Agentic AI for Complaint Management

Complaint Management System Workflow

1. **Complaint Submission**
    a. The customer submits their complaint using a **standard complaint template**.
    b. The complaint must be written and follow the predefined structure.
2. **Complaint Reception and Initial Review (Central Admin)**
    a. The central admin receives the submitted complaint.
    b. The admin verifies the completeness and relevance of the complaint.
3. **Decision by Admin**
    a. If the complaint is **not relevant**:
        i. The admin prepares and sends a **formal written response** (using the standard response template) to the customer, explaining why the complaint is not relevant.
    b. If the complaint **can be resolved directly by the admin**:
        i. The admin provides a **written resolution** in the prescribed resolution format and delivers it to the customer.
        ii. If the complaint **requires further review or departmental handling**:
        The admin forwards the complaint to the appropriate department based on the service area.
4. **Department Handling**
    a. The designated department receives the forwarded complaint.
    b. The department investigates and prepares a **written resolution** in the standard resolution format.
    c. The resolution is returned to the central admin.

5. **Resolution Validation (Admin)**
    a. **T**he admin reviews the resolution provided by the department.
    b. If the resolution is **valid**:
        i. The admin delivers the **written resolution** to the customer.
    c. If the resolution is **not valid**:
        i. The admin sends the complaint back to the department with instructions for correction or rework.
        ii. The department revises and resubmits the resolution.
        iii. The admin re-validates until a satisfactory resolution is achieved.

6. **Closure**
    a. Once a valid resolution is communicated to the customer, the complaint is formally closed.
    b. All records (complaint submission, reviews, responses, and final resolution) are archived for documentation and future reference.

