

Advanced Programming Project

MovieMate Ai

#الشعب\_الصيني\_ما\_له\_حل

Youssef Ihab 23-101138

Youssef Ashoush 23-101049

Ahmed Yasser 23-101168

Youssef Wael 23-101183

**Introduction:**MovieMate is a smart movie recommendation bot that suggests films based on the user preferences. It also includes a fun, random quiz feature with both multiple-choice and short-answer questions, just for entertainment. The bot is built using Scala, and a Python-based analytics dashboard shows how many quiz answers are correct or incorrect using clear charts. MovieMate is a practical example of how programming can be used to create interactive and engaging tools.

**Description:**

MovieMate is an interactive movie recommendation bot designed to respond to user input in a smart, conversational way. The chatbot is built using Scala and is displayed through a clean and simple Streamlit web interface. The interface has two main sections:

* Chat Interface, where users interact with the bot.
* Analytics Dashboard, where quiz performance is tracked.

The quiz feature is a separate, fun part of the project it randomly asks users movie-related questions (in Arabic and English) that include both multiple-choice and short-answer formats. The dashboard, created using Python, provides visual insights into user responses using Pie and Bar charts and line graphs.

MovieMate combines conversational AI, movie knowledge, and data visualization in one simple, effective, and user-friendly tool.

**Features:**

* **Conversational Movie Recommendations**
  + Users can ask for movie suggestions based on mood (e.g., "I'm sad") or specific criteria (e.g., year, genre, etc.).
* **Random Movie Quiz**
  + The bot offers a quiz feature with random questions
  + Questions come in both multiple-choice and short-answer formats
* **Covers various categories (movies, TV shows)**
* **Interactive Web Interface (Streamlit)**
  + Simple and user-friendly layout with a toggle between two main views: Chat Interface and Analytics Dashboard.
* **Performance Analytics Dashboard**
  + Pie Charts showing correct vs. incorrect answers and quiz participation by language.
  + Bar Chart showing performance across categories (e.g., Arabic movies, English TV shows).
  + Line Graphs for tracking user activity by hour and date.
  + Daily Statistics Table with number of answers, success rate, and question count.

**Usage:**

The application allows the user to communicate directly with the MovieMate bot through the Chat Interface. Upon launching the app, the user can type how they feel (e.g., “I’m feeling stressed”) or ask for a specific movie (e.g., “Recommend a comedy from the 90s”). The bot responds with a tailored movie suggestion, including the film title and a short description.

For entertainment, the user can also choose to take a random movie quiz. This feature includes both multiple-choice and short-answer questions covering different categories. The user’s performance is then recorded and displayed in the Analytics Dashboard.

**Credits:**

Youssef Ihab: 23-101138

Youssef Ashoush: 23-101049

Youssef Wael: 23-101183

Ahmed Yasser: 23-101168

**Workload Distribution:**

|  |  |
| --- | --- |
| Youssef Ashoush | UI & Analytics |
| Youssef Ihab | Input handling & responses & file handling |
| Youssef Wael | Quizzes |
| Ahmed Yasser | Data scraping & loading & input |

**Challenges and Conclusions:**

* Choosing a good data set to get all the possible films and filtering it was a little bit difficult.
* Designing a chatbot that could understand and respond to a wide variety of user inputs (e.g., moods, genres, film requests) was a major challenge.
* Ensuring that movie suggestions matched the user's mood or request accurately was difficult. The bot should match keywords or emotional cues with appropriate genres, while avoiding repetitive or irrelevant suggestions.
* Creating a quiz with randomized questions in two languages (Arabic and English), with both MCQs and short-answer types, involved handling different input formats and validating answers.