

My Vacation Planner: Personalised, data-driven vacation recommendations

Skills City – Data Analytics Bootcamp (DA – APR24)

Key project information

Name of the client organisation		IBM
Client organisation website		https://www.ibm.com/uk-en
Client's Delegate (Key Contact)	Full Name	Laetitia Sterling
	Email Address	laetitia_sterling@uk.ibm.com
Project Co-ordinator	Full Name	Victoria Mellor
	Email Address	Comms via Skills City Queries / Discord
Number of Learners Required (per team)		6 (on average – not a guarantee!)
Project Duration (<i>in weeks</i>)		12 (3 intro & preliminary work + 8 of Project R&D work from learners + 1 for Talent Showcase Week)

About the client company

IBM

For more than a century, IBM has been dedicated to every client's success and to creating innovations that matter for the world. We bring together all the necessary technology and services, regardless of where those solutions come from, to help clients solve the most pressing business problems.

IBM integrates technology and expertise, providing infrastructure, software and consulting services for clients as they pursue the digital transformation of the world's mission-critical businesses. "Our clients' systems support modern society. In making them faster, more productive, and more secure, we don't just make business work better. We make the world work better."

Arvind Krishna, Chairman and CEO, IBM.

Project outline

What is the business problem to be addressed in this Industry Project?

Our client is aiming to provide personalised vacation recommendations for users based on open data sources and encouraging environmentally responsible and sustainable travel choices. The goal is to offer users insights into travel destinations, accommodations, and activities to enhance their vacation experience, all with a priority of limiting their impact on the environment.

Benefits:

- **Personalised Vacation Planning:** Users receive tailored vacation recommendations based on their preferences.
- **Optimised Budgeting:** Budget-conscious travellers can plan their vacations that align with their financial constraints.
- **Real-time Updates:** Users stay informed with real-time weather updates and event information.
- **Environmental Impact:** Users can make informed decisions on their carbon footprint when determining their travel options.

This vacation planning project with open data leverages travel-related datasets to provide users with personalised and data-driven vacation recommendations, making their trip planning experience more enjoyable and efficient.

What would an ideal solution to this problem involve?

- Many of these activities and suggestions may not be possible within the timescales available. An essential element of any project is to determine what can be delivered within the constraints: *Time, Money, People, Resources*.
- You should assess the high-level requirement and agree what needs to be prioritised and what is a nice to have.
- It will be essential that you work across the Bootcamp Workstreams to agree the priorities and to develop a coherent solution.
- **Final outcome:** Simple dashboard (preferably PowerBI) that will provide data-driven, personalised travel recommendations.

Activities / Suggestions

1. Data Collection and storage:

- Ingest open data from various sources, including tourism boards, weather services, accommodation databases, and event calendars.
- Collect data on tourist attractions, historical sites, natural landmarks, local events, and weather conditions.
- Store the data in a database of your choice – explaining the reasoning behind your preference.

2. Data Cleaning and Pre-processing:

- Clean and pre-process the raw data to handle inconsistencies and ensure data quality.
- Transform data into a standardized format suitable for analysis.

3. Data Analysis:

- Perform Data Analysis to understand the distribution of data, identify patterns, and uncover insights.
- Visualize key metrics such as popular travel destinations, seasonal variations, and event frequencies.

4. User Preferences and Profiling:

- Develop a user profiling system to understand users' preferences, such as preferred travel activities, budget range, and climate preferences.
- Implement a simple user interface for admins to manually input new types of preferences.

5. Interactive Travel Itinerary:

- Build an interactive user interface to display recommended travel itineraries.
- Allow admins to customize and modify itineraries based on preferences.

6. Recommendations and Suggestions:

- Utilise data-driven algorithms to recommend travel destinations based on user preferences, travel trends, and current events.
- Consider factors like weather conditions, accommodation availability, and special events.
- Integrate data on accommodations and activities available at each destination and provide personalized suggestions for hotels, resorts, local attractions, and events.
- Implement a budget optimisation feature that considers accommodation costs, travel expenses, and activity fees, and provide users with a budget-friendly itinerary.

7. Real-time Weather Updates:

- Integrate a weather API to provide users with real-time weather updates for their selected travel dates and destinations.

8. Carbon Footprint:

- Source carbon footprint data from environmental agencies, carbon footprint calculators, or datasets that provide information on the carbon emissions associated with travel modes, accommodations, and activities.

Potential job roles associated with this Industry Project

Market Research Analyst, Revenue Analyst, Customer Insights Analyst, Business Intelligence Analyst, Operations Analyst

Project objectives and deliverables

What are the Industry Project objectives & deliverables?

