

INTRODUCTION TO WEB DATABASE CONCEPTS

Developing an MS Access Database for Coastal Tourism Management

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SECTION A

1. Identify the different types of users who might access the Database Management System (DBMS) for Coastal Tourism Management. Describe the roles and responsibilities of each type of user.

Database Administrators: Admins, depending on the size and needs of the organisation they work are accountable for developing and maintaining databases, data security, performance, backing up data and providing training and support to users.

Developers: Developers are responsible for creating and developing the database.

End User: Access the database to create, view, update and delete data. These users will be the Tourists and employees of the business. Tourists will access the database to view and reserve getaways as well as create reviews for example.

2. Identify various departments within Coastal Getaways that might require access to the CTMS. Describe the specific needs and responsibilities of each department in managing coastal tourism.

Financial – will view reports generated through the system, track financial transactions to manage pricing strategies, cost analysis and ensure profitability.

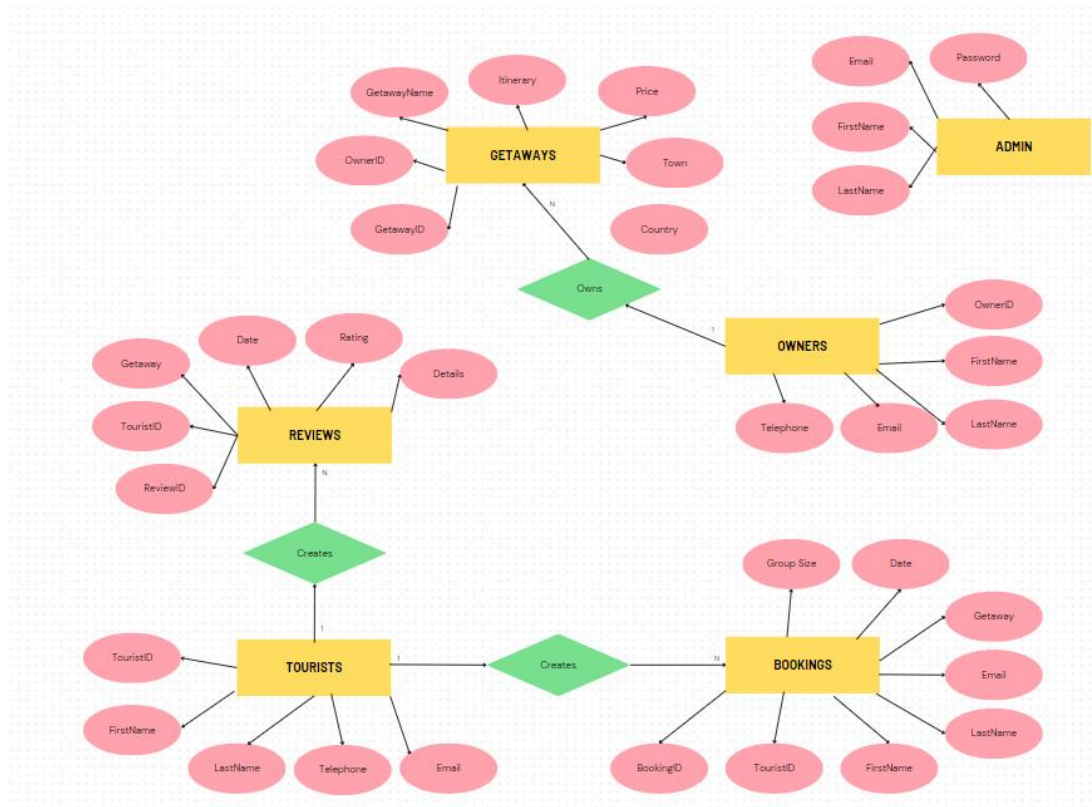
Customer Service – will access tourist customer information and bookings in the system to effectively deal with any queries or issues.

Sales and Marketing – will analyse customer trend and preferences to develop marketing strategies and create tailored packages.

Operations – will manage bookings and the logistics of the getaways by dealing with reservations and accommodations for example.

