# 1.0 Introduction

## 1.1 Purpose

The purpose of this document is to present a detailed description about the proposed database-driven web-based system for WildFlowers Bushcare club. This document will explain the main functionalities of the system, assumptions, dependencies and constraints associated with the system, external interface requirements when building the proposed system, navigation maps and user interfaces associated with the proposed website and the project schedule. The intended audience of this document are stakeholders and developers of the system. This software requirement specification will be presented to WildFlowers Bushcare club for its approval.

## 1.2 Scope of project

The proposed database-driven web-based system will be used for the web presence of the WildFlowers Bushcare club. The system will act as a gateway to increase the productivity and user interaction with the club regardless of the geographical location of the members. The system will support the club’s processes such as event and competition participation of members, purchasing of company products by members and member participation through forums. The system’s functions are divided in a hierarchical manner with staff and administration having access to the majority of the functionalities, i.e. the view presented to a user depends on his/her membership type.

The following advantages are expected from the proposed system:

1. Create a system where users could interact with the club regardless of the geographical location.
2. Create an online registration system to make registration and participation of events and competitions streamlined.
3. Make the organization more accessible to users by allowing users to interact via forums, upload pictures and videos to respective galleries and easily get updates on the activities of the organization.
4. Make administration and staff to easily track user interaction with the system.
5. Create an online store and a related payment gateway whereby users could choose products, add them to (or remove them from) their carts and pay online.
6. Provide better customer support
7. Making the organization available to users 24/7 regardless of holidays or off office hours.

## 1.3 Glossary

|  |  |
| --- | --- |
| **Term** | **Definition** |
| Actor | A role interacting with a system |
| Gantt Chart | A chart illustrating the project schedule of a project |
| Interface | The program (more specifically a screen) that holds as the connection between the software and the user interacting with the software. |
| MySQL | An open source system of managing (relational) databases |
| PHP | Abbreviation for Hypertext Preprocessor, is a server-side language used for web development |
| Use case | A use case depicts a functionality of a system |
| Use case diagram | A diagram illustrating the association between actors, between actors and use cases and between use cases separated by a boundary separating use cases (which are internal to the system) and actors (who are external to the system) |
| Use case specification | A document illustrating the actors, preconditions, postconditions, course of steps of execution and alternative flows of a use case |

## 1.4 References

1. Cockburn, A. (2001). *Writing effective use cases*. Boston: Addison-Wesley.
2. IEEE Guide for Software Requirements Specifications. (1984). *IEEE*, 26. <http://dx.doi.org/10.1109/ieeestd.1984.119205>
3. Pressman, R. (2010). *Software Engineering: A Practitioner's Approach* (7th ed., p. 930). New York: McGrawHill.
4. Sommerville, I. (2009). *Software engineering* (9th ed., p. 790). Harlow, England: Addison-Wesley.

## 1.5 Overview of document

The next section, Overall Description, elaborates the expected functionalities of the system. The product perspective section explains about the user interfaces and the software interfaces of the system. The user interfaces subsection presents the main interfaces of the proposed website. The software interfaces explain the softwares and/or servers that are proposed to be used in the design, implementation, testing and maintenance stages of the software development life cycle (SDLC). Product functions section lists the functionalities that the product (the web-based solution) will provide for the four different types of users (guest, member, staff and administrator) who will be using the proposed system. User characteristics section explains the education level, experience and the technical expertise required from each of these four types of users. Finally the assumptions, dependencies and the constraints associated with the proposed system have been listed.

The third section, Specific Requirements, has been primarily included for developers of the system listing the requirements of the proposed system. The subsection lists the functional and non-functional requirements and maps the functional requirements with actors of the system in the use case diagram. The use case specification elaborates each of the use cases specified in the use case diagram.

The fourth section, Navigation Maps and User Interfaces, presents the navigational pathways to different functionalities of the system and the user interfaces with which each of these users interact in the respective pathways. Except for guests, all other users are required to be authenticated. As such, the navigational pathways of all other users, except guests, will start at the login page and will direct the user to user specific functionalities based on their authorization level. The user interface section presents screenshots of the proposed web-based system highlighting the core functionalities available for each of these member types.

