reason for such situations. The overall exercise is done in an effort to

- Analyze the successfulness of the current project and determine reward schemes for those involved.
- Identify weaknesses and take corrective measures in order to improve future performance.

4.2.2 System Evaluation

User evaluation was carried out mainly to identify how much users are satisfied with the system. The decision to proceed with this project was dependent on critical evaluation. The problems associated with the user interface can be identify by the informal method called heuristic evaluation. Jacob Nielsen's Heuristic Evaluation would be the based on usability evaluation which will carry out with a sample of users by means of a set of designed questionnaire which can be found in Table 4.2.

User Evaluation Plan

- Select the group of vendors that provide services to the wedding planning and ask them to evaluate the web application.
- Randomly select some newly married couples and ask them to give their reviews about the web application.
- Finally select group of event planners and ask them to give their feedback of the complete system.

Ratings

- 1. Bad 🖈
- 2. Ok 🖈 🖈
- 3. Average $\bigstar \bigstar \bigstar$
- 4. Good $\bigstar \bigstar \bigstar \bigstar \bigstar$
- 5. Excellent $\bigstar \bigstar \bigstar \bigstar \bigstar \bigstar$

Description	Ratings (Fill with the number)
Easy to Use	
Errors Clearly Described	
Easy to Navigate	
User Interfaces	
Security	
Maintenance	
Easy to Learn	
Comments	
Name (Optional)	
Contact No – (Optional)	

Table 4.2 – Questionnaire for user evaluation

4.2.3 Analysis of the Feedback

A total of fifteen questionnaires were handed out to potential users of the web application. Out of the fifteen questionnaires, thirteen were filled and returned by the users. Feedback from the user evaluation questionnaire will be processed to summaries the data to observe in pictorial form. Pie charts will use to clearly distinguish between user responses. Three main areas of the system will be studied user friendliness, error handling and overall view or the user interfaces of the system.

Description	Ratings				
	Bad	Ok	Average	Good	Excellent
Easy to Use	8%	23%	8%	53%	8%
Errors Clearly Described	7%	31%	8%	47%	7%
Easy to Navigate	8%	25%	8%	52%	7%
User Interfaces	1%	30%	8%	54%	7%
Security	8%	23%	15%	47%	7%
Maintenance	8%	23%	15%	47%	7%
Easy to Learn	8%	31%	8%	46%	7%

Table 4.11 discusses the results from the field work.

Table 4.11 – User evaluation result summary

Easy to Use Ratings

Figure 4.1 is a chart showing how the users rated the ease of use of the wedding planning system.



Figure 4.1 – Ease of use of the wedding planning system

8% of the users thought the wedding planning system was excellent to use, 53% thought it was good, 23% thought it was average, 8% thought it was ok and 8% thought it was bad.

Errors Clearly Described



Figure 4.2 is a chart showing how the users rated errors appear in the wedding planning system.

Figure 4.2 – Errors clearly described in the wedding planning system

7% of the users thought the errors described in the wedding planning system was excellent, 47% thought it was good, 8% thought it was average, 31% thought it was ok and 7% thought it was bad

Easy to Navigate Ratings

Figure 4.3 is a chart showing how the users rated navigation of the wedding planning system.



Figure 4.3 – Navigation ratings the wedding planning system

7% of the users thought the navigation of the wedding planning system was excellent, 52% thought it was good, 8% thought it was average, 25% thought it was ok and 8% thought it was bad.

User Interfaces Rating



Figure 4.4 is a chart showing how the users rated the user interfaces of the wedding planning system

Figure 4.4 – User Interfaces ratings of the system

1% of the users thought the wedding planning system interfaces was bad, 8% thought it was average, 7% thought it was excellent, 54% thought it was good, and 30% thought it was ok.

Security Ratings

Figure 4.5 is a chart showing how the users rated the security of the wedding planning system.



Figure 4.5 – Security ratings of the wedding planning system

7% of the users thought the security of the wedding planning system was excellent, 15% thought it was average, 23% thought it was ok, 47% thought it was good, and 8% thought it was bad.

Maintenance Rating



Figure 4.6 is a chart showing how the users rated the maintenance of the wedding planning system.

Figure 4.6 – Maintenance Ratings of the wedding planning system

7% of the users thought the Maintenance of the wedding planning system was excellent, 15% thought it was average, 23% thought it was ok, 47% thought it was good, and 8% thought it was bad.

