

HND CYBER SECURITY & NETWORKING

PROGRAMME	BSc / HND / HNC COMPUTING PORTFOLIO
MODULE	INTRODUCTION TO WEB AND DATABASE CONCEPTS
ASSIGNMENT TITLE	DEVELOPING AN MS ACCESS DATABASE FOR COASTAL TOURISM MANAGEMENT
MODULE CODE	ACCA4023
LECTURER	DIVYA CHIDAMBARAM
STUDENT	ORIN MCGINN
STUDENT NUMBER	2304621
DATE DUE	RESIT



TABLE OF CONTENTS

INTRODUCTION	3
SECTION A.....	4
DATABASE DESIGN AND IMPLEMENTATION	5
APPLICATION OF DATABASE MANAGEMENT SYSTEM.....	7
REPORTS DESIGN	ERROR! BOOKMARK NOT DEFINED.
FORMS DESIGN, USER INTERFACE AND MENUS	8
REFERENCE LIST.....	15



INTRODUCTION

This project was to create a Coastal Tourism Management System (CTMS) using Microsoft Access.

In order to promote tourism in Wales the company has hired myself to design and implement a specialised system that serves tourists, businesses and administrators.

A feedback module is an important element of the system which collects visitor reviews after their stay.

SECTION A

TOURISTS

Tourists are the primary users of the system, seeking vacation packages and related services.

Tourists will be able to explore available vacation packages with details on itineraries, pricing, and availability. They will be able to make reservations and complete payments securely online.

The system will also have options for contacting customer assistance via email or phone.

LOCAL BUSINESSES

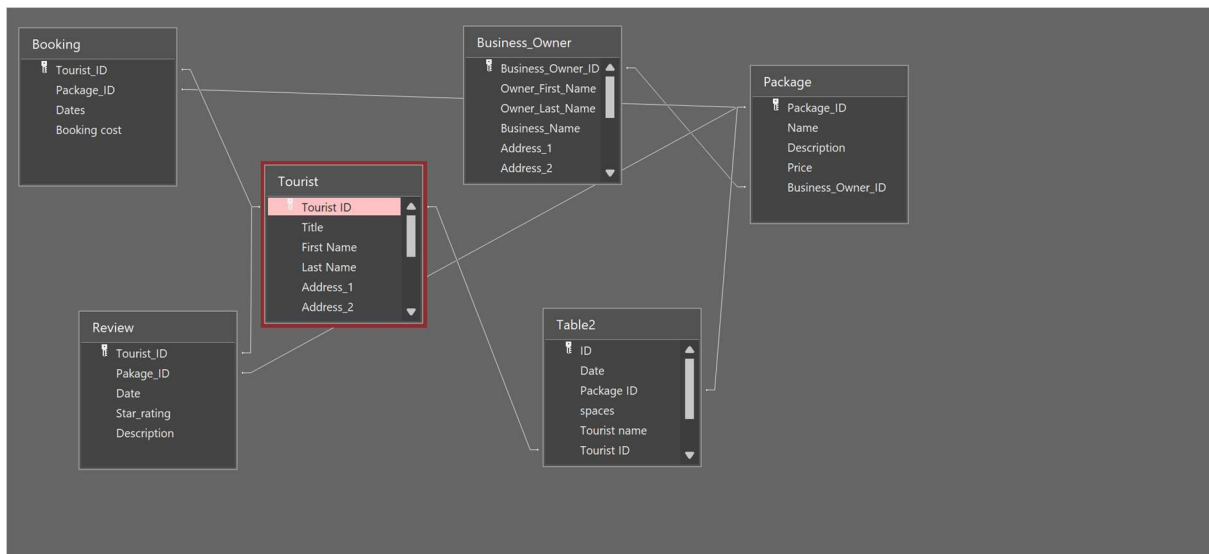
Local businesses will partner with Coastal Getaways to offer accommodation, dining, and events in order to attract customers.

They will register and manage service listings, including descriptions, pricing, and availability via the system. They will access reservations made by tourists to prepare for their arrival.

Once tourists leave reviews local businesses can respond if necessary, or use the feedback to improve their services.



DATABASE DESIGN AND IMPLEMENTATION



TOURIST

Tourist_ID (Primary Key): Unique identifier for each tourist.

Name: Tourist's full name.

Contact Details: Phone number and address.

Email: Email address for communication.

Address: Home address for billing and identification.

Booking History: Record of past bookings.

ACCOMMODATION

Accommodation_ID (Primary Key): Unique identifier for each accommodation.

Name: Accommodation name.

Type: Type of accommodation (e.g., hotel, villa).

Location: Address or area of the accommodation.

PricePerNight: Cost per night.

Availability: Status of room availability.



BOOKING

Booking_ID (Primary Key): Unique identifier for each booking.

TouristID (Foreign Key): Reference to the tourist who made the booking.

