Tourism Site Recommendation

1. Use Case Description

Problem Definition:

Tourists visiting Rwanda and other African countries often face challenges in finding destinations that align with their specific interests. This can lead to less satisfying travel experiences and missed opportunities for both travelers and local businesses. A personalized recommendation system can bridge this gap by suggesting destinations based on user preferences.

Relevance in Rwanda/African Context:

Tourism plays a significant role in Rwanda's economy, with attractions ranging from wildlife and cultural sites to adventure tourism. However, without personalized recommendations, tourists may overlook lesser-known destinations. An AI-powered solution can promote diverse attractions, benefiting tourists, local businesses, and the tourism sector as a whole.

2. Key Stakeholders

- Tourists: End users seeking personalized travel recommendations.
- Tourism Boards: Promoting destinations effectively.
- Tour Operators/Agencies: Offering customized travel packages.
- Local Businesses: Hotels, restaurants, and service providers benefiting from targeted visits.

3. Identified IF-THEN Rules

- If the user prefers wildlife, then suggest Akagera National Park.
- If the user prefers cultural experiences, then suggest Kigali Genocide Memorial.
- If the user prefers adventure, then suggest Nyungwe Canopy Walk.
- If the user prefers relaxation, then suggest Lake Kivu beaches.
- If the user is interested in eco-tourism, then suggest Volcanoes National Park.

Conclusion

The Tourism Site Recommendation system demonstrates how AI can enhance the travel experience by providing personalized destination suggestions. By leveraging user interests and applying IF-THEN rules, tourists can discover sites that align with their preferences, promoting both popular and lesser-known attractions in Rwanda. This approach not only enriches travel experiences but also supports local businesses and the broader tourism sector.

Python code Screenshot:

app.py 1

C: > Users > Sage > tourism_recommendation > app.py > ...

```python
from flask import Flask, render_template, request, jsonify

app = Flask(__name__)

def recommend_destination(interest):
    interest = interest.lower()
    recommendations = {
        "wildlife": "Akagera National Park - Explore Rwanda's rich wildlife.",
        "culture": "Kigali Genocide Memorial - Experience Rwanda's cultural history.",
        "adventure": "Nyungwe Canopy Walk - Enjoy an adventurous walk above the forest.",
        "relaxation": "Lake Kivu - Relax by the beautiful lakeside beaches.",
        "eco-tourism": "Volcanoes National Park - Discover Rwanda's ecological wonders."
    }
    return recommendations.get(interest, "No specific recommendation found. Try another interest.")

@app.route('/')
def home():
    return render_template('index.html')

@app.route('/recommend', methods=['POST'])
def recommend():
    data = request.json
    interest = data.get("interest", "")
    recommendation = recommend_destination(interest)
    return jsonify({"recommendation": recommendation})

if __name__ == '__main__':
    app.run(debug=True)

```

Here there is an output

When a user selects in the field, we recommend him/her with a pop window recommending him/her where he/she should visit according to