The fifth section, Gantt chart is the project schedule for this proposed system.

The final section, Meeting Minutes explain the actions, decisions that were taken and summarizes discussions held at each meeting.

# 2.0 Overall Description

## 2.1 Product Perspective

The proposed project for WildFlowers Bushcare club is a web-based database-driven application. As such it will involve a user interface (webpages) and a database with which it will interact. As such the website will act as an interface between the user and the database.

## 2.1.1 User interfaces

1. **Home Page**

This is the home page of the website. This page contains an option where registered users can login and proceed to their own home page (home page based on member type), create a new account or use the website as a guest.

1. **Login page**

In the login page, users have to enter their usernames and password. When the username and passwords that the user had entered matches with existing database records (i.e. when the user is authenticated), he/she is redirected to the respective profile or home page based on their member type. In this screen a link to the Registration page is available for users to be able to register to the system. If a user has forgotten his/her password, he/she can proceed to the Forgotten Password page.

1. **Registration page**

In this page new users can create their account by typing a username and a password along with other personal details. The user is given the option of answering a prebuilt security question and providing an answer or he/she can compose his/her own question and answer combination. The user should then type the words of the secret word which is displayed. Then the user should comply with the code of conduct, terms and conditions. If the criteria entered by the user matches all the validations, the user is added to the system and is redirected to the login page.

1. **Forgotten Password page**

In this page, a registered user who has forgotten his/her password can reset by typing their username along with a new password.

1. **Members’ home pages**

The home page that the user will be redirected after successful authentication is based on the authorization of their member type. All users are redirected to their member profile page. Staff and Administrator member types are presented with additional functionalities at this page while Member type can only update or delete their profiles. All users have the ability to sign up for events, for competitions and/or purchase products from the store.

1. **Store**

All users have the ability to visit the store, select an item and add to their cart. The store displays the products that are made available from the club and all products are categorized into four types: Chinaware, CD/DVD, Clothing and Books.

1. **Cart**

Cart serves as the temporary storage for a specific member whereby they can store items, along with their respective quantities from the time they selected those items from the store to the time they purchase using the online payment gateway. The users also have the ability to delete any product from their cart.

1. **Online payment gateway**

This project is equipped with a payment gateway from PayPal where by users have the option of either pay using a PayPal account or using a credit card for their payment. Payment can be for an item that they have included in the cart or for members to upgrade their membership to a loyal member. After successful payment, the user is redirected to a successful payment page. In the case of the membership upgrade functionality, the member’s type is upgraded and the time and date at which the transaction was committed is recorded cross referencing their username.

1. **Registration for events**

Any user has the ability to sign up for an event via the event registration page. At this page, the user has to enter the event id of the event with which they opt to participate. Staff members also have the functionality to notify members (who have signed up or all members) on the upcoming events.

1. **Registration for competitions**

All users also have the ability to sign up for a competition via the competition registration page. The process is similar to event registration whereby the user has to enter the competition id of the event with which they opt to participate. Staff members also have the functionality to notify members (who have signed up or all members) on the upcoming competitions.

1. **Search**

All users have the ability to search for specific items. However, the criterion which they use for the search depends on their authorization. For example, guests have the least options to search while members could search for events, competitions etc. Staff members have also the ability to search other members.

1. **Other pages**

Other pages include the additional functionalities available only to staff and administrator type members.

## 2.1.2 Software Interfaces

**Name: PhpMyAdmin**

Mnemonic: PhpMyAdmin

Source: localhost/phpMyAdmin

This is an online MySQL database where the processes are based on the host from which they are executed.

Name: Xampp Server

Mnemonic: Xampp Server

Source: <https://www.visualstudio.com/en-us/products/visual-studio-professional-with-msdnvs.aspx>

Xampp Server is the server with which PHP along with MySQL scripts will be executed. All scripts that are created as part of the deployment package of this proposed system are located inside the Website folder of the htdocs folder of this server’s folder. Apache and MySQL features need to be started for successful processing of PHP and MySQL scripts.

