Requirements Document:

Rules:
- **Volunteers work shifts**
- **Feedback** is **given** to an **event**
- Every volunteer can give feedback
- Every event **has** multiple shifts
- Volunteers **take on** certain **roles** during shifts
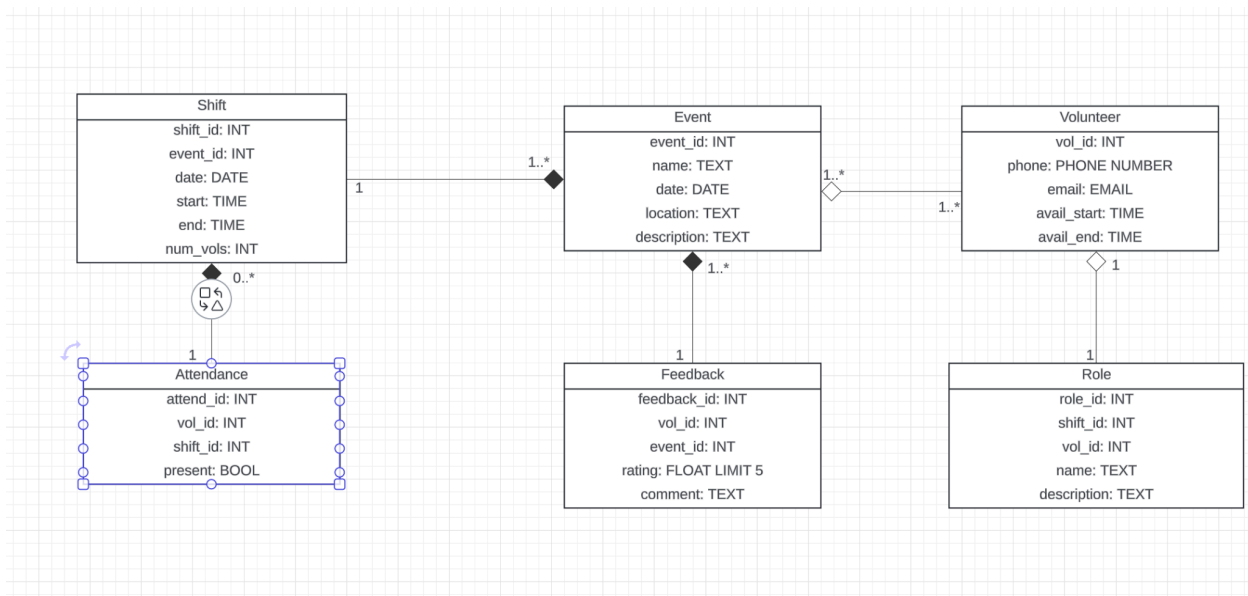- Volunteers **participate** in many events

Nouns:
- Volunteers
- Feedback
- Event
- Shifts
- roles

Verbs:
- Works
- Given
- Has
- Take On
- Participate

UML Diagram:

In-Memory Features:

I will use Redis to keep track of which volunteers went to which event, and as a byproduct which events were most popular

Redis Data-Strucures:

To implement tracking which volunteers went to which events, I will use a list with keys in the format "eventsVisited:volunteerId" and the values being the IDs of the events they visited. To keep track of which events were most popular, I will use a sorted set with the key being "events", the value being the event id, and the score being how many volunteers went to that event.

Commands used to interact - CRUD operations in parenthesis:

I track volunteers using a list. Therefore I need:
- Initialize the database (C/D):
    - FLUSHALL
- Add event #396 to the ones volunteer #123 has worked at (C/U):
    - LPUSH eventsVisited:123 396
- Get all the events volunteer #123 has worked on (R):
    - LRANGE eventsVisited:123 0 -1
- Get the number of events volunteer #123 has worked (R):
    - LLEN eventsVisited:123
- If it turns out volunteer #123 did not attend their last event, I can remove it with (D):
    - LPOP eventsVisited:123 1

Which events were most popular:
- Initialize the database (C/D):
    - FLUSHALL
- Event #396 occurs, add it to the sorted set (C):
    - ZADD events 0 "396"
- A volunteer signs up for event #396 (U):
    - ZINCRBY events 1 "396"
- Someone else signs up for event #396 (U):
    - ZINCRBY events 1 "396"
- Get the top ten most worked events (R):
    - ZRANGE events 0 -1 REV LIMIT 0 10 WITHSCORES
- If it turns out an event has been canceled, it can be removed from the set with (D):
    - ZREM events "396"