

Informations:

Course Name : Object-Oriented Programming (Java)

Course Code: OOP CSE-123.

Assignment: Project Proposal & Development So Far.

Submitted To :

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Batch & Section: 43 (B)

Semester: 2nd

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Project Proposal:

Volunteer Management System

1. Project Title

Volunteer Management System

2. Purpose and Problem Statement

The purpose of this project is to create an effective and user-friendly Volunteer Management System using Java to manage volunteer information, assignments, and event participation efficiently. This system aims to solve the common issues of disorganized volunteer data, lack of proper event scheduling, and inefficient communication

between volunteers and organizers. By applying Object-Oriented Programming (OOP) principles, the system will be modular, scalable, and maintainable.

3. Main Goals and Key Functionalities

- Volunteer Registration & Profile Management
- Event Creation and Volunteer Assignment
- Attendance and Participation Tracking
- Role-based Access Control (Admin, Volunteer Coordinator, Volunteer)
- Notifications and Reminders for Upcoming Events
- Reporting on Volunteer Hours and Event Participation

4. Tools and Technologies

Java Standard Edition, Java Collections (HashMap, ArrayList), Java Time API (LocalDateTime), OOP Principles

5. Use of OOP Concepts

- Secure volunteer data and event details with private fields and public getters/setters.
- Inheritance: Different user roles (Admin, Coordinator, Volunteer) will inherit from a base User class.
- Polymorphism: Overloaded and overridden methods for handling different notification types and report generation.
- Abstraction: Abstract classes or interfaces for core functionalities like registration, event management, and notifications.

6. Project Phases & Timelines

- Phase 1: Requirement Gathering & System Design (2 days)
- Phase 2: Implementation of Volunteer Registration & Profile Management (3 days)
- Phase 3: Event Management & Volunteer Assignment Features (3 days)
- Phase 4: Notification System & Reporting Module (3 days)
- Phase 5: Testing, Debugging, and Finalization (2 days)
- Phase 6: Documentation and Submission (1 day)

7. Final Product Outcome

The final product will be a robust Volunteer Management System that allows smooth registration, event scheduling, attendance tracking, and report generation. It will enhance coordination between volunteers and organizers, improving overall volunteer engagement and event success.

8. Summary and Impact

This project applies Java OOP concepts to a practical scenario, improving organizational efficiency for volunteer-driven activities. It benefits non-profit organizations, event planners, and community services by providing a digital

solution for volunteer management challenges.

9. References

- <https://www.w3schools.com/java/> - Java Documentation: <https://docs.oracle.com/javase/8/docs/>
- W3Schools Java Tutorial
- Oracle Java Documentation
- Volunteer management best practices from VolunteerMatch

10. Development So Far

- Completed:

- Basic class hierarchy including User and Volunteer classes
- Volunteer registration and login system with dummy data
- Event creation and listing feature

- To Do:- Assign volunteers to events

- Implement attendance tracking
- Develop notification system for upcoming events
- Reporting module for volunteer hours and participation

- Challenges/Problem Faced So Far:

- Role distinction between different types of users was initially unclear.
- Managing concurrent volunteer assignments to multiple events.
- Data persistence strategy still under consideration (file system vs. database).

List of New Learnings:

- Using Java Collections for managing dynamic lists of volunteers and events
- Implementing LocalDate and LocalDateTime for event scheduling and attendance tracking
- Applying OOP principles in designing user roles and system modules

How to Run:

- 1.Open the project in any Java IDE (e.g., IntelliJ, Eclipse).

2. Compile and run the Main.java file.
3. Use the login screen to access different roles (Admin, Coordinator, Volunteer).
4. Navigate through menus to register volunteers, create events, and assign volunteers.

Default User Credentials :

Admin: admin / admin123

Coordinator: coordinator1 / pass1

Volunteer: volunteer1 / pass2

Conclusion:

This Volunteer Management System aims to streamline volunteer coordination and event management by leveraging Java OOP concepts and basic access control. It provides a scalable platform for non-profit organizations to enhance volunteer engagement and operational efficiency.

