1. Conceptual Model
2. ER Diagram

A diagram of a computer program

Description automatically generated with medium confidence

1. Assumption

* According to 6 given wireframes, we will have 3 major entities: LOCATION, COACH, and CLASS.
* A class must be located in only one location, and a location must open one or more classes.
* A location must have one or more coaches and a coach must teach in one or more locations. Therefore, the relationship between LOCATION and COACH is many-to-many, and we made an associative entity between them which is COACH\_LOCATION.
* Initially, Coach\_Review is an attribute of the COACH entity, but it is also a multi-valued and composite attribute. Thus, we made another entity for this attribute which is COACH\_REVIEW. A coach may have one or more reviews, but a review must assess only one coach.
* The Fitness Center also need to store the data of its clients, so we made an entity: CLIENT. Each client must have one home location.
* We assumed that the “Times visited this month” in wireframe 1 is the number of times a client came to a specific location. Thus, we made VISIT entity to store that data.
* In terms of “References” in wireframe 4, we assumed that a coach may be referred by one or more clients, and a client may give reference to one or more coaches. Therefore, the relationship between COACH and CLIENT in this assumption is many-to-many, and we made REFERENCE entity which is an associative entity between them.
* In terms of “My coaches” in wireframe 3, we assumed that a coach must teach one or more clients, and a client must be taught by one or more coaches. Thus, the relationship between COACH and CLIENT in this assumption is many-to-many, and we made TEACH entity which is an associative between them.

1. Relational Diagram

CLASS

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Class\_ID** | Day | Time | **Class\_Name** | Room | **Gym** |

CLASS\_PRICE

|  |  |
| --- | --- |
| **Class\_Name** | Price |

LOCATION

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Location**\_ID | Location\_Name | Address | Tel | Email |

AMENITIES

|  |  |
| --- | --- |
| **Location\_ID** | **Amentity** |

VISIT

|  |  |  |
| --- | --- | --- |
| **Location\_ID** | **Client\_ID** | Visited\_TIme |

CLIENT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Client\_ID** | Client\_Fname | Client\_Lname | Phone | Email |

COACH\_LOCATION

|  |  |
| --- | --- |
| **Location\_ID** | **Coach\_ID** |

COACH

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Coach\_ID** | Coach\_Fname | Coach\_Lname | Coach\_Level | Rating | Training\_Philosophy |

COACH\_REVIEW

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Review\_ID** | Review\_Date | Communication | Enthusiasm | Punctuality | Review\_Description | **Coach\_ID** |

REFERENCE

|  |  |
| --- | --- |
| **Coach\_ID** | **Client\_ID** |

TEACH

|  |  |
| --- | --- |
| **Coach\_ID** | **Client\_ID** |

CERTIFICATE

|  |  |
| --- | --- |
| **Coach\_ID** | **Certificate** |