Patient Health Record Maintenance

Manage large patient data with integrity and security, unlock insights to revolutionize healthcare.

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Project Goals

1 **Accurate Data**

Ensure integrity and security of patient data

2 **Insightful Analytics**

Provide valuable insights to healthcare professionals

3 **Personalized Care**

Enable personalized treatment plans for patients

Data Sources

EHRs

Detailed patient files with medical history

Wearables

Real-time health data from fitness trackers

Health Apps

Mobile apps for tracking well-being

Data Characteristics

1 —— **Volume**

Manage large datasets of patient records

2 —— **Velocity**

Process real-time data from wearables and apps

3 —— **Variety**

Integrate structured, unstructured, and semi-structured data

Data Processing Tools

Cloud Platforms

Scalable storage and processing capabilities

Database Systems

Structured data storage and management

Analytics Tools

Machine learning, visualization, and reporting

Data Analysis Methods

Decision Trees

Predict patient outcomes and treatment effectiveness

Regression Analysis

Quantify impact of patient characteristics on health

Insights

Identify key factors and their relative importance

Data Governance

1 **Accessibility**

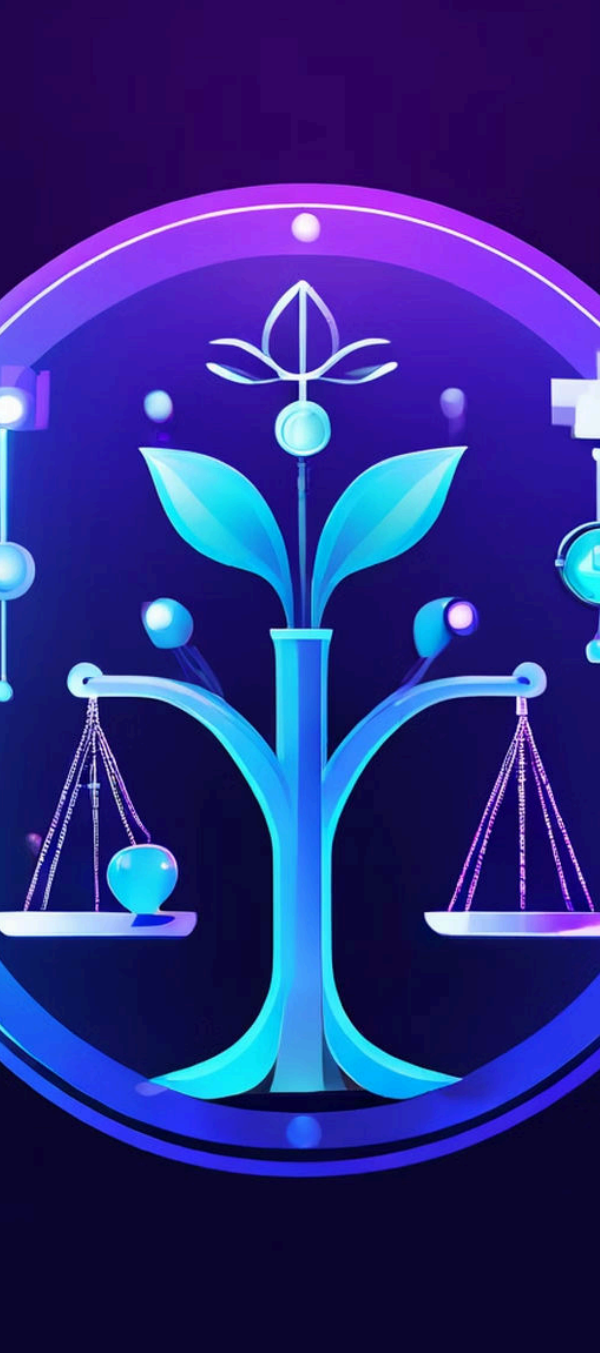Role-based access and secure authentication

2 **Security**

Protect data in transit and at rest

3 **Confidentiality**

Adhere to privacy regulations like HIPAA

Ethical Considerations

Patient Autonomy

Obtain informed consent for data usage

Transparency

Communicate data handling practices openly

Trust

Build trust with patients and stakeholders

HL7 Standard

Data Exchange

Efficient communication between healthcare systems

Data Integration

Seamless integration of patient health records

Data Standards

Establish message, document, and interface standards