■ Project Report

Project Title: MediTrack – Your Health in One Click
Technology Used: Java (OOPS, AWT, Swing, File Handling)
Author: Palutla Akshay

1. Introduction

In today's digital era, healthcare data management is becoming increasingly essential. Patients often struggle to manage prescriptions, medical purchases, and test reports. MediTrack is a Java-based desktop application designed to simplify this process. The system allows users to upload prescriptions, medicine purchase bills, and test reports, and view stored data with filtering options (by date and patient name).

2. Objectives

1. To develop a user-friendly desktop application for managing healthcare records.
2. To provide functionalities for uploading and viewing medical data.
3. To use Java OOPS principles like encapsulation, abstraction, and modularization.
4. To implement GUI using Java Swing & AWT components.
5. To demonstrate practical application of file handling in Java.

3. System Requirements

Hardware Requirements:
- Processor: Intel i3 or higher
- RAM: 4 GB minimum
- Storage: 500 MB (for files and data)

Software Requirements:
- Operating System: Windows / macOS / Linux
- Java Development Kit (JDK 8 or above)
- IDE: Eclipse / IntelliJ IDEA / NetBeans

4. Tools and Technologies Used

- Programming Language: Java
- GUI Framework: Swing and AWT
- Data Storage: File Handling (Text Files)
- Concepts Used: OOPS principles, Exception Handling, Multithreading, Event Handling

5. Implementation

Key Features:
1. Splash Screen (Multithreading & Animation):
- Uses a loading animation before showing main menu.
2. Main Menu (AWT & Swing Components):
- Provides options to upload data, view data, or exit with animation.
3. Data Uploading Modules:
- PrescriptionDataUploader: Collects patient & doctor details, prescribed medicines.

- MedicinePurchaseDataUploader: Collects store name, medicine costs, and calculates total bill.
- TestResultDataUploader: Collects diagnostic test results.
4. Data Viewer Module:
- Allows filtering by date and patient name.
- Displays formatted data in a JTextArea with scrollable window.
- For Medicine Purchases, calculates and displays the total bill amount.

6. Advantages

- Simple and lightweight, no database needed.
- User-friendly GUI with filters for searching records.
- Demonstrates practical use of Java Swing and OOPS concepts.
- Stores data persistently in text files.

7. Limitations

- No centralized database (data stored only as text files).
- Security features like encryption are not implemented.
- Limited to local machine usage.

8. Future Enhancements

- Migrate from file-based storage to MySQL / PostgreSQL database.
- Add login authentication for patients and doctors.
- Enable report export as PDF/Excel.
- Introduce charts and graphs for medical history visualization.
- Integrate cloud storage for multi-device access.

9. Conclusion

The MediTrack Project successfully demonstrates how Java OOPS, Swing, and AWT can be used to build a desktop healthcare management application.
It provides functionalities for uploading and viewing medical data with ease.
This project highlights the practical application of object-oriented design, GUI programming, file handling, and event-driven programming in Java.

10. References

1. Java Documentation – https://docs.oracle.com/javase/8/docs/
2. TutorialsPoint – Java Swing Tutorial
3. GeeksforGeeks – Java OOPS Concepts
4. Oracle Java AWT and Swing Guides