Easy to Learn

Figure 4.7 is a chart showing how the users rated the ease of learning of the wedding planning system.



Figure 4.7 – Easy to Learn Ratings of the wedding planning system

7% of the users thought the ease of learning of the wedding planning system was excellent, 8% thought it was average, 31% thought it was ok, 46% thought it was good, and 8% thought it was bad.

4.2.4 Objectives Covered

Ensuring that all objectives of this system were covered, namely:

- i. Providing the facility to enter vendor's services and goods to the web application.
- ii. Provide facilities to register the wedding couple, view required goods & services and managing guest list.
- iii. Manage the budget against supplier's goods and services
- iv. Planning, scheduling, monitoring and evaluating all the activities related to the wedding

4.2.5 Lessons Learnt

The system was able to complete very close to originally planned time but for several sections such as development and implementation sections needed much more time than the proposed time duration at the beginning. This was purely due to the under estimation of time needed to learn new user interface design patterns and the new PHP Version. Several new features were needed to be carefully examined and studied in order to implement them in the developed system.

It had realized that many new skills set to be acquired or unfamiliar technologies introduced in a project could greatly affect the overall project schedule. Hence, if the project schedule has to re-draw or draw another one, this can be taken as an important learning point for the overall project planning.

CHAPTER 5 – CONCLUSION

5.1 Conclusion

The goal of this project is to build a web based wedding planning system to help organize successful wedding event. The system assists the couples in the decision making and planning processes associated with all aspects of a wedding organization. The system offers features that the couples can retrieve information for wedding products and services as well as information of vendors in the shortest possible time. Also, vendors can gain benefit of getting more recognition from clients and generating more revenue. The system enables wedding users to manage guest list, checklist and task management. The users can request for pricing from vendors through the system and manage their budget for the big day. The system enables all users to access to it any time anywhere.

In previous chapter, the design and implementation of this system is discussed by using conceptual methodology. Many challenges faced during the design and implementation phase of this system. Dealing and understanding the end user requirements was a major concern. Even though there are many existing components available in the market users do have lots of problems in those modules. As mentioned in the literature reviews there are some open source components available for this type of wedding planning systems, it is unable to apply the end user requirements, due to the complexity. Therefore system was developed from the scratch according to the requirements by using web programming languages. So, had to go through a detailed learning of PHP, java Scripts, Ajax, Html & MySQL databases.

The system was unit tested properly during the development stages. It helped to reduce the number of defects in the final product. However while the implementation was in progress, errors that were not anticipated in the testing plan cropped up. Those errors would have to fix before final release of the system.

5.2 Future Work

As a result of successful implementation of the system, it was able to collect user's feedback regarding the short comings of the new system, and issues and improvements the user has seen by using the new system. Collected data was stored for future reference.

Developed wedding planning system is used to manage all wedding planning services up to the wedding and coordinating the event on the big day. Development of a mobile application for this system is another aspect that can work on. In modern era mobile applications are very common and most of the users prefer to use smart phones. So developing a mobile application will definitely beneficiary for the users.