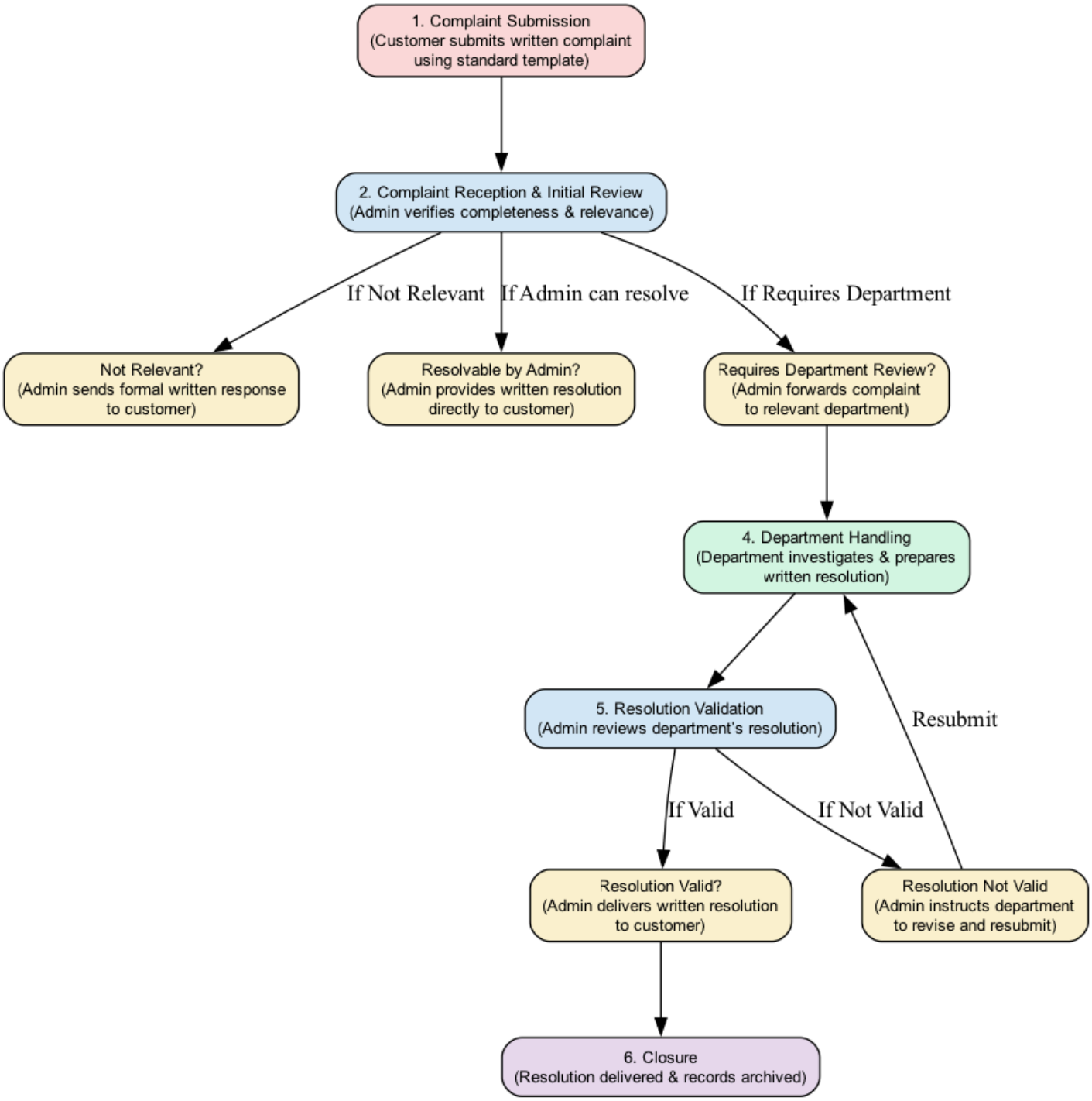

Figure 1. Complaint Management System without AI

DB

AI-Driven Complaint Management System

1. **Complaint Submission**
    a. The customer submits their complaint using the **standard complaint template**.
    b. Complaints are automatically logged into the system.
2. **Initial AI Review**
    a. The **agentic AI** receives the complaint and performs an **initial verification**:
        i. Checks if the complaint is complete.
        ii. Determines if it's relevant.
3. **AI Decision**
    a. If the complaint is **not relevant**:
        i. AI automatically generates a **formal written response** using a template, explaining why it cannot be processed.
    b. If AI **can resolve the complaint**:
        i. AI generates a **written resolution** and delivers it to the customer.
    c. If the complaint **requires departmental action**:
        i. AI forwards the complaint to the relevant department, along with the necessary context and priority instructions.
4. **Department Handling**
    a. The relevant department investigates and prepares a **written resolution**.
    b. Resolution is sent back to the AI for validation.
5. **AI Resolution Validation**
    a. The AI reviews the department's solution:
        i. If **valid**, AI delivers the resolution to the customer automatically.
        ii. If **not valid**: AI instructs the department to revise and resubmit the resolution.
6. **Feedback and Learning (Optional)**
    a. The AI logs all decisions and resolutions.
    b. Machine learning can improve AI decision-making over time (e.g., identifying complaint relevance or solution quality faster).
7. **Closure**
    a. Once a valid resolution is delivered, the AI marks the complaint as **closed**.
    b. All records are archived for auditing and reporting.