**Name: Any Browser**

Any Browser with internet access is enough to use the functionalities of the website.

## 2.2 Product functions

Product’s functions are based on the authorization of the user. The following tabular representation lists the functionalities that are available to each of these user types:

|  |  |
| --- | --- |
| Member type | Functionalities |
| Guest | Search |
| Member | * Login/logout * Edit Profile * Delete Profile * Event registration * Competition registration * Product purchase * Searching for events, competitions and products in the store * Upgrade membership to loyal member |
| Staff | * Login/logout * Edit Profile * Delete Profile * Event registration * Competition registration * Product purchase * Searching for other members, events, competitions and products in the store * Create appointments for other members and/or send notifications about a previously created appointment * Send notifications about events and/or competitions to a specific member or to all members * Activate deactivated member profiles |
| Administrator | * Login/logout * Edit Profile * Delete Profile * Event registration * Competition registration * Product purchase * Searching for other members, events, competitions and products in the store * Add event and/or competition to the system * Update store with new products * Send notifications about events and/or competitions to a specific member or to all members * Activate deactivated member profiles * Generate list of members due for renewal * Generate financial reports * Upgrade members |

## 2.3 User Characteristics

Four types of users will be using this system: Guest, Member, Staff and Administrator. The education level, experience and the technical expertise expected from each of these types of users are tabulated in the table below:

|  |  |  |  |
| --- | --- | --- | --- |
| User type | Education Level | Experience | Technical Expertise |
| Guest | Low | Low | Low |
| Member | Medium | Medium | Medium |
| Staff | High | High | Medium |
| Administrator | High | High | High |

**Guest –** This type of user will be performing the minimum functionalities on the system. This type of user needs only a knowledge to visit the website and to search for information. As such the experience and technical expertise associated with this type of user is low.

**Member –** Member needs sufficient knowledge in logging in to systems and to recover the password if he/she has forgotten his/her password. Also some experience is needed specially when editing profile, uploading pictures, registration for events and competitions and to purchase products. Since these tasks often involve logging in to Email and completing the sign up processes, considerable technical expertise is also expected from this type of user.

**Staff –** Staff needs knowledge that a member user requires and also some additional knowledge specially for setting appointments, sending notifications and deactivating members. High experience of handling web forms is required as most of the functionalities will involve using web forms for this type of user.

**Admin –** Most of the managerial type of functionalities will be performed by this type of user. This will involve crucial knowledge in using web forms and taking important decisions. For example, the admin has to decide on the venue, time and other details when posting new news/events and competitions. He/she has to decide the general price of products when adding them to the store. Also, he/she should have experience specially in analysing financial reports.

## 2.4 Assumptions, Dependencies and Constraints

### 2.4.1 Assumptions

1. The user possesses the required hardware (such as a PC or Laptop), software (such as a browser) which are up to date and the user has an internet connection.

2. All users, except Guests, have knowledge on logging into (and logout from) systems, using web forms and successfully navigating between web pages.

3. All users are expected to have a PayPal account or a credit card to make online purchases.

4. All payments will be made in Australian Dollars.

### 2.4.2 Dependencies

1. The system will be dependent on the payment gateway provided by PayPal. Therefore, the payment gateway’s performance is independent from the performance of this system.

2. The system will be dependent on PhpMyAdmin, an online MySQL database. Therefore, the speed at which items are referenced, modified or added to the database is independent of the performance of the system.

3. The Email system that the proposed system will be using is dependent on mailgun, an Email service for developers.

### 2.4.3 Constraints

1. Guests who opt to make purchases from the store cannot add items to cart as the cart information is cross referenced with the username of the user. Therefore, guests are directed directly to the payment gateway once an item to be purchased is chosen.

2. Since the proposed system will be using a free database (PhpMyAdmin), the capacity of the database constraints the number of users that can sign up which is dependent on the amount of data that is posted to the database.

3. Users without credit cards or a PayPal account cannot purchase products from the store nor can upgrade their membership.

4. The proposed system has only Email as a method of verification. Secondary verification system is not enforced.