Sunny Spot Holidays – Database Proposal

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1. Background

Gelos Enterprises has undertaken a project to enhance the online presence of Sunny Spot Holidays, a business based on the Central Coast, NSW. The primary goal is to improve the user experience and operational efficiency of their website by redesigning the cabin information presentation and promotional materials.

Client Details:

Jack Jones, the owner of Sunny Spot Holidays, operates a business that provides cabins, camping, and caravan sites to holiday-makers and tourists.

Current Challenges:

* Cabin information is only available via downloadable PDFs.
* Visitors must complete an enquiry form to receive detailed cabin information.
* Cabin details are manually managed in a shared Word document, causing inefficiencies.

Client Suggestions:

* Display up-to-date cabin information dynamically on the website.
* Eliminate PDF downloads for promotional materials.
* Implement a structured approach for displaying promotions and discounts.

1. Requirements

Database Requirements:

* Support dynamic display of cabin information.
* Efficient storage and retrieval of promotional data.
* Seamless integration with concurrent website front end and backend development efforts.

Additional Requirements:

* Photos: Store cabin photos as filenames for efficiency.
* Inclusions: Display comprehensive cabin details including amenities and facilities - Air conditioner, Linen, Verandas, Bunk bed, Ceiling fans, Clock radio, Dining facilities, Dishwasher, DVD Player, Foxtel, Fridge/Freezer, Hair dryer, Ironing Facilities, Microwave.
* Promotions: Capture promotion details:
* Description, Start date, End date, Discount amount, Cabin identifier.

Design Notes:

* No need to store client and booking information.
* Promotions should support varying discounts per applicable cabin.

**Assigned Tasks:**

Design a database structure to accommodate:

* Detailed cabin information (descriptions, inclusions, pricing).
* Promotion details with flexible discounts per cabin.

1. Issues /Assumptions

**Issues (Challenges / Obstacles):**

* **Hosting of Database:**

Challenge: Determining the appropriate hosting solution for the database to ensure it is scalable, secure, and has high availability.

Impact: Poor hosting choices could lead to downtime, slow performance, or security vulnerabilities, adversely affecting user experience and operational efficiency.

* **Data Migration and Integration:**

Challenge: Migrating existing data from PDF documents and Word files to the new database while ensuring data accuracy and integrity.

Impact: Errors or delays in data migration could lead to incomplete or inaccurate information on the website, frustrating users and requiring additional resources to rectify.

**Assumptions:**

* **Scope of the Project:** The project scope includes designing and implementing the database, integrating it with the website, and providing training and support to Sunny Spot Holidays staff.
* **Availability of Resources:** All necessary resources, including access to current data, staff availability for consultations, and technical infrastructure, will be readily available throughout the project duration.
* **Data cleaning** : Assuming the data ensuring data consistency, accuracy, completeness, relevance, deduplication, normalization, integrity, standardization, timeliness, and validation throughout the project duration.

1. Stakeholders

|  |  |  |
| --- | --- | --- |
| Stakeholder | Impact | Influence |
| Jack Jones | High | High |
| Sunny Spot Holidays Staff | High | High |
| Gelos Enterprises Development Team | High | High |
| Website Visitors and Customers | High | Low |
| Marketing and Advertising Partners | Low | High |
| Competitors | Low | Low |
| Local Tourism Boards and Agencies | Low | Low |

**Key /Influence Scale:**

* High Impact, High Influence: Key stakeholders who need to be closely engaged and actively managed.
* High Impact, Low Influence: Important stakeholders whose needs should be understood and met.
* Low Impact, High Influence: Stakeholders who should be kept informed and consulted.

1. Tools/Technologies

**Database Management System (DBMS)**

Microsoft SQL Server: Chosen for its reliability, scalability, and advanced features supporting data integration and management.

**Data Modeling and Visualization**

draw.io: Used for designing and visualizing the database schema, ensuring a clear and structured approach to data management.

**Hosting Solutions**

Amazon Web Services (AWS): For scalable, secure cloud hosting.

**Data Migration Tools**

Talend: For simplifying data migration processes.

Microsoft Data Migration Assistant: For migrating data from legacy databases to SQL Server.

**API Development and Integration**

RESTful APIs: Using frameworks like Flask (Python) or Express.js (Node.js) for seamless integration.

**Security and Backup**

SSL/TLS Certificates: For secure data transmission.

**Automated Backup Solutions**

Regular backups using AWS Backup or Azure Backup.

**Monitoring and Analytics**

Power BI: For monitoring website traffic and user behaviour.

1. Data

**Tables and Relationships**

1. Cabins
   * CabinID (Primary Key)
   * CabinName
   * Description
   * Price
   * PhotoFilename
2. CabinInclusions
   * InclusionID (Primary Key)
   * CabinID (Foreign Key to Cabins)
   * Amenity (e.g., Air conditioner, Linen, Verandas, etc.)
3. Promotions
   * PromotionID (Primary Key)
   * Description
   * StartDate
   * EndDate
   * DiscountAmount
   * CabinID (Foreign Key to Cabins)

**Relationships**

* A cabin can have multiple inclusions.
* A promotion can apply to multiple cabins.

A cabin can have multiple promotions (if applicable).

1. Criteria for Success

* Firstly, ensuring cabin information is dynamically presented on the website, eliminating the reliance on PDF downloads, is crucial for providing real-time updates to users. Secondly, achieving accurate data migration from existing PDFs and Word documents to the new database is essential to maintain data integrity. Efficient management of promotional data, facilitating easy storage and retrieval, is vital for timely and effective promotion display. The system's scalability and availability are paramount, ensuring it can handle increased user traffic without downtime, backed by robust security measures like data encryption and secure access controls. A user-friendly interface that offers seamless navigation across devices is imperative to enhance user experience. Operational efficiency, through reduced manual processes and comprehensive staff training, supports smooth system management. Positive customer feedback and increased engagement from website visitors are key indicators of customer satisfaction and effective marketing strategies, ultimately driving revenue growth and return on investment.

1. Deliverables

* Database Design and Implementation: Design and deploy a robust database structure capable of dynamically managing cabin information and promotions.
* Website Redesign: Redesign the website to display cabin details dynamically without PDF downloads, ensuring a user-friendly interface across all devices.
* Data Migration: Migrate existing cabin information from PDFs and Word documents to the new database with 100% accuracy and integrity.
* Promotional Management System: Develop a system to efficiently store, manage, and display promotions, including varying discounts per cabin.
* Security Implementation: Implement robust security measures, including data encryption and secure access controls, to protect user data and ensure compliance.
* Testing and Quality Assurance: Conduct thorough testing to ensure the functionality, performance, and reliability of the website and database.