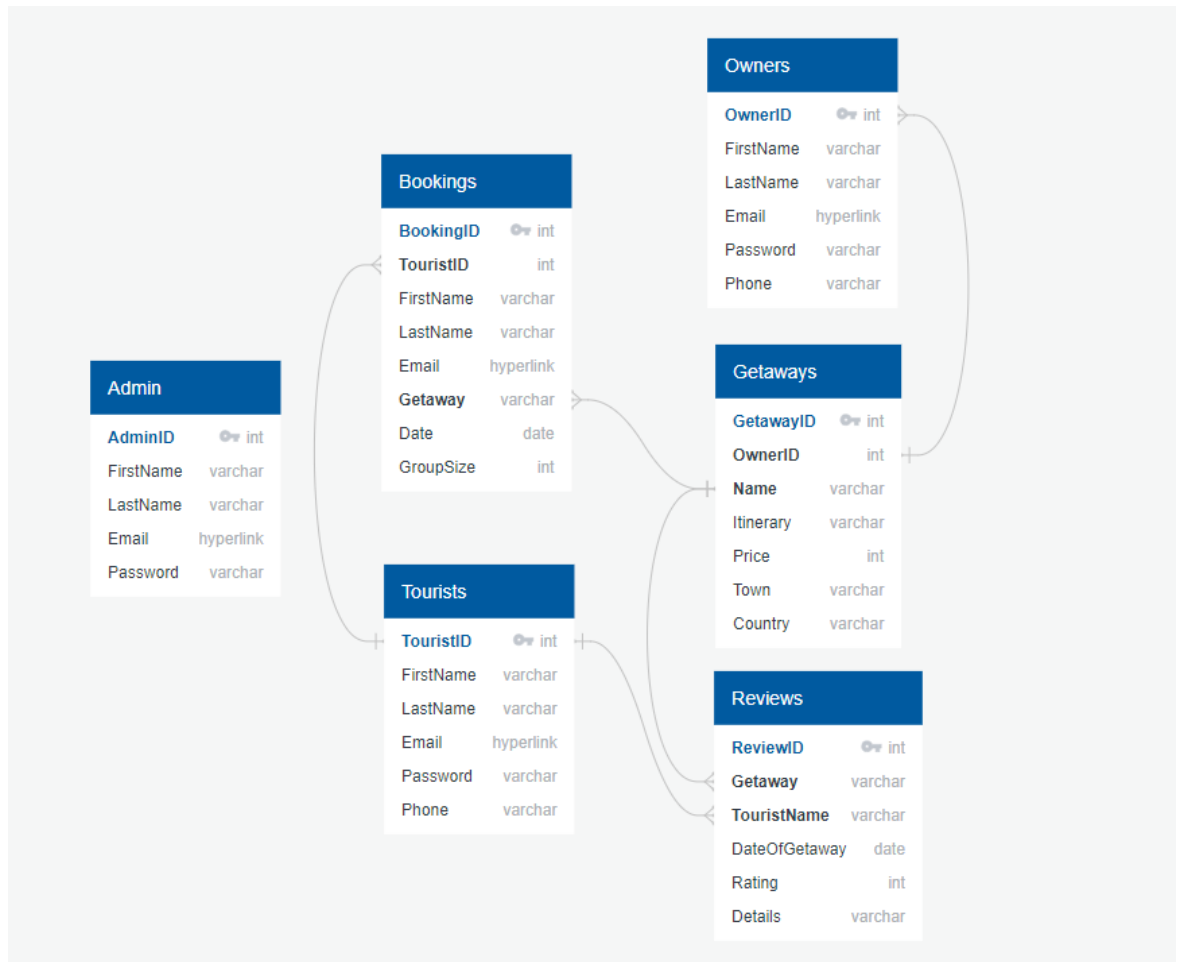
Database Design and Implementation

3. Create an Entity Relationship Diagram (ERD) for the Coastal Tourism Management System, showing entities and relationships highlighting multiplicities associated with them. Use suitable notation for the various representations to produce the final ERD. Provide explanation why the entities and their associated attributes were included in your database design



[CTMS-EntityRelationshipDiagram.pdf](#)

4. Based on your ERD, create a relational database schema, including tables, fields, primary keys and foreign keys.



[CTMS-RelationalDatabaseSchema.pdf](#)

Application of Database Management System

- Using a DBMS (Microsoft Access), create a database based on your relational schema from question 4.

[CTMS.accdb](#)

Reports Design

- Design and create user-friendly reports within your CTMS to perform the following tasks:
 - Design and produce a report that calculates the total revenue generated by Coastal Getaways for a specific time period.

Coastal Getaways 30-Day Revenue Report £3,430.00

Date	BookingID	Getaway	Total
07/01/2024	47	Sailing	£350.00
10/01/2024	60	Sailing	£100.00
12/01/2024	39	Birdwatching	£135.00
13/01/2024	41	Surfing	£200.00
14/01/2024	42	Climbing	£200.00
14/01/2024	5	Walking	£60.00
14/01/2024	11	Sailing	£500.00
20/01/2024	45	Walking	£160.00
21/01/2024	7	Walking	£20.00
25/01/2024	49	Surfing	£400.00
26/01/2024	9	Birdwatching	£405.00
30/01/2024	15	Climbing	£300.00
31/01/2024	13	Kayaking	£30.00
31/01/2024	16	Sailing	£200.00
01/02/2024	58	Climbing	£50.00
02/02/2024	8	Climbing	£200.00
04/02/2024	12	Surfing	£120.00
Revenue			£3,430.00

- b. Design a report that compiles guest feedback and reviews for Coastal Getaways.

Coastal Getaways Reviews

Date of Getaway	Getaway	Tourist	Details	Rating (out of 5)
08/12/2023	Birdwatching	Ellie	Bad	2
16/12/2023	Surfing	Archie	Great	3
30/12/2023	Kayaking	Dylan	Fantastic	5

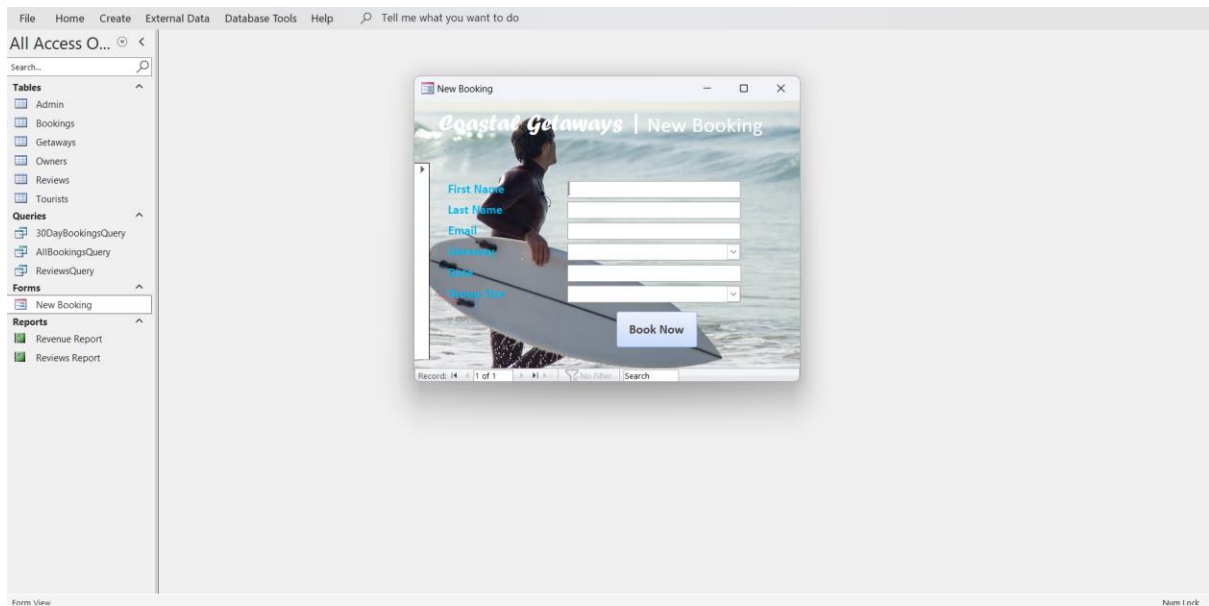
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Forms Design, User Interface and Menus

7. Design and create forms within your CTMS to perform the following tasks:
- Create a reservation form for tourists to book a coastal vacation package including appropriate controls and validation rules. Justify why these were included.

Validation rules were set on FirstName and LastName to 50 characters. The date field has the validation rule of >Date() which stops users from selecting a date that is not in the future. This stops bookings being made in the past which will cause issues. The number of tourists field is limited to 1-10, this is to stop bookings being made with high numbers of tourists which will be too large for the getaway.



- b. Create a form that allows event owners to update information about their events.
8. Design a user-friendly menu for Coastal Tourism Management system that
 - a. Allows users to navigate the database easily.
 - b. Displays options immediately after opening the database.

SECTION B

9. Explain the importance of developing an MS Access database for Coastal Tourism Management in Wales, UK. How can a database improve the efficiency and effectiveness of managing coastal tourism?

Databases are an integral part of businesses today, with the transition from manual and paper data management to computerized systems comes great benefits to business success.

For a Coastal Tourism business developing a database can aid in inquiries, the tourist, for example can access the database to view coastal getaways and the system can make all the booking arrangements for the tourist when reserving the getaway without the need for an agent. This allows the agent or employee to focus on other aspects of the business thus boosting productivity [1]

Such processes are facilitated by the use of forms. User-friendly forms can be created for data entry, thus reducing errors, and ensuring consistent data input, streamlining the process. [2]

In the case of MS Access as a database system, businesses can analyse data using queries, forms and reports. The generation of custom reports and complex queries gains insights into customer behaviours, aiding in decision making processes. [3] This is known as Data Driven Decision Making (DDDM), for example, Amazon uses data analytics to drive its recommendation engine which recommends products to customers based on prior purchases. This same method can be used to recommend new getaways to existing users in a coastal management business.[4]

Other benefits include improved marketing campaigns, optimised business operations and reduced costs all to increase revenue and profits. [5]

Another important aspect of using a database such as Access is in its name, access. In a business that may operate across multiple locations, not having a central database can present issues with errors, inconsistencies, and duplicates. Developing a centralised database increases connectivity, data-sharing and real-time access. [6]

10. Discuss the potential challenges and benefits of transitioning from manual data management to a computerized system for Coastal Tourism Management. How can the DBMS address these challenges?

Transitioning from a manual to a computerised system boasts countless benefits to a business, it also presents some challenges. The initial investment in particular may hinder a business to make the change to digital database management, especially smaller ones that Coastal Getaways represents. Costs occur from the development, training and maintenance to name a few.

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