Outputs of the Code :

```
--- Volunteer Management System ---  
Enter username: admin  
Enter password: 1234
```

```
Admin Dashboard:  
1. Register Volunteer  
2. View All Volunteers  
3. Create Event  
4. View All Events  
5. Assign Task to Volunteer  
6. Add Volunteer to Event  
7. Generate Report  
8. Logout  
Select: 1  
Enter Volunteer ID: 202  
Enter Volunteer Name: Ikra  
Volunteer registered: Ikra  
  
Admin Dashboard:  
1. Register Volunteer  
2. View All Volunteers  
3. Create Event  
4. View All Events  
5. Assign Task to Volunteer  
6. Add Volunteer to Event  
7. Generate Report  
8. Logout  
Select: 3  
Enter Event Title: Bring Watering Cans  
Enter Event Date: 21-06-2025  
Event created: Bring Watering Cans  
  
Admin Dashboard:  
1. Register Volunteer  
2. View All Volunteers  
3. Create Event  
4. View All Events  
5. Assign Task to Volunteer  
6. Add Volunteer to Event  
7. Generate Report  
8. Logout  
Select: 5  
Enter Volunteer ID: 202  
Enter Task: Bring Watering Cans  
Task assigned to Ikra  
  
Admin Dashboard:  
1. Register Volunteer  
2. View All Volunteers  
3. Create Event  
4. View All Events  
5. Assign Task to Volunteer  
6. Add Volunteer to Event  
7. Generate Report  
8. Logout  
Select: 6  
Enter Volunteer ID: 202  
Enter Event Title: Bring Watering Cans  
Volunteer added to event successfully.  
  
Admin Dashboard:  
1. Register Volunteer  
2. View All Volunteers
```

```
Admin Dashboard:
1. Register Volunteer
2. View All Volunteers
3. Create Event
4. View All Events
5. Assign Task to Volunteer
6. Add Volunteer to Event
7. Generate Report
8. Logout
Select: 3
Enter Event Title: Tree Plantation
Enter Event Date: 20-06-2025
Event created: Tree Plantation

Admin Dashboard:
1. Register Volunteer
2. View All Volunteers
3. Create Event
4. View All Events
5. Assign Task to Volunteer
6. Add Volunteer to Event
7. Generate Report
8. Logout
Select: 3
Enter Event Title: Bring Watering Cans
Enter Event Date: 21-06-2025
Event created: Bring Watering Cans

Admin Dashboard:
1. Register Volunteer
2. View All Volunteers
3. Create Event
4. View All Events
5. Assign Task to Volunteer
6. Add Volunteer to Event
7. Generate Report
8. Logout
Select: 5
Enter Volunteer ID: 206
Enter Task: Bring Watering Cans
Task assigned to Maisha

Admin Dashboard:
1. Register Volunteer
2. View All Volunteers
3. Create Event
4. View All Events
5. Assign Task to Volunteer
6. Add Volunteer to Event
7. Generate Report
8. Logout
Select: 6
Enter Volunteer ID: 204
Enter Event Title: Tree Plantation
Volunteer added to event successfully.
```

```
1. Register Volunteer
2. View All Volunteers
3. Create Event
4. View All Events
5. Assign Task to Volunteer
6. Add Volunteer to Event
7. Generate Report
8. Logout
Select: 4
Event: Tree Plantation | Date: 20-06-2025
Participants:
- Tahrir
Event: Bring Watering Cans | Date: 21-06-2025
Participants:
- Ikra

Admin Dashboard:
1. Register Volunteer
2. View All Volunteers
3. Create Event
4. View All Events
5. Assign Task to Volunteer
6. Add Volunteer to Event
7. Generate Report
8. Logout
Select: 8

--- Volunteer Management System ---
Enter username: admin
Enter password: 1234

Admin Dashboard:
1. Register Volunteer
2. View All Volunteers
3. Create Event
4. View All Events
5. Assign Task to Volunteer
6. Add Volunteer to Event
7. Generate Report
8. Logout
Select: 7
--- System Report ---
Total Volunteers: 3
Total Events: 2
System Logs:
Fri May 23 05:53:12 GMT 2025 - admin logged in.
Fri May 23 06:02:11 GMT 2025 - admin logged out.
Fri May 23 06:02:27 GMT 2025 - admin logged in.
```