



**PES UNIVERSITY**

(Established under Karnataka Act No.16 of 2013)

100-ft Ring Road, BSK III Stage, Bangalore – 560 085

**Department of CSE**

**Semester : 5      Section C**

**DBMS MINI PROJECT REVIEW – 1**

**HOSTEL MANAGEMENT SYSTEM**

**ER DIAGRAM**

**Member – 1 NAME: B B Varun Kumar**

**Member – 1 SRN: PES1UG23CS131**

**Member – 2 NAME: Chaitanya Gera**

**Member – 2 Name: PES1UG23CS156**

## USER SPECIFICATION

# Entities and Their Attributes

### 1. Student (Strong

Entity) ◦ Attributes:

- ▢ s\_id (Primary Key)
- ▢ name (Composite → f\_name, m\_name, l\_name)
- ▢ p\_no (Phone Number)

### 2. Local Guardian

(Weak Entity –

depends on

Student) ◦

Attributes:

- ▢ name
- ▢ p\_no (Primary Key with partial key dependency) ◦

Relationship:

- ▢ has → Every student has exactly one local guardian (1:1).

### 3. Room (Entity) ◦

Attributes:

- ▢ r\_no (Primary Key)
- ▢ no\_of\_people

#### 4. Fees (Entity) ◦

##### Attributes:

- ▢ p\_id (Primary Key)
- ▢ p\_date
- ▢ p\_method

#### 5. Laundry (Entity) ◦

##### Attributes:

- ▢ l\_no (Primary Key)
- ▢ days\_of\_laundry

#### 6. Mess (Entity) ◦

##### Attributes:

- ▢ m\_no (Primary Key)
- ▢ m\_name

#### 7. Warden (Entity) ◦

##### Attributes:

- ▢ name
- ▢ p\_no
- ▢ w\_id(Primary Key)

---

## Relationships

#### 1. Student – Local Guardian ◦ Relationship: has ◦

Cardinality: 1 student ↔ 1 local guardian (1:1)

## **2. Student – Room – Fees (Ternary Relationship) ◦**

### **Relationships:**

- ▣ **choose** → A student chooses a room. (N:1)
- ▣ **based on** → Room assignment can depend on fees. (1:1)
- ▣ **pays** → A student pays fees. (1:1)

## **3. Student – Mess ◦ Relationship: books**

- **Cardinality:** A student can book exactly one mess (N:1).

## **4. Student – Laundry ◦ Relationship: gives ◦ Cardinality:**

**A student gives laundry (N:1).**

## **5. Warden – Student ◦ Relationship: monitors ◦**

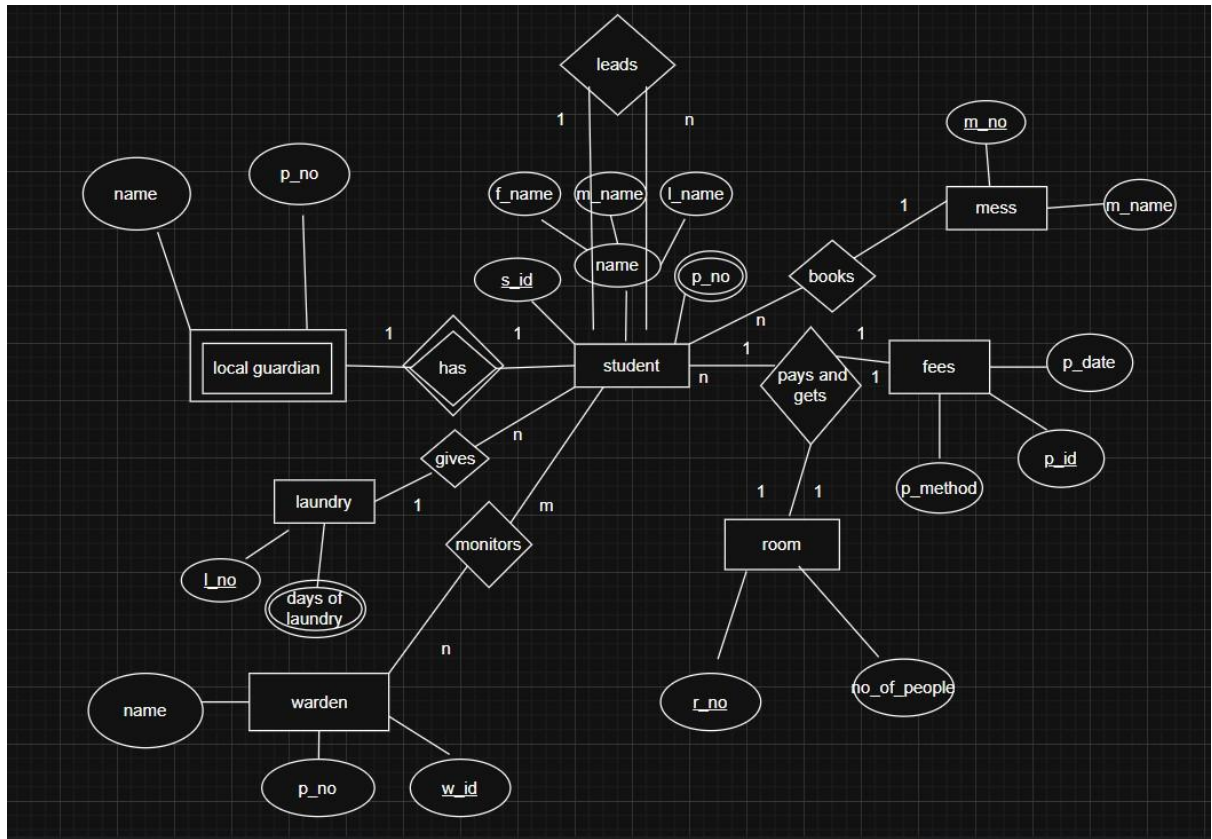
**Cardinality: different warden monitors many student(m:n)**

## **6. Student – Student (Recursive Relationship) ◦**

### **Relationship: leads**

- **Cardinality:** One student can lead many students, but a student is led by only one leader.

## **ER DIAGRAM**



## SCHEMA

# Student

