Requirements Smart Tourism Development System project

1. Introduction
The Smart Tourism Development System is a data-driven platform designed to enhance the tourism experience in Egypt by analyzing feedback from tourists to provide actionable insights.

2. Project Objectives
- Providing actionable insights by analyzing tourist feedback using data analytics and machine learning.
- Supporting government bodies and tourism operators in making data-driven decisions.
- Improving tourist satisfaction and competitiveness in the tourism sector.

3. Functional Requirements
The system will perform the following functions:
- Automated Data Collection: Scrape feedback from platforms like Booking.com.
- Sentiment Analysis: Analyze feedback and categorize it into positive, and negative sentiments.
- Pain Point Identification: Highlight recurring issues in tourist feedback.
- Role-Based Dashboards: Provide customized insights for government bodies and operators.
- Predictive Analytics: Forecast potential issues based on historical data.

4. Non-Functional Requirements
- Scalability: The system must handle increased data loads as feedback volume grows.
- Performance: Scraping and analysis tasks should complete within the least time can.
- Security: Role-based access control to ensure data privacy.
- Usability: Dashboards must be user-friendly and intuitive.

5. User Roles and Access Permissions
- Government: Access to comprehensive reports and predictive analytics.
- Tourism Operators: Access to feedback insights.
- Admin: Full system access for maintenance and updates.

6. Assumptions

- Stable internet connectivity for scraping and data processing.
- Availability of scraping permissions from Booking.com.

7. Tools and Technologies

- Backend: MongoDB, Python.
- Frontend: Angular, HTML, CSS, JavaScript.
- Data Analytics: Pandas, NLTK, sentiment analysis libraries.
- Deployment: AWS services (RDS, EC2, Lambda, Elastic Beanstalk).