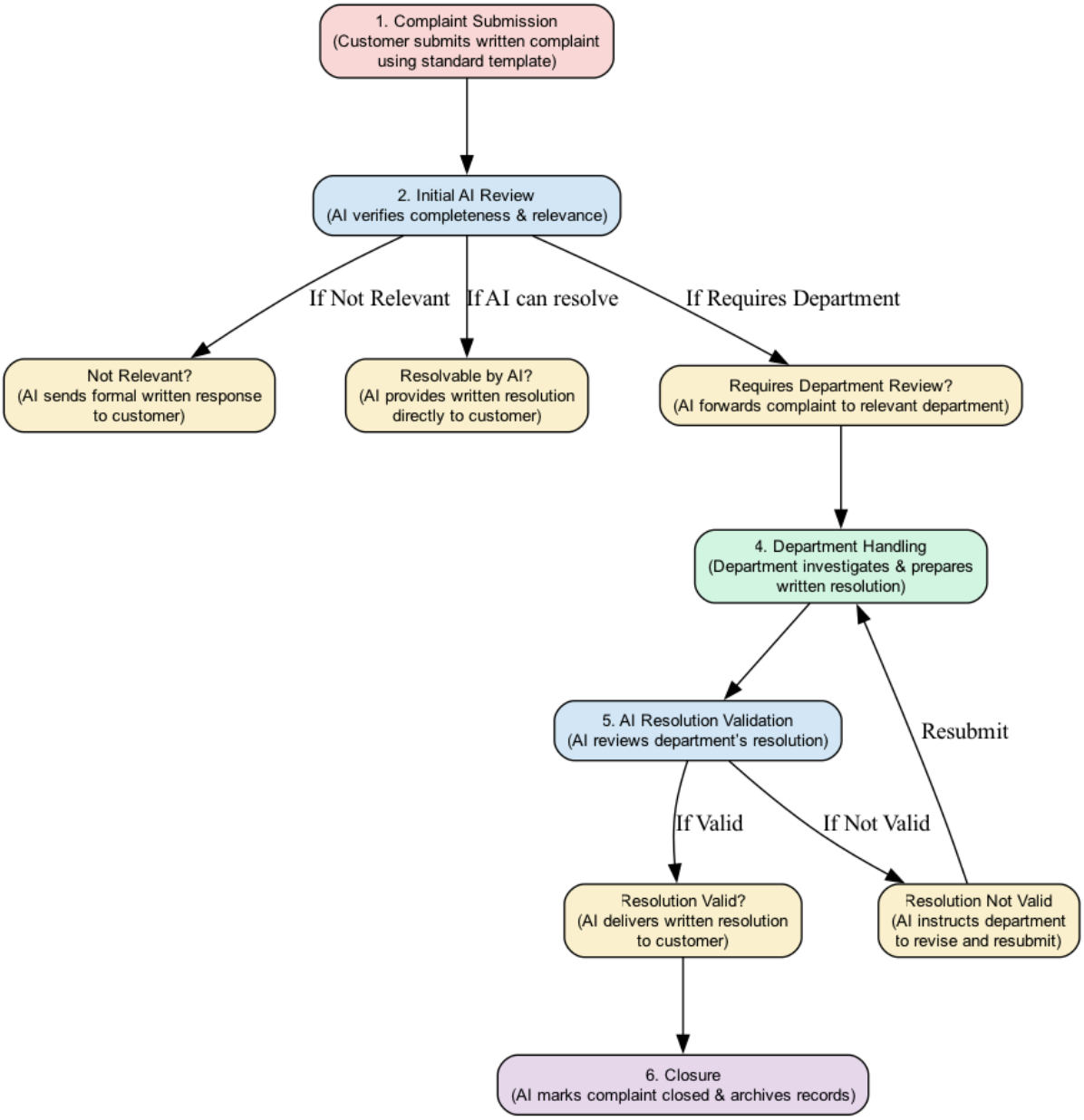

Figure 1. AI-Driven Complaint Management System

DB Design

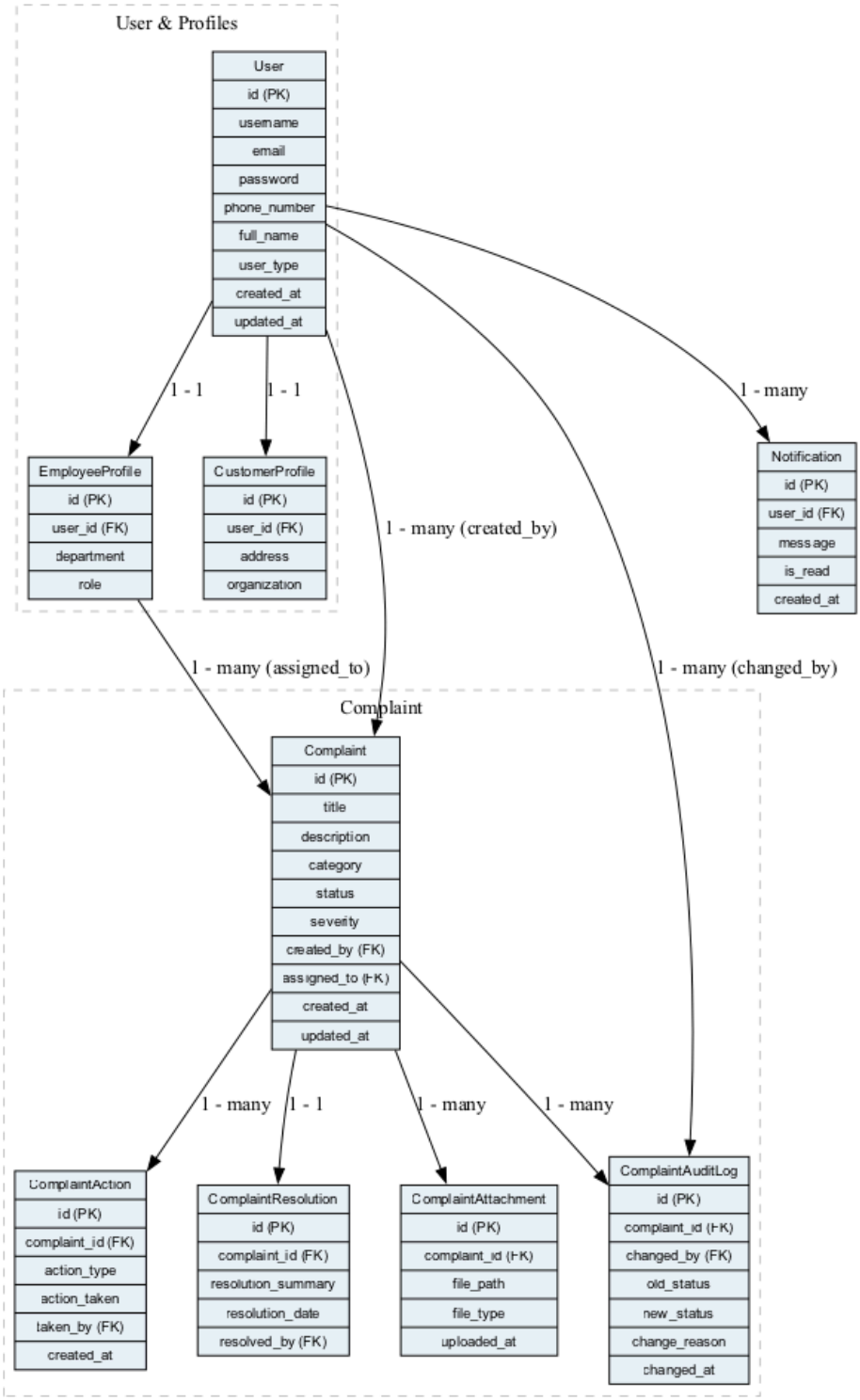

Figure 2. DB Design