Accommodation_ID (Foreign Key): Reference to the accommodation booked.

CheckInDate: Start date of the booking.

CheckOutDate: End date of the booking.

TotalCost: Total cost of the booking.

RELATIONSHIPS AND MULTIPLICITIES

Tourist - Booking

1 Tourists can have many Bookings (1).

Each Booking is associated with one Tourist (N:1).

Booking - Accommodation

Each Booking includes one Accommodation (N:1).

Each Accommodation can be included in many Bookings (1).

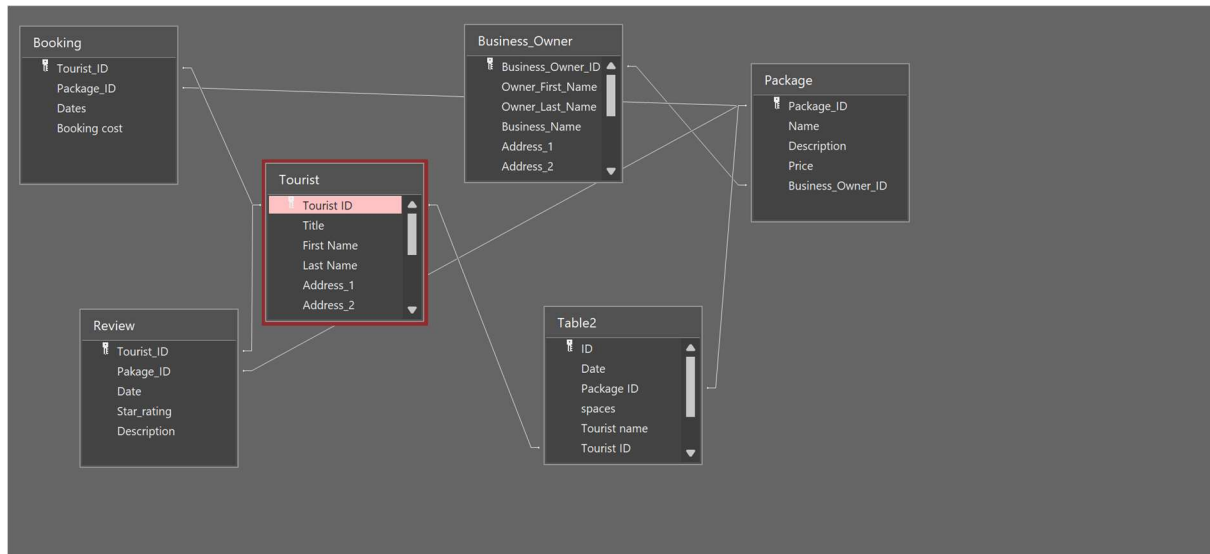
Booking - ActivityBooking

Each Booking can have many ActivityBookings (1).

Each ActivityBooking is linked to one Booking (N:1).



APPLICATION OF DATABASE MANAGEMENT SYSTEM



FORMS DESIGN, USER INTERFACE AND MENUS

SECTION B

Developing an MS Access database for coastal tourism management in Wales, UK, is important and can significantly enhance the efficiency and effectiveness of managing coastal tourism and attracting visitors to the area.

Key benefits and reasons why such a database can be valuable

CENTRALISED DATA MANAGEMENT

An MS Access database provides a centralised repository for all coastal tourism-related data. This includes information on tourists, bookings, accommodations, events, feedback, financial transactions, environmental data, and transportation options. Centralising data helps in:

- Reducing data redundancy.
- Ensuring data consistency.
- Facilitating easier data retrieval and reporting.

IMPROVED DECISION MAKING

A well-designed database enables better data analysis and reporting capabilities. Managers can generate reports to gain insights into various aspects of coastal tourism, such as:

- Revenue trends.
- Occupancy rates.
- Tourist demographics.
- Environmental impacts.

This data-driven approach helps in making informed decisions and strategic planning.

ENHANCED CUSTOMER EXPERIENCE

The database efficiently manages tourist information, bookings, feedback, and preferences, helping to provide personalised services to tourists. Improved customer service can lead to higher satisfaction and repeat visits, contributing to the overall success of coastal tourism.



EFFICIENT RESOURCE MANAGEMENT

The database allows for better management of resources, such as accommodations, transportation, and event planning. By tracking availability, usage, and demand, the system can:

- Optimize resource allocation.
- Reduce wastage.
- Ensure that facilities and services are adequately maintained and staffed.

STREAMLINED OPERATIONS

Automation of routine tasks, such as booking confirmations, feedback collection, and financial transactions, leads to:

- Reduced manual effort.
- Minimized errors.
- Faster processing times.

This streamlining of operations results in more efficient management of tourism activities.

ENVIRONMENTAL MONITORING AND SUSTAINABILITY

Coastal tourism must balance economic benefits with environmental sustainability. The database can store and analyse environmental data, helping monitor tourism's impact on natural resources. This supports:

- Implementing conservation measures.
- Compliance with environmental regulations.
- Promoting sustainable tourism practices.

COMPREHENSIVE REPORTING

MS Access provides robust reporting tools that can create various reports required by different stakeholders. These reports can include:

- Financial performance.
- Tourist feedback summaries.
- Environmental impact assessments.
- Departmental performance metrics.

Comprehensive reporting aids in transparency and accountability.



SCALABILITY AND FLEXIBILITY

MS Access databases can be easily modified to accommodate the changing needs of the coastal tourism sector. As tourism trends evolve, the database structure can be updated to:

- Add new data fields.
- Incorporate additional entities.
- Adapt to new reporting requirements.

This flexibility ensures the database remains relevant and valuable over time.

SECURITY AND DATA INTEGRITY

MS Access includes features to secure data and maintain its integrity, such as:

- User-level permissions.
- Data validation rules.
- Backup and recovery options.

These features protect sensitive information and ensure that data remains accurate and reliable.

PRACTICAL IMPLEMENTATION IN WALES, UK

For Coastal Tourism Management in Wales, an MS Access database can address specific regional needs, such as:

- Managing diverse tourist attractions, from beaches to historical sites.
- Tracking seasonal tourism patterns and their economic impact.
- Preserving the unique natural and cultural heritage of the Welsh coast.

By implementing an MS Access database, coastal tourism managers in Wales can efficiently handle the complexities of tourism management, enhance visitor satisfaction, and promote sustainable practices. This leads to a more vibrant and resilient coastal tourism industry, benefiting local communities and preserving the region's natural beauty for future generations.

POTENTIAL CHALLENGES

CHALLENGE

The initial investment in hardware, software, and training can be significant.

SOLUTION

A phased implementation can spread out costs. MS Access is relatively affordable and user-friendly, reducing overall expenses.

TRAINING AND SKILL DEVELOPMENT

CHALLENGE

Staff may need training to use the new system effectively.

SOLUTION

Provide comprehensive training programs and ongoing support to ensure staff are comfortable using the DBMS.

DATA MIGRATION

CHALLENGE

Transferring data from paper records to a digital format can be time-consuming and prone to errors.

SOLUTION

Plan the migration carefully, using data validation techniques and automated tools to minimise errors and ensure data integrity.

RESISTANCE TO CHANGE

CHALLENGE

Employees may resist the new system due to comfort with the old manual processes.

SOLUTION

Engage staff in the transition process, highlighting the benefits and involving them in training sessions to ease the transition.



SYSTEM RELIABILITY AND MAINTENANCE

CHALLENGE

Ensuring the system is reliable and regularly maintained can be challenging.

SOLUTION

Regular updates, maintenance, and robust backup and recovery procedures can ensure system reliability.

DATA SECURITY

CHALLENGE

Protecting sensitive information from unauthorised access and breaches is critical.

SOLUTION

Implement strong security measures, such as user authentication, access controls, and data encryption.

BENEFITS OF TRANSITIONING TO A COMPUTERISED SYSTEM

INCREASED EFFICIENCY

Automated processes reduce the time and effort required for data entry, retrieval, and management.

IMPROVED DATA ACCURACY AND CONSISTENCY

Reduced manual entry minimises errors and ensures data consistency.

BETTER DECISION MAKING

Access to real-time data and advanced reporting tools support informed decision-making.

ENHANCED CUSTOMER SERVICE

Quick access to customer information and preferences allows personalised services and improved customer satisfaction.

EFFICIENT RESOURCE MANAGEMENT

Track and manage resources like accommodations, events, and transport more effectively.

SCALABILITY AND FLEXIBILITY

Easily scale the system as the organisation grows and adapts to changing needs.

ENVIRONMENTAL AND SUSTAINABILITY MONITORING

Monitor environmental data and track the impact of tourism activities on natural resources.



DATA SECURITY AND INTEGRITY

Enhanced security features protect sensitive information.

USER-FRIENDLY INTERFACE

MS Access offers a user-friendly interface that reduces the learning curve for new users, making the transition smoother.

ROBUST SECURITY FEATURES

Access control, data encryption, and regular security audits ensure data protection and integrity.



CONCLUSION

Transitioning from manual data management to a computerised system for Coastal Tourism Management offers numerous benefits, including increased efficiency, improved data accuracy, better decision-making, and enhanced customer service.

While there are challenges, a well-planned transition and the robust features of a DBMS like MS Access can effectively address these challenges, leading to a more streamlined and efficient coastal tourism management process.

REFERENCE LIST

I have consulted numerous online resources to assist with this project, these include

- YouTube, (<https://www.youtube.com/@599CD>)
- Wikipedia
- Microsoft Website
- MS Access Tutorials