References

- [1] "What are some good wedding planning apps," Quora, [Online]. Available: www.quora.com/what-aresome-goog-wedding-planning-web-apps. [Accessed 20 August 2018].
- [2] "Home:Our Wedding Sri Lanka- For All Your Wedding Dreams," 2010-2016 ourweddingsrilanka.com. All right reserved., 2010. [Online]. Available: https://ourweddingsrilanka.com. [Accessed 18 May 2018].
- [3] N. Davis, Bridal style, Rizzoli International Publications, 2000.
- [4] S. Coontz, Marriage, a history: How love conquered marriage. New York, NY:, Penguin Books..
- [5] Stephanie Coontz, "Bridezilla's revenge. Psychology Today, 38(3), 80-82.," 1 may 2005. [Online]. Available: https://www.psychologytoday.com/us/articles/200505/bridezillas-revenge. [Accessed 5 september 2018].
- [6] E. P. (. Cele C. Otnes (Author), Cinderella Dreams: The allure of the lavish wedding, octomber, 2003.
- [7] C. Grossman, "Average couple spends \$26,989 on wedding; many break budget. USA Today.," 10 August 2012. [Online]. Available: http://usatoday30.usatoday.com/money/perfi/basics/story/2012-08-09/wedding-costs/56921020/1. [Accessed 30 10 2018].
- [8] E. Engstrom, "Unraveling the knot: Political economy and cultural hegemony in wedding media -Journal of Communication Inquiry, 32(1), 60-82.," 2008. [Online]. Available: http://jci.sagepub.com/content/32/1/60.abstract. [Accessed 30 10 2018].
- [9] M. J. L. S. &. C. T. Daniels, "The attributes influencing wedding reception venue selection. Event Management, 16(3), 245-258.," 2012. [Online]. Available: https://www.cognizantcommunication.com/journal-titles/event-management.
- [10] C. Dosh, "Counting change. Successful Meetings, 57(6), 40-45.," May 2008. [Online]. Available: http://www.successfulmeetings.com..
- [11] M. &. L. C. Daniels, Wedding planning and management: Consultancy for diverse clients ,, Burlington: MA: Buttersworth-Heinemann, 2007.
- [12] "wedding planner your wedding planning website," 1997-2018 XO Group Inc., [Online]. Available: https://www.theknot.com/. [Accessed 27 May 2018].
- [13] "Easy weddings," [Online]. Available: http://www.easyweddings.com.au/myWeb/Wed dingBudgetCalculator.asp.. [Accessed 23 May 218].
- [14] "WedNet, The WedNet Wedding Store," [Online]. Available: http://www.wednet.com/.. [Accessed 12 May 2018].
- [15] "Rocky Mountain Bride, Wedding Planning Software," [Online]. Available: http://www.rockymountainbride.com/ArticlesT ip. .
- [16] "An Interactive Web-Based Wedding Planner with Comparative Analysis Decision Support System," 05 May 2008. [Online]. Available: http://www.google.com/patents?hl=en&lr&vid=USPAT78819

79&id=IE3AAAAEBAJ&oi=fnd&dq=wedding+planning+sys tems&printsec=abstract#v=onepage&q=wedding%20planning%.

- [17] "R.E.Gordon, Brussels, Lino and G.P.D.C.Brussels "SYSTEM FOR PROVIDING WEDDING MANAGEMENT","
 10 November 2010. [Online]. Available: http://www.google.co.in/patents?hl=en&lr=&vi
 d=USPAT7832633&id=XYrqAAAAEBAJ&oi=fnd&dq=Syste
 m+for+providing+wedding+management&printsec=abstract#v=
 onepage&q=System%20for%20providing%20wedding%20man agement&f=false.
- [18] A. a. Vancouver, "INTERNET-BASED WEDDING PLANNING DEVICE WITH MULTIPLE INTERACTIVE CAPABILITIES AND METHOD OF USE," 30 November 2006. [Online]. Available: http://www.google.com/patents?hl=en &lr=&vid=USPATAPP11139268&id=c12aAAAAEBAJ&oi=fn d&dq=internetbased+wedding+planning+device+with+multipleinteractive+c apabilities+and+++method+of+use&printsec=abstract#v=one page&q&f=false.
- [19] "LadyMarry," [Online]. Available: https://ladymarry.com.
- [20] "WedMeGood," [Online]. Available: https://www.wedmegoog.com. [Accessed 3 may 2018].
- [21] K. Anderson, "What is Rapid Application Development and When Should You Use It?," Capterra, 4 Octomber 2017. [Online]. Available: https://blog.capterra.com/what-is-rapid-applicationdevelopment.. [Accessed 28 December 2018].
- [22] "6 Essential Questions to Understand Rapid Application Development Methodology," KiSSFLOW, 24 April 2018. [Online]. Available: https://kissflow.com/rad/rapid-application-development-methodologyessentials.. [Accessed 28 December 2018].
- [23] "PHP Tutorial," tutorialspoint," [Online]. Available: https://www.tutorialspoint.com/php. [Accessed 29 December 2018].
- [24] "Multitier architecture," Wikipedia, the free encyclopedia, [Online]. Available: https://en.wikipedia.org/wiki/Multitier_architecture. [Accessed 29 December 2018].
- [25] M. Kapahi, "5 Benefits of a 3-Tier Architecture," Izenda, 17 March 2017. [Online]. Available: https://www.izenda.com/blog/5-benefits-3-tier-architecture. [Accessed 29 December 2018].
- [26] "Home> Database Design and Modeling> Database management> database (DB)," TechTarget, 2005.
 [Online]. Available: https://searchsqlserver.techtarget.com/definition/database. [Accessed 30 December 2018].
- [27] "User Interface (UI) Design," INTERACTION DESIGN FOUNDATION, [Online]. Available: https://www.interaction-design.org/literature/topics/ui-design. [Accessed 31 December 2018].
- [28] "What is Software Testing? Introduction, Definition, Basics & Types," Guru99, [Online]. Available: https://www.guru99.com/software-testing-introduction-importance.html. [Accessed 02 February 2019].
- [29] "What is Test Plan?," Software Testing Mentor -A comprehensive website for Software Testing Folks!, [Online]. Available: http://www.softwaretestingmentor.com/what-is-testplan/. [Accessed 02 February 2019].

