

PATIENT IDENTIFICATION SYSTEM UML CLASS DIAGRAM

This provided UML class diagram delineates the architecture of a data storage system engineered to securely manage and retrieve patient data. This design adheres to principles of modularity, scalability, and maintainability, and is structured around six primary components: data retrieval, data storage data representation, user management, user permissions, and patient records.

Data Retrieval and Storage

The “PatientIdentifier” class serves as the central component for data operations including adding, updating, deleting, and retrieving patient records. It references “DataStorage” and an authenticated “User” to ensure secure data access. “PatientIdentifier” utilizes “User” and “UserPermission” to securely validate and manage data operations. It provides methods for these operations and includes functionality to match patient IDs. Furthermore, “DataStorage” class is responsible for the actual storage and retrieval of data from a database. It interacts with “PatientRecord” to store and manage patient information, offering methods to add, update, delete, and retrieve patient data through a database connection. “DataStorage” invokes methods on “PatientRecord” to store and retrieve patient specific information.

Data Representation

The “PatientRecord” represents patient-specific data, including patient ID, name, date of birth, and medical history. It includes methods to retrieve and manage these attributes.

User Management

The “User” class represents system users, encompassing attributes such as user ID, username password, and active status. This ensures that only active users can interact with the system.

User Permissions

The “UserPermission” class manages the permissions associated with each user, including patient ID, read-only status, and validity dates. This ensures that data access complies with specified permissions and is consistently enforced.

Conclusion

The UML Class Diagram for the patient identification system highlights a robust and secure architecture for managing patient data. By ensuring modularity, scalability, and secure access control, the design supports efficient data retrieval, storage, and user management, making it reliable for handling sensitive patient information.