**UNIVERSITI TUNKU ABDUL RAHMAN**

**Faculty of Information and Communication Technology**



**UCCD3223 Mobile Applications Development**

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**Group Assignment 1**

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| --- | --- | --- |
| **Marking scheme** | **Marks** | **Remarks** |
| Creativity/novelty of concept | **X 4** |  |
| Completeness of idea | **X 3** |  |
| Overall design | **X 2** |  |
| Neat documentation layout | **X 1** |  |
| **TOTAL** | **/100** |  |

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# **1.0 Introduction**

## 1.1 Background

Volunteers are the backbone of nonprofit organizations (NPOs) as they provide essential support to help NPOs accomplish their missions. However, many NPOs faced difficulties in managing volunteers due to limited resources and outdated methods. Traditional volunteer management approaches that involve using spreadsheets or even pen and paper are often inefficient and time-consuming. These challenges can hinder a NPO’s ability to recruit, onboard and manage volunteers effectively, which can ultimately impact their ability to achieve their goals.

In this increasingly digital world, there is a need for innovative solutions to streamline the volunteer management process. Modern Volunteer Management Systems (VMS) have been developed to help simplify these processes, improve volunteering experiences and enhance the overall efficiency of volunteer management [1]. VMS are useful tools that streamline the volunteer management lifecycle, which includes stages such as recruitment, qualification, training, scheduling, engagement, reporting and stewardship [2].

VMS can significantly improve each stage of the volunteer management lifecycle. In terms of recruitment, NPOs often faced difficulties in attracting and reaching potential volunteers effectively. A VMS can provide a platform for organizations to post events and reach a wider audience. For qualification, it can help organizations identify suitable volunteer candidates through the application review and background checking features. In the training stage, VMS helps organizations track the training progress to ensure volunteers are well-prepared for their roles. When it comes to scheduling, it helps volunteers keep track of the events they signed up for and automatically sends reminders and updates about the event. To boost the volunteers’ motivation and engagement, VMS provides features such as badges and in-app communication. For reporting, it tracks volunteer hours and generate detailed reports to help NPOs measure impact and share results to stakeholders. Lastly, in the stewardship stage, it helps NPOs show appreciation to volunteers by sending thank you messages and recognizing volunteer milestones. Thus, a VMS is an innovative and essential solution that can solve many challenges that are faced by both NPOs and volunteers.

To bring the benefit of VMS into a more accessible and convenient format, this proposal introduces VolunteerConnect, a mobile application designed to enhance volunteer management for NPOs. VolunteerConnect will provide a user-friendly, all-in-one platform that will simplify the volunteer management lifecycle. This proposal will present a detailed plan for the design, development and implementation of VolunteerConnect. Additionally, the proposal will also detail the app’s objectives, problem statement, proposed solution and features, and the overall design of the solution.

## 1.2 Objectives

The objectives for VolunteerConnect include:

1. Deliver Volunteer Management System (VMS) in Mobile Application Format:

Unlike many traditional VMS that are desktop-focused or complicated to use, VolunteerConnect aims to bring the benefits of a VMS in a mobile platform. It will provide a user-friendly, intuitive mobile app that allows NPOs to manage volunteers effectively and enables volunteers to search and engage with volunteering opportunities efficiently. This mobile format also provides greater flexibility and convenience.

1. Simplify and Streamline Volunteer Management:

VolunteerConnect aims to simplify and streamline the entire volunteer management process, from recruitment to scheduling and communication. The app will feature event recommendations based on volunteers’ skills and location, ensuring they are matched with the most suitable opportunities. Additionally, scheduling and reminders will help volunteers stay informed about upcoming events, reducing missed commitments and improving overall coordination. By using VolunteerConnect, organizations can save time and focus more on their mission rather than administrative tasks.

1. Enhance Volunteer Engagement and Retention:

VolunteerConnect is designed to enhance volunteer engagement and retention by creating a more engaging and rewarding volunteering experience for their users. Features such as Gamification and Reward System will keep volunteers motivated and connected to the events they participated in, as well as the organization’s mission. Meanwhile, the Volunteer Matching System feature enables volunteers to discover and participate in events that matches their interests and skills, which further enhances their volunteering experience.

# **2.0 Project Statement/Motivation/Market Analysis**

## 2.1 Problem statement

Nonprofit organizations (NPOs) usually operate with limited financial resources and manpower which makes volunteer management a challenging task. One primary issue faced by NPOs is ineffective volunteer recruitment. This is due to the lack of a centralized platform where NPOs can effectively target individuals that are interested in volunteering. Instead, they have to rely on traditional methods such as word-of-mouth, flyers and social media posts which are less effective and efficient.

Another major challenge is scheduling and coordination. NPOs often face scheduling and coordination difficulties such as scheduling conflicts, miscommunication and last-minute cancellations. These challenges not only affect the execution of the events but also damages the relationship between volunteers and NPOs. Moreover, NPOs also face difficulties in tracking volunteers progress and contribution. Many NPOs still uses manual methods such as spreadsheets or paper-based logs to record volunteer hours and event attendance. These methods are not only time-consuming but also prone to human errors.

On the other hand, volunteers often struggle to find opportunities that matches their skills and locations. This can lead to missed opportunities for meaningful volunteering experiences and reduced motivation when engaging in roles that do not suit them. The lack of a platform that facilitates the collaboration between organizations and volunteers further discourages long-term involvement.

Furthermore, volunteer retention and motivation are another significant challenge for NPOs, as many volunteers lose interest or disengage due to a lack of recognition, unclear role expectations, or limited opportunities for personal growth. Without effective engagement strategies, volunteers may feel undervalued, leading to high turnover rates and difficulty in maintaining a reliable volunteer base. A structured system that acknowledges volunteer contributions and provides a sense of achievement is essential to fostering long-term commitment and encouraging active participation in volunteer work. Thus, an innovative solution is needed to address these challenges faced by both NPOs and volunteers.

## 2.2 Motivation

The motivation behind developing VolunteerConnect lies in addressing the significant challenges faced by NPOs and volunteers in the current volunteer management landscape. NPOs often struggle with inefficient volunteer recruitment due to the lack of a centralized platform. VolunteerConnect tackles this issue by providing a streamlined platform for NPOs to post events and for volunteers to discover opportunities that match their skills and locations. This ensures a more efficient and targeted recruitment process, saving time and resources for organizations while helping volunteers find meaningful roles.

Another critical challenge is the difficulty in scheduling and coordination, often leading to conflicts, miscommunication, and last-minute cancellations. VolunteerConnect aim to address this by enabling volunteers to receive automated reminders and real-time updates. This reduces miscommunication and ensures smoother event execution, fostering stronger relationships between NPOs and volunteers. Additionally, many NPOs still rely on manual methods to track volunteer contributions, which are time-consuming and prone to errors. VolunteerConnect simplifies this process by allowing NPOs to digitally track volunteer hours, attendance, and contributions.

Beyond scheduling and coordination, volunteers often face the challenge of finding opportunities that align with their skills and locations, leading to disengagement and missed opportunities. VolunteerConnect solves this by recommending events tailored to each volunteer’s skills and interests, ensuring that they participate in roles that resonate with their passions and expertise. This not only enhances their volunteering experience but also increases their satisfaction and likelihood of continued involvement.

Moreover, volunteer retention and motivation remain a pressing challenge. Traditional volunteer programs often lack a structured way to recognize contributions, which can lead to disengagement over time. By incorporating gamification and reward system into VolunteerConnect, volunteers can log their hours, track their achievements, and earn badges based on their contributions. A leaderboard further fosters a sense of accomplishment and friendly competition, encouraging continued participation. This recognition system not only boosts volunteer morale but also enhances organizational transparency in acknowledging volunteer efforts.

## 2.3 Market Gap Analysis

Most existing Volunteer Management Systems (VMS) are web-based and require volunteers and organizers to access them through desktops or mobile browsers. While these platforms offer essential features, they often lack the flexibility and accessibility needed for volunteers who are constantly on the move. This inefficiency creates a market gap, as many volunteers prefer mobile-friendly solutions that provide uninterrupted access and updates to events and opportunities. On the other hand, a mobile-based VMS also provides increased accessibility, convenience and performance to organizations that struggle to engage and manage volunteers and events effectively in real-time.

Furthermore, three volunteer management platforms, VolunteerHub [3], POINT [4], and GetConnected [5] are studied to identify market gaps. One of the primary gaps is the inconsistent implementation of volunteer skills tracking and cause-based local opportunities. While VolunteerHub and GetConnected support volunteer skills, POINT lacks this functionality, limiting the ability to match volunteers with opportunities aligned to their expertise. Conversely, POINT is the only platform that incorporates cause-based local opportunities to improve volunteer engagement by aligning their interests with meaningful and localized activities. Additionally, engagement and retention strategies also present a notable gap. While VolunteerHub and GetConnected incorporate recognition systems, their approaches are different. VolunteerHub uses a points-based leaderboard, whereas GetConnected employs badges. On the other hand, POINT lacks any form of volunteer recognition, potentially leading to decreased motivation and retention.

