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**Outland Adventures Case Study – Milestones #1**

# 1. Business Rules and Assumptions

## 1.1 Employees

• Each employee has a unique ID and a fixed role (Guide, Marketer, Inventory Manager, E-commerce Business Admin).  
• Guides are responsible for logistical planning, including managing airfare, visas, and inoculations, and leading trips.  
• Employees do not switch roles within the system model.  
• Employee roles help define operational responsibility and reporting structure.

## 1.2 Customers

• Customers can book multiple trips and can either rent or purchase equipment.  
• Customers have unique identifiers and provide contact details (name, email, phone).

• Bookings and equipment transactions are linked to customers for reporting and marketing insights.

## 1.3 Trips

• Each trip has a unique ID, a defined destination (Africa, Asia, Southern Europe), start and end dates, and is led by at least one guide.  
• Trips include data on required visas and inoculations.  
• Bookings track which customers attend which trips.  
• Booking frequency and regional demand are tracked.

## 1.4 Equipment and Inventory

• Each equipment item has a unique ID, name, type, condition/status (available, rented, sold), purchase date, and quantity.  
• Inventory is updated upon rental, sale, return, or restock.  
• Equipment older than five years is reviewed for replacement.  
• Sold equipment is removed from inventory, while rental gear is reused.

## 1.5 Transactions

• Each equipment transaction records the customer, item, type (sale or rental), date, and quantity.  
• Equipment cannot be both sold and rented in one transaction.  
• Sales and rentals are analyzed for top-selling items and inventory trends.

## 1.6 E-Commerce and Marketing

• Customers can browse trips and equipment online, and make bookings or purchases through the website.  
• Online and in-person transactions are tracked in the same system.  
• Marketing channel performance may be monitored for lead generation effectiveness.

# 2. Initial Entity Relationship Design (ERD)

## Entities and Attributes

* Employee
* EmployeeID (PK)
* First Name
* Last Name
* Role
* Customer
* CustomerID (PK)
* First Name
* Last Name
* Email
* Phone
* Registration Date
* Trip
* TripID (PK)
* Destination
* Start Date
* End Date
* Visa Required
* Inoculations Required
* GuideID (FK)
* Booking
* BookingID (PK)
* CustomerID (FK)
* TripID (FK)
* Booking Date
* Payment Status
* Guide
* GuideID (PK)
* First Name
* Last Name
* Hire Date
* Equipment
* EquipmentID (PK)
* Name
* Type
* Purchase Date
* Condition
* Stock Quantity
* Reorder Level
* Price
* EquipmentTransaction
* TransactionID (PK)
* CustomerID (FK)
* EquipmentID (FK)
* Transaction Type
* Transaction Date
* Quantity

## Key Relationships

• A customer can book multiple trips (1:M).  
• A trip can have many customers (M:M via Bookings).  
• A guide can lead multiple trips, and a trip can have multiple guides (M:M).  
• A customer can have multiple equipment transactions (1:M).  
• Each transaction is tied to one equipment item (M:1).  
• Each piece of equipment rented out may be involved in multiple transactions (1:M).

• One employee manages many equipment items (1:M)

A diagram of a work flow

AI-generated content may be incorrect.