## **LEGITEX File Verification System**

## **Use Case 1: Scan and Verify File**

**Primary Actor:** User (Student, HR Manager, Developer)

**Goal:** To upload and verify the legitimacy of a file using AI-powered OCR and NLP.

**Preconditions:** User is logged into the system.

**Postconditions:** File verification status (real, fake, or corrupted) is stored in the database, linked to the User and File ID.

**Trigger:** User selects “Verify File” from the dashboard.

**Main Flow:**

1. User opens the File Verification interface.
2. User uploads one or more files.
3. System extracts data using OCR.
4. NLP analyzes the text and invokes *UC2: Cross-Reference with External Databases*.
5. System displays the verification result (real, fake, or corrupted).

**Alternative Flow:** 6. If the file format is unsupported or unreadable, the system shows an error message.

## **Use Case 2: Cross-Reference with External Databases**

**Primary Actor:** System (Automated Process)

**Goal:** To validate file data by connecting to official or partner databases.

**Preconditions:** Database connections are active and configured.

**Postconditions:** Verification status is updated to include cross-reference results such as “Verified against [Database Name]” or “Unverified.”

**Trigger:** Invoked automatically by the system during the execution of *UC1: Scan and Verify File*.

**Main Flow:**

1. System extracts key data (name, ID, institution, date).
2. Sends queries to academic, HR, or government databases.
3. Compares file data with retrieved records.
4. Updates verification results accordingly.

**Alternative Flow:** 5. If no matching record is found, the system marks the file as “Unverified” and notes the databases checked.

## **Use Case 3: Generate Verification Report**

**Primary Actor:** HR Manager, Developer (Privileged User)

**Goal:** To generate a clear and summarized report of verification results.

**Preconditions:** At least one verification process has been completed.

**Postconditions:** A detailed verification report (PDF or CSV) is generated and available for viewing or download.

**Trigger:** User selects “Generate Report” from the dashboard.

**Main Flow:**

1. User chooses the files or time period for the report.
2. System compiles verification results and AI feedback, including insights from *UC5: Fraud Pattern Detection*.
3. Displays a summary with legitimacy scores and remarks.
4. User downloads or exports the report.

**Alternative Flow:** 5. If no data is available for the chosen period, the system displays “No records found.”

## **Use Case 4: Ask Queries via AI Chatbot**

**Primary Actor:** User

**Goal:** To ask questions about verification results or how to use the system in simple, natural language.

**Preconditions:** The AI chatbot is online and integrated with system data.

**Postconditions:** User receives an accurate and relevant response.

**Trigger:** User opens the chatbot and types a question.

**Main Flow:**

1. User opens the chatbot interface.
2. Enters a question (e.g., “How do I verify a diploma?”).
3. Chatbot processes input using NLP.
4. Retrieves or generates an answer based on system data.
5. Displays response to the user.

**Alternative Flow:** 6. If the chatbot cannot answer, it replies:  
 *“I’m sorry, I don’t have that information. Please try rephrasing your question or contact support.”*

## **Use Case 5: Fraud Pattern Detection**

**Primary Actor:** System (AI Monitoring Process)

**Goal:** To identify and learn from new types of fraudulent or manipulated files.

**Preconditions:** System has access to past verification records.

**Postconditions:** AI model improves and flags new fraud patterns automatically; an alert is created for the administrator and logged for future verifications.

**Trigger:** System runs periodic background analysis.

**Main Flow:**

1. System analyzes verified and fake document patterns.
2. Detects recurring signs of forgery or tampering.
3. Updates AI detection logic based on discovered trends.
4. Alerts the admin about newly discovered fraud indicators.

**Alternative Flow:** 5. If data is insufficient (e.g., fewer than 100 new files), the system postpones analysis until the minimum dataset is reached.