Project Proposal :

Incident Management Ticketing System

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Main Objective

We require the construction of a basic incident management system. Users need to be able to report incidents and any relevant details. On the other hand, (IT) service personnel need to be able to view and update each incident with details regarding the resolution of the issue. The system needs to act as a communication channel between incident reporters and responders and must use JSON and/or XML data format for interacting with services.

The project shall be designed and developed as a truly RESTful product following suggested REST principles and guidance, using products and tools across all steps of development, testing, and deployment processes. This must also accompany API documentation for all developed services and documentation defending the choice of specific service design patterns.

Required Features

1. **Submit Tickets**
    a. **A basic ticket submission should require user input in the following fields:**
        i. **Employee Information**
            1. **Name**
            2. **Employee ID**
            3. **Job title**
            4. **Contact email**
            5. **Location**
        ii. **Ticket Information**
            1. **Ticket Title**
            2. **Date**
            3. **Type of Request**
                a. **Incident Report**
                b. **Maintenance and Service**
            4. **Description**
                a. **Implicated/impacted systems/services**
                b. **User defined severity (provide a scale or dropdown options)**
                c. **User account/how to reproduce problem**
                d. **Troubleshooting steps taken**
                e. **Additional comments**
    b. **After submission, the system should add a ticket ID and show the user a confirmation screen with the ticket ID**

c. **The system determines an auto-generated severity for the ticket based on location, systems affected, employee seniority, and user defined severity**

2. **Status Updates/Checks**
    a. **The IT support staff must be able to update the status of any open ticket**
    b. **The user who submitted a ticket must be able to query their ticket which should display the current status**
    c. **Both the admin that is assigned to the ticket and the client who submitted the ticket must be able to add any additional information at any point of the ticket's status until close**
    d. **At any point of a ticket's status, an admin may assign or change who is currently assigned to any ticket**
    e. **During a ticket's progression, an admin may increase or decrease the urgency level of a ticket**
3. **Query Tickets**
    a. **The status of a single incident ticket must be able to be queried so that the information provided at the creation of the ticket and all additional status updates can be retrieved**
    b. **The API must provide the ability to retrieve all open or past tickets**
    c. **From the retrieved list of tickets, the individual ticket details must be retrievable**

System Diagram: