**PROJECT SCOPE DOCUMENT** **SE 403 01 – Software Project Management** **Project Title: AI-Driven Joke Generator Using Mistral AI**

### 1. Introduction

This document outlines the scope for the **“AI-Driven Joke Generator”** project, conducted under the course **SE 403 01 – Software Project Management**. The project aims to use **Mistral AI** to generate jokes by training on a curated joke dataset. This scope document defines the objectives, deliverables, tasks, and responsibilities to ensure successful completion.

### 2. Project Overview

* **Project Goal:** Develop a proof-of-concept application that employs **Mistral AI** to generate coherent and humorous jokes (Fıkra) based on a specialized joke dataset.
* **Project Manager:** Osman
* **Primary Technologies:**
  + **AI Model:** Mistral AI
  + **Dataset:** A compilation of jokes (e.g., short jokes, riddles, humorous anecdotes)

### 3. Objectives

1. **Model Training:** Prepare a dataset of jokes and train the Mistral AI model to understand various joke structures and styles.
2. **Joke Generation:** Enable the AI to create new jokes that maintain linguistic and comedic coherence.
3. **User Interface (UI) and/or Backend (TBD):**
   * **Front-End:** Allow users to input parameters (e.g., joke length, style) and display generated jokes.
   * **Back-End:** (Optional/To Be Determined) Store user requests, handle model inference, and manage any required database interactions.
4. **Project Documentation:** Provide comprehensive documentation, including how to use, maintain, and further develop the system.

### 4. Scope

#### 4.1 In-Scope

* **Data Collection & Preprocessing:** Identify and gather joke datasets, cleaning and structuring them to be suitable for model training.
* **Model Configuration & Training:** Fine-tune Mistral AI with the curated joke dataset.
* **Evaluation & Testing:** Check the output for coherence, humor, and appropriateness. Adjust parameters as needed.
* **Prototype UI/UX (Front-End):** Potentially a simple web or desktop interface where the user can generate new jokes.
* **Basic Project Management Deliverables:** Gantt charts, task assignments, progress reports as per the course requirements.

#### 4.2 Out-of-Scope

* **Complex Production-Ready Backend:** Unless deemed necessary, a comprehensive, scalable backend may not be required. For now, focus remains on proving the concept.
* **Basic UI:** Basic interfaces with elaborate user features are not the primary goal but can be explored if time permits.
* **Other AI Models:** The scope is limited to Mistral AI for model training and generation.

### 5. Project Deliverables

1. **Trained Mistral AI Model:** Capable of generating jokes upon request.
2. **Dataset Documentation:** Explanation of how the joke dataset was collected, cleaned, and used.
3. **Prototype Application:** A minimal user interface (either web-based or otherwise) demonstrating the AI’s joke generation capability.
4. **User Guide:** Instructions for running and interacting with the AI model and the UI (if implemented).
5. **Technical Documentation:** Covering model training, architecture decisions, and potential future improvements.
6. **Management Documentation:** Includes scope document, project plan, risk management plan, and final presentation.

### 6. Stakeholders & Responsibilities

* **Osman (Project Manager):** Oversees planning, scheduling, communication, and progress tracking. Ensures milestones are met and manages risk.
* **Development Team (TBD):**
  + **AI/ML Engineer(s):** Responsible for data preprocessing, model training, and joke generation logic.
  + **Front-End Developer(s):** Designs and implements the user interface if required.
  + **Backend Developer(s) (Optional):** Handles server-side logic, database storage, and API endpoints (if the project adopts a backend architecture).
* **SE 403 01 Course Instructor & TAs:** Provide guidance, assess project deliverables, and offer feedback on project management and technical quality.

### 7. Resource Requirements

* **Hardware:** GPU-enabled machine(s) for training Mistral AI.
* **Software & Tools:**
  + Mistral AI frameworks and libraries.
  + Any relevant data annotation or preprocessing tools.
  + Project Management tools (e.g., Trello, Jira, or any other tool for task tracking).
* **Human Resources:**
  + Expertise in machine learning, data engineering, and front-end development.

### 8. Risk Management

* **Data Quality Risk:** Low-quality or limited joke data might lead to poor model performance.  
  + *Mitigation:* Validate and clean data before training.
* **Model Accuracy & Appropriateness Risk:** Jokes generated may be irrelevant or inappropriate.  
  + *Mitigation:* Implement filters or manual reviews for content.
* **Time Constraints:** Short training or implementation window may affect quality.  
  + *Mitigation:* Prioritize core features and maintain a realistic scope.

### 9. Acceptance Criteria

1. **Functional AI Model:** Mistral AI can generate jokes on demand.
2. **Data Usability:** Dataset is properly cleaned and documented.
3. **Demonstrable Prototype:** A user or test environment can request jokes and retrieve generated content.
4. **Completed Documentation:** All technical, user-facing, and project management documents are delivered.