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**Outland Adventures Case Study**

**Business Rules & Assumptions:**

**Employees.**

* Every employee has a unique ID and role (Such as Guide, Marketer, etc.)
* Guides are responsible for planning and leading the trips.
* Each trip is led by at least one guide.
* The employees do not switch between different roles (at least in this model).

**Customers.**

* Customers can book multiple trips if so desired.
* A trip will most likely have multiple customers.
* Each customer has some form of contact information (name, email, phone).
* Customers can either rent or buy equipment as needed.
* Customers are linked to trips with bookings, and to equipment with transactions.

**Trips.**

* Each trip has a unique ID, destination, start date, and end date.
* Destinations are limited to Africa, Asia, and Southern Europe for the time being.
* Bookings capture which customers go on which trips.
* Trip demand can be tracked by location and booking frequency.

**Equipment & Inventory.**

* Each piece of equipment has a unique ID and status (Such as Available, Rented, Sold).
* Equipment age is tracked from the purchase date.
* Equipment that is sold is removed from the available inventory.
* Rental equipment is reused, while sold equipment is not.
* Equipment sales and rentals are recorded in a specified transaction log.

**Transactions.**

* All sales and rentals of equipment are logged with date, type (sale or rental), and customer info.
* A customer may perform multiple transactions over time.
* Each transaction is tied to one specific item.

**Additional Assumptions We Made.**

* Employees do not serve dual roles (e.g., someone isn’t both a guide and a marketer).
* Equipment can’t be both rented and sold in a single transaction.
* Equipment inventory includes only items intended for customer use (not supplies, which are designated as company use).
* There’s a need to track equipment over 5 years old, so purchase dates are always recorded accurately.
* All trips, bookings, and transactions include a date to better track records.

**Initial ERD:**

[Employee]

- EmployeeID (Primary Key)

- First Name

- Last Name

- Role

[Customer]

- CustomerID (Primary Key)

- First Name

- Last Name

- Email

- Phone

[Trip]

- TripID (Primary Key)

- Destination

- Start Date

- End Date

- GuideID (Foreign Key)

[Booking]

- BookingID (Primary Key)

- CustomerID (Foreign Key)

- TripID (Foreign Key)

- Booking Date

[Equipment]

- EquipmentID (Primary Key)

- Name

- Type

- Purchase Date

- Status

[EquipmentTransaction]

- TransactionID (Primary Key)

- CustomerID (Foreign Key)

- EquipmentID (Foreign Key)

- Transaction Type (Sale or Rental)

- Transaction Date

**Relationships:**

Employees to Trips- Many-to-Many (A guide might lead many trips, whereas a trip could have many guides as well).

Trips to Bookings- One-to-Many (A trip can be booked by multiple customers, but a booking refers to a singular trip).

Customers to Bookings- One-to-Many (A customer can book multiple trips, but that specific booking belongs to one customer).

Customers to Equipment Transaction- One-to-Many (A customer can buy or rent as many pieces of equipment as needed, but each is tracked by a separate transaction).

Equipment to Equipment Transaction- One-to-Many (Any equipment that is rented out can be done multiple times, but each one has a separate transaction).

**A diagram of a workflow

AI-generated content may be incorrect.**