**Computer Science Project**

**Deliverable 1 (Started -> 14/08/2025):**

**Investigating (14/08/2025):**

**Article 1: *Volunteer Management For Nonprofits: Strategies, Challenges, and Best Practices***

* Article basically outlines why effective volunteer management is crucial, and shares the practical strategies for building sustainable programs

**Importance of Community Engagement:**

* Volunteers are needed, as they expand the nonprofits impact, boosts community service, and enhances credibility, all while keeping the costs of operation lower
* Effective program motivates volunteers, improves outcomes, and may help reduce staff turnover
* If volunteers’ skills & interests aligned with needs of organisation, it increases their productivity and fosters more volunteer engagement, also benefiting the volunteer themselves by allowing them to gain real-world experience

**Common Challenges:**

* Nonprofit organisations often face staff, budget, and time constraints associated with effective volunteer management
  + *Solution:* Investing in a volunteer management system can help to optimise these available resources
* Nonprofits can often get unorganised, and volunteers are not too sure what they are signing up for
  + *Solution:* Explain the organisation’s mission, and explain how volunteers can contribute to achieving that mission
* Establish roles, responsibilities, expectations for volunteers, and set measurable goals
* Non-profit organisations often have trouble attracting volunteers, and often lack positions that a diverse range of people can volunteer in
  + *Solution:* Create engaging volunteer opportunities that match the needs of potential volunteers
* Use a variety of channels (E.g. Social media, Local partnerships & events) to attract volunteers

**Reference:**

* NGOFeed. (2025). Volunteer Management for Nonprofits: Strategies, Challenges, and Best Practices. [online] Available at: <https://ngofeed.com/blog/volunteer-management-for-nonprofit/>[Accessed 14 Aug. 2025].

**Article 2: *Overcoming Challenges in Volunteer Management***

* Article basically provides practical advice on how to tackle the common volunteer management challenges effectively

**Importance of Community Engagement:**

* Strengthens social bonds, where the community engagement fosters trust, cooperation, and relationships between volunteers, organisations, and the people
* Boosts volunteer retention, where volunteers feel like they’re a part of the community, and see the real-world impacts of their effects, encouraging them to stay long-term
* Communities that are engaged with organisations more likely to donate, advocate, and recruit others to join

**Common Challenges:**

* Scheduling conflicts, where everyone has different availabilities, hence making it “a nightmare trying to coordinate”
  + *Solution:* Using a scheduling tool, from simple spreadsheets to more advanced software, find something that works for your team
* Encourage colleagues to be transparent about time commitments, so the volunteers know what’s expected
* Dealing with burnout, where volunteers can get easily overwhelmed, especially if they are taking on too much or if they are simply new to the whole system
  + *Solution:* Set clear role boundaries, and encourage breaks and self-care
* Respect volunteers’ limits and avoid overloading them
* Communication gaps, where volunteers are often don’t communicate as much as they need to, which leads to an unorganised structure, and a broken flow
  + *Solution:* Be open to using multiple channels (E.g. Email, Text, Social Media)
* Send regular updates to volunteers to stay informed and connected

**Key Takeaways:**

* Volunteers boost nonprofits impact, community service, and credibility, while also lowering operational costs
* It also brings communities closer together, and strengthens social bonds
* Some issues related to volunteer management include volunteer burnout, communication gaps, scheduling conflicts, organisation, attracting volunteers, and money

**Deconstruction (14/08/2025):**

* Will have the four main tables: Organisations, Volunteers, Events, Skills
  + But these all have many-to-many relationships (Except organisation -> event, which is one-to-one), and hence they need junction tables to resolve the many-to-many relationships
* Will be listing these in relational notation (I didn’t know what this meant in the test 🙁)

**Volunteer**(volunteer\_id, first\_name, last\_name, email, phone number, availability, location, skills)

**Organisation**(organisation\_id, name, description, contact\_email, phone\_number, address, website\_url)

**Event**(event\_id, *organisation\_id*, title, description, event\_date, location, required\_skills, max\_volunteers)

**Skills**(skill\_id, name, description)

**Relationships:**

* Organisation and Event
  + Is a one-to-many relationship (One organisation can host many events)
  + No junction table or anything needed
* Event and Volunteer
  + Is a many-to-many relationship (Volunteers can register for multiple events, and events can have multiple volunteers)
  + Requires junction table: Volunteer\_Event

**Volunteer\_Event**(*volunteer\_id*, *event\_id*) (Composite primary key)

* Volunteer and Skill
  + Is a many-to-many relationship (Volunteers can have many skills, each skill can belong to multiple volunteers)
  + Requires junction table: Volunteer\_Skill

**Volunteer\_Skill**(*volunteer\_id*, *skill\_id*) (Composite primary key)

* Event and Skill (Maybe, still thinking about it)
  + Is a many-to-many relationship (An event can require multiple skills, a skill can be required by multiple events)
  + Requires junction table: Event\_Skill

**Event\_Skill**(*event\_id*, *skill\_id*) (Composite primary key)

**Entity Relationship Diagram (15/08/2025):**

**Normalisation:**

**Data Dictionary:**