CSCI 585(Fall 2023) - Assignment 1 Rubrics

Link to the assignment : ***https://bytes.usc.edu/cs585/f23-Da-taaa/hw/HW1/index.html***

Total Marks: **6** marks (**5** points on ER diagram, **1** point on ReadMe file)

Rubric for Graders:

1. **Late Submission: 10% per day (-0.6)** - [Assignment Due: Sep 17, 11:59 PM]
2. **Submission Format :** Should be as per submission checklist
    - If ER Diagram is not .jpg or .png **(-1)**
    - If the Readme file is missing **(-1)**
3. **Missing Key Entities and Relationships (Max Deduction cap : -2):**
    - Employee, Meeting, Test, Report (/ Self-Report), Temperature scan, Quarantine Status (to report status daily), Notification (/ Alert, it can also be a relationship as long as all requirements in description are met).
    - This is **not a strict list, just a guide**. **Entity names can be synonyms or something else that encompasses the meaning**. The HW is subjective and will be evaluated with the context of the the readme and the diagram
4. **Missing Keys -** *Primary and Foreign* **(-0.25 per violation, Max Deduction cap : -1)**
5. **Misinterpretation of relationships -** *Weak and Strong / Linking entities that should not be* **(-0.25 per violation, Max Deduction cap : -1)**
6. **Wrong assumption/ explanation -** *Context in Readme should align with the ERD* **(-0.25 per violation, Max Deduction cap : -1)**
7. **Wrong notation in ERD -** *Crow's foot notation needs to be followed for all relationships etc.***(-0.25 per violation, Max Deduction cap : -1) (Deduction based on grader discretion if totally different notation used)**

Evaluation Suggestions:

1. **Review README or Documentation:**
    - Ensure the presence of accompanying documentation, README, or explanatory notes outlining the ER diagram's design approach and any assumptions made.
2. **Validate Essential Entities:**
    - Check for the inclusion of essential entities such as Employee, Meeting, Facility, Test, and Health Report to model the core aspects of the COVID-19 contact tracing system.
3. **Verify Entity Attributes:**
    - Examine the attributes associated with each entity to confirm they align with the scenario requirements, including Employee ID, Smartphone Number, Meeting Room Number, etc.
4. **Detect Many-to-Many Relationships:**
    - Identify and validate any Many-to-Many (M:N) relationships, ensuring they are appropriately handled, either through bridge entities or proper cardinality and participation.
5. **Inspect Key Bridges for M:N Relationships:**
    - Check for the inclusion of bridge entities or appropriate techniques to handle Many-to-Many relationships effectively, especially in cases like close contact between employees during meetings.
6. **Validate Primary Keys:**
    - Verify the presence of primary keys for each entity, ensuring that they are unique identifiers for the respective entities and meet the requirements of the scenario.
7. **Examine Foreign Keys:**
    - Inspect foreign keys associated with each entity to establish relationships, focusing on their accuracy and alignment with the respective 1:N relationships within the ER diagram.
8. **Check for Relationship Cardinality:**

- Ensure the correct representation of relationship cardinality (one-to-one, one-to-many, many-to-many) to accurately depict how entities are related to each other within the system.

9. **Validate Relationship Participation:**
   - Confirm that relationship participation (mandatory, optional) is accurately defined, reflecting the scenario's requirements regarding employee registration, testing, reporting, and contact tracing.
10. **Evaluate Weak and Strong Relationships:**
    - Identify and validate the presence of weak relationships in the ER diagram, ensuring they are appropriately represented using double diamond notation and aligned with their respective identifying relationships.
11. **Evaluate Overall Structure and Clarity:**
    - Assess the overall structure of the ER diagram, ensuring it is logically organized, easy to understand, and adheres to best practices in terms of notation, neatness, and readability.

Sample ERD (Again, not a strict guideline):