**DESIGN DESCRIPTION**

**Key Entities:**

**HSTU**: Represents all buildings and non-buildings.

1. **ID (PK)**
2. **Type (**Building / Non-building**)**
3. **Category**

(**Building:** *Academic, Residential, Administrative, Mosque, Library, TSC, Gymnasium, Auditorium, Dormitory, Medical Centre, Veterinary Hospital, Booth, Bank, Cafeteria, Field Labs.*

**Non-building:** *Gate, Playground, Research Field, Garden, Pond, Zoo, Shohid Minar, Nursery, Farm, Park, Stadium Field*)

1. **Name** (Dr. Md. Wazed Vhaban, Fazilatunnesa Muzib Hall, Sheikh Rasel Hall …)
2. **Location**

**Note:** It serves as the central entity to which other entities are linked.

**Floors** (for Buildings only)**:** It stores information about individual floors within any building.

1. **Floor\_ID (PK)**
2. **Building\_id** **(FK** references **HSTU(ID))** //includes only ID for type Building
3. **Floor\_number**
4. **Total\_rooms**

**Note:** The building\_id establishes a relationship between floors and HSTU, indicating that each floor belongs to a specific building.

**Rooms:** Represents individual rooms within any building.

1. **Room\_ID (PK)**
2. **Floor\_ID** (**FK** references **Floors (Floor\_ID))**
3. **Room\_number**
4. **Room\_type**

(e.g. *Academic building: Lab room, Classroom, Teachers Room, Office Room, Prayer Room, Washroom***)**

**e) Room\_size**

**Classrooms:** Represent individual classroom within academic building.

1. **Room\_ID** (**FK** references **Rooms (Room\_ID)**) //includes room\_type for Classroom and Lab room
2. **Room\_size**
3. **Student\_capacity\_for\_class**
4. **Student\_capacity\_for\_exam**

**Living\_rooms:** Represent individual rooms within a dormitory building.

1. **Room\_ID** (**FK** references **Rooms (Room\_ID)**) //includes HSTU(category) = Dormitory
2. **Number\_of\_seats.**