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.
This document outlines the requirements for developing and deploying the system, serving as a guide for stakeholders and development teams.

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.

27 November 2024

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).