Objectives

- Build a simple (PowerBI) dashboard, which encompasses some or all of the above points or alternative points agreed with the client.
- Documentation on the vacation planning data analysis and dashboard development, explaining the inner workings and any reasoning.
- Work well as part of an agile team to ensure the project is completed to the team's strengths and that certain features are prioritised over others.

Deliverables

- **Project report**, which contains documentation over how the vacation planning data analysis works and that explains the reasoning behind the different parameters.
- **Final project presentation**, which summarises your project in 15 minutes so that it can be handed over to the client.
- Files containing the data used to populate the dashboard and the dashboard itself (potentially .xlsx for the data sheet, .pbi for the dashboard)

Project guidance & support

Purpose	Full Name	Organisation	Email Address
Project Support & Reporting (Client's side)	<i>Laetitia Sterling</i>	<i>IBM</i>	<i>*Communications via Project Management Team*</i>
Project Support & Reporting (SC Bootcamp)	<i>Victoria Mellor</i>	Skills City	Reach out via Skills City Queries (skillscityqueries@in4group.co.uk)
Skills City Project Management Team	<i>Georgios Evangelinos</i> <i>Jonathan Walsh</i>	Skills City	

Appendix - Project work arrangements

Presence

- As most of the projects are computer-based, they will be taking place virtually. Hence, there will be no definite need for physical presence of the group members (at HOST or elsewhere) while the project is in progress (unless otherwise agreed).
- However, if you consider necessary to attend physically (for project-related purposes, e.g. hardware testing, development of prototype, visit to the client), please communicate this to your Project Co-ordinator as early as possible (providing a notice at least 3-5 days). The same principle applies if we require you to attend HOST Salford physically (*same notice period as above for our invite*).
- You are welcome to come and work at HOST Salford, after discussing appropriate space availability with your project co-ordinator.

Meeting Attendance & Project Support

- There will be recurring weekly updates (between the team and the respective project co-ordinator) to monitor and evaluate the progress and the completion of the objectives/deliverables.
- You are required to conduct work (*both individually and as a team*) during the guided-learning hours (time provided as *Project Work*), to ensure the completion of the project.
- Each team member is responsible for being present in every meeting (virtually, unless otherwise agreed in advance) and provide timely notice to their fellow team members and their respective Project Team Co-ordinator (at least 1-2 days) in case of necessary absence.
- In case of unforeseen absence, you must contact Skills City Queries **via email** within 48 hours from the time that the meeting took place, explaining the reason of absence.
- Each team meeting with the client will be chaired by the Project Co-ordinator and the Project Management Team Delegate will also be present (*internal team meetings are excluded*).
- Recording the meeting is **only** allowed upon prior consent from the client.
- The Project Management Team will hold a secondary support role during the Project (focusing mainly on supporting the Project Co-ordinator and the Project Client) and you are required to reach them only through Skills City Queries and **not directly**.
- *Essential Skills Sessions* on important skills will be held by the Project Management Team.
- *Nevertheless, the primary point of contact for support during Project will always be the Project Co-ordinator.*

Further Information

- Working hours: Mon – Thurs (09.00 – 17.00), Fri (09.00 – 15.00)
- **Talent Showcase Week / Project Presentations (Virtual): Week 12**

Disclaimer

- ❖ The details of the Industry Project described in the brief and the number of students required for it will be agreed in consultation with the client organisation and the Skills City Project Management Team.
- ❖ This Project Brief will be released to the Skills City Bootcamp students upon confirmation of project deliverables and requirements with the client.
- ❖ The content of this project is property of the client providing the project and Skills City, as part of the curriculum provided in the Skills Bootcamps.
- ❖ To ensure and protect the confidentiality of the information provided, Non-Disclosure Agreements (NDAs) between Skills City and project team members will be signed (upon entering the Bootcamp).
 - For this reason, any project-related information **must not** be shared in any external platform (not provided with or agreed to with the Skills City staff) or to any person outside the team involved in the Industry Project, prior to and following the conclusion of the project and without any **written** consent of the client.
 - Any learner found in breach of the confidentiality agreement signed (either by knowingly disclosing or storing information in external platforms or by not contributing in the project work) could potentially be removed from the Bootcamp.
- ❖ *The series of meetings between the team and the client will be organised by the Project Management Team delegate associated with this Project.* After this, project-related communication with the client will be handled and monitored primarily by the Project Management Team.
- ❖ The duration of the Bootcamp is a total of 12 weeks. The project work will follow the curriculum with the work being finalised in weeks 10-11 and presented in Week 12.
- ❖ Clients only: For any queries regarding this form, please contact the Project Management Team.
 - Georgios Evangelinos: georgios@in4group.co.uk
 - Jonathan Walsh: jonathan@in4group.co.uk