- [30] "Functional Testing," software testing fundamentals, [Online]. Available: http://softwaretestingfundamentals.com/functional-testing. [Accessed 02 February 2019].
- [31] "What is Non Functional Testing? Types with Example," Guru99, [Online]. Available: https://www.guru99.com/non-functional-testing.html. [Accessed 02 February 2019].
- [32] "CROSS BROWSER AND COMPATIBILITY TESTING," App Perfect, [Online]. Available: http://www.appperfect.com/services/web-testing/cross-browser-testing.php. [Accessed 02 February 2019].
- [33] "Manual Testing," Tutorial Point, [Online]. Available: https://www.tutorialspoint.com/software_testing_dictionary/manual_testing.htm. [Accessed 03 February 2019].
- [34] "Unit Testing," Software Testing fundamentals, [Online]. Available: http://softwaretestingfundamentals.com/unit-testing/. [Accessed 03 February 2019].
- [35] "Integration Testing," Software testing fundamentals, [Online]. Available: http://softwaretestingfundamentals.com/integration-testing/. [Accessed 03 February 2019].
- [36] "Smoke testing," Software Testing Class, 16 June 2012. [Online]. Available: https://www.softwaretestingclass.com/smoke-testing/. [Accessed 03 February 2019].
- [37] "Funtional testing," Techopedia, [Online]. Available: https://www.techopedia.com/definition/19509/functional-testing.. [Accessed 03 February 2019].
- [38] "What is Regression Testing? Definition, Test Cases (Example)," Guru99, [Online]. Available: https://www.guru99.com/regression-testing.html. [Accessed 03 February 2019].
- [39] "What is Test case?," tutorialspoint, [Online]. Available: https://www.tutorialspoint.com/software_testing_dictionary/test_case.htm. [Accessed 03 February 2019].

APPENDIX A - Use case Narratives

• Use case narrative - Login

Use Case Name:	Login
Use Case ID:	UC 01
Objective:	Logging to the system
Pre-Conditions	User must have username and password to login the system
Success End Condition	System will create user interface and stores all relevant user details in that user instance.
	User name is saved in the session
Fail End Condition	System given error message
Actors	Wedding users, vendors & admin
Main Scenario	This use case starts when all users going to login to the system
	System displays a form to enter User name and Password
	Database server will verify the user's credentials
	Once database server verified the user then obtains his details and display in interface through the system.
	User name is saved in the session.

• Use case narrative – Add checklist

Use Case Name:	Add checklist
Use Case ID:	UC 02
Objective:	Add wedding to-dos
Pre-Conditions	User required to login into the system
Success End Condition	Display the successfully send message
Fail End Condition	Not relevant
Actors	All wedding users
Main Scenario	Enter task name
	Select timeline
	Select the category

• Use case narrative – Search vendor

Use Case Name:	Search vendor
Use Case ID:	UC 03
Objective:	Search suitable vendors for different wedding categories
Pre-Conditions	User required to login into the system
Success End Condition	Display the search results
Fail End Condition	Not relevant
Actors	All wedding users
Main Scenario	Select vendor category

• Use case narrative – Assign task

Use Case Name:	Assign task
Use Case ID:	UC 04
Objective:	Assign tasks to family members
Pre-Conditions	User required to login into the system
Success End Condition	Display the enter details and notification will be sent to the family member
Fail End Condition	Not relevant
Actors	All wedding users
Main Scenario	Enter first name
	Enter last name
	Enter assign task name
	Select assign date
	Select due date
	Select task status



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ENTITY RELATIONSHIP DIAGRAM