In conclusion, the market gap analysis highlights several key areas where existing VMS fall short in providing a comprehensive and engaging experience for both volunteers and organizations. To address these gaps, we propose VolunteerConnect, a mobile application that enhances accessibility, improves event coordination, and ensures seamless volunteer participation to bridge the gaps left by traditional web-based systems. Furthermore, VolunteerConnect will incorporate a recommendation system that matches volunteers to events based on their skills, interests and proximity. Lastly, VolunteerConnect will implement a badge reward system and a leaderboard ranking system based on hours logged to boost volunteer motivation and retention. By implementing these features, VolunteerConnect aims to provide a more efficient, accessible and engaging platform supports and enhances the experience for both organizations and volunteers.

# **3.0 Project Scope**

## 3.1 Proposed Idea/Overview of VolunteerConnect

To address the problems mentioned in the problem statement, we are proposing a mobile application named VolunteerConnect. VolunteerConnect is designed to simplify and enhance the volunteer management process by helping organizations connect with volunteers more effectively. With VolunteerConnect, organizations can post volunteer opportunities, track and monitor volunteer participation, and send real-time updates or notifications to volunteers. Meanwhile, volunteers can browse and sign up for events, track their contributions, and earn badges or recognition for their contributions. Our goal is to develop an effective, efficient, and user-friendly solution to enhance volunteer management.

## 3.2 Solution/Key Features and Functionalities of VolunteerConnect

1. User Profiles

The **User Profiles** feature allows both volunteers and organizations to register and create personalized profiles.

For volunteers:

* Sign up/register via email or phone number.
* Create and personalized profiles with name, age, skill, interest and preferred volunteering categories (e.g.: education, environment, healthcare).
* Track volunteering history, including past events, hours logged, and badges earned.

For organizations:

* Create organization profile with a logo, description and contact information.
* List past projects/events organized

1. Events Listing and Discovery

The **Events Listing and Discovery** feature help volunteers find suitable events by providing them with a searchable and filterable list of volunteering events. Volunteers can browse events based on location, datetime, required skills, and organization name. On the other hand, organizations can post detailed event descriptions, which includes event venue, participant requirements, job description and skills required. After volunteers have discovered interested events, they can apply for the events while organizers can approve or reject the application.

1. Volunteer Matching System

The **Volunteer Matching System** feature recommends suitable events to volunteers based on their skills, interests and locations. Meanwhile, this feature helps organizations identify the best-suited volunteers for specific roles which ensures optimal task and resource allocation.

1. Scheduling and Reminders

The **Scheduling and Reminders** feature helps volunteers keep track of the events they have signed up for. Volunteers will receive automated push notifications and reminders before the event. Organization can also send real-time updates such as venue changes through this feature.

1. Gamification and Reward System

The **Gamification and Reward System** feature is designed to motivate and recognize volunteers for their contributions. Volunteering hours will be logged and ranked based on categories, and they can view their ranking in the leaderboard page. Besides, Volunteers can earn badges once they accomplished certain achievements.

## 3.3 Contribution of this Project

The contribution of VolunteerConnect includes the following:

1. The application enhances and streamlines the volunteer management process. VolunteerConnect make the volunteer recruitment, management and retainment process more efficient and effective for organizations by offering features such as event creation, volunteer tracking, scheduling and reminders. These can reduce the administrative burden of the NPOs and ensure that the volunteers are efficiently assigned to suitable roles based on their skills and interests.
2. The application also provides an engaging platform that encourages more people to participate in volunteering activities. VolunteerConnect makes volunteering more rewarding and enjoyable with gamification features such as the Gamification and Reward System. The Gamification and Reward System introduces progress tracking, badges, points, and ranking leaderboards which helps to foster long-term engagement and motivation.
3. The application ensures that volunteers find events or opportunities that are aligned with their skills and locations. This is achieved through the application’s Volunteer Matching System which enhances the users’ volunteering experience and leads to more meaningful and impactful participation. This helps optimize resource allocation for NPOs while also provides meaningful and fulfilling opportunities to the volunteers.

# **4.0 Initial design of solution**

## 4.1 Overall System Design (System Block Diagram)

A screenshot of a computer

AI-generated content may be incorrect.

Figure 4.1.1: Overall system design (System block diagram)

## 4.0 Mock-Up UI Design (Wireframes)

A screenshot of a web page

AI-generated content may be incorrect.

A screenshot of a web page

AI-generated content may be incorrect.

# **5.0 References**

[1] I. M. Jones. (2025, Jan. 3). *A complete guide to volunteer management* [Online]. Available:https://charitydigital.org.uk/topics/a-complete-guide-to-volunteer-management-systems-9021

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[3] VolunteerHub. (n.d.). *Helping Organizations Better Recruit, Engage, and Manage Volunteers* [Online]. Available: https://volunteerhub.com/

[4] POINT. (n.d.). *Get powerful, free volunteer management tools in minutes.* [Online]. Available: https://pointapp.org/

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