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**T. C.**

**RECEP TAYYIP ERDOGAN UNIVERSITY**

**FACULTY OF ENGINEERING AND ARCHITECTURE**

**COMPUTER ENGINEERING DEPARTMENT**

**CE207 Data Structures Project Report Template**

**2025-2026 Fall**

**Homework No: 1**

**Due Date: 12.04.2025**

**Student Name Surname**

Yakup Eroğlu

Hasan Basri Taşkın

Ahmet Bera Çelik

Esra Sultan Doğan

**Student No**

221401045

221401017

221401014

221401058

**Instructor**

Asst. Prof. Dr. Uğur CORUH

**RIZE**

**2021**

**ETHICAL STATEMENT**

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

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|  |  | Date: 26 / 3 / 2024 |
|  | Name Surname | Yakup Eroğlu  Hasan Basri Taşkın  Ahmet Bera Çelik  Esra Sultan Doğan |
|  | Signature | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**PROJECT TITLE: Basic Legal Case Tracker**

**1. INTRODUCTION**

**The Basic Legal Case Tracker is a console-based Java application developed to assist legal professionals and law offices in organizing legal cases, tracking client details, managing hearing schedules, and storing important legal documents efficiently. The application is implemented using Java and Maven, and it emphasizes modularity, data persistence via file handling, and a user-friendly console interface. The system provides essential legal management functionalities in a simplified format.**

**2. PROJECT OBJECTIVES**

**The primary objectives of this project include:**

1. **To facilitate legal case tracking, updates, and organization.**
2. **To associate clients with cases and monitor their histories and interactions.**
3. **To manage court hearing dates and set timely reminders.**
4. **To provide a secure and efficient way to store and retrieve legal documents.**
5. **To support user authentication for personalization and secure access to case data.**

**3. SYSTEM FEATURES**

**3.1 User Authentication**

**Users (e.g., lawyers, legal staff) can create profiles to access their own personalized legal management interface. This includes storing personal data such as case lists, hearing schedules, and document history.**

* **Login**
* **Register**
* **Guest Mode (optional)**

**3.2 Case Management**

**Allows users to perform CRUD operations on legal case profiles. Each case includes attributes like:**

* **Case Number**
* **Case Title**
* **Type (e.g., Civil, Criminal)**
* **Involved Parties**

**Operations include:**

* **Add Case**
* **Update Case**
* **Delete Case**
* **View Cases**

**3.3 Client Tracking**

**Legal professionals can associate clients with cases and monitor their case progress, interactions, and contact info.**

* **Add Client**
* **Update Client**
* **Delete Client**
* **View Clients**

**3.4 Hearing Scheduler**

**This module helps schedule and track hearings and deadlines. It supports:**

* **Schedule Hearing**
* **Set Reminders**
* **View Hearings**

**3.5 Document Storage**

**Users can upload, categorize, and search legal documents associated with each case. Documents are stored with metadata to support efficient retrieval.**

* **Upload Document**
* **Categorize Document**
* **Search Documents**
* **View Documents**

**4. TECHNOLOGIES USED**

**4.1 Programming Language**

* **The project is developed using Java, following object-oriented principles.**

**4.2 File Handling**

* **Data is persisted using Java File I/O. All records (users, cases, clients, hearings, and documents) are stored in serialized binary/text files to ensure availability across sessions.**

**4.3 Data Structures**

* **Custom data structures such as lists, maps, and classes are used to model and manage users, cases, clients, and hearings efficiently.**

**5. CONCLUSION**

**The Basic Legal Case Tracker offers a compact, console-based legal management solution tailored for lawyers and legal teams. It simplifies legal case administration, improves data accessibility, and enhances client and document tracking. The modular structure allows for future scalability into a GUI-based or web-based solution.**

**6. FUTURE IMPROVEMENTS**

**Potential future enhancements include:**

* **Task Assignment: Assign responsibilities related to a case.**
* **Secure Sharing: Enable secure document sharing with clients or co-workers.**
* **Legal Reporting Tools: Generate summaries and status reports.**
* **Deadline Tracking: Integrated deadline and alert system.**
* **Case Analytics: Add statistics or visual dashboards.**
* **JavaFX GUI: Upgrade from console to desktop interface.**