

Explore Secure Travel Insurance: Travel Insurance for Adventurous Lives

Milestone #1

Akash Ghosh

Introduction

Explore Secure Travel Insurance is designed to handle the creation of managing and processing of Insurance policies, personalized quotes, claims and solve the problems for different type of traveler. The system integrates with agents, travel platforms and partners which also offers various types of coverage and risk levels tailored for specific customers' demand.

Entity Relationship Model

The core components of the model are captured in the following tables Customers, policies, claims and agent relationships.

- Customer: Customer represents the person who is seeking the insurance. They Key attributes include customer_id (PK), name, gender, date_of_birth, occupation, travel _purpose and risk_level.

A customer can purchase multiple policies, receive personalized quotes and file claim or multiple claims.

- **Policy Type:** Policy type represents different type of policies such as health, travel, accident etc. It consists of policy_type_id and type_name.
- **Insurance Policy:** Insurance policy represent specific insurance policies available for customers. Some attributes include policy_id, policy_name, coverage_details and premium. It is lined with a policy_type_id.

Policies are related to multiple customers through the CustomerPolicy table. They also have a direct association with claims and personalized quotes.

- **Personalized Quote:** Provides customers with customized insurance quoted based on the customer profile which includes attribute quote_id, customer_id, policy_id, premium, coverage_adjustments and quote_date.

A customer can receive multiple personalized quotes for different policy.

- **Customer Policy:** It represents customer with policies they purchase by specifying the purchase date and expiry date.

Each customer can purchase multiple policies, and each policy can be purchased by multiple customers.

- **Claim:** Claim table represent a customer request for insurance compensation which has attributes as claim_id, customer_id, policy_id, claim_status, claim_amount and submission_date.
- **Claim Processing:** Tracks the claim's status, assigned agent and notes which has processing_id, claim_id, assigned_agent and processing_status.

- Agent: Agent table represent managing customer policies and sales. The agent has an agent_id, name and contact_info.
- Agent Sales: Link agents with policies that sold to customers with sale_date and commission.

An agent can sell multiple policies, and a customer can buy multiple policies through different agents.

- Payment: Tracks customer payments for the policies that they bought which has payment_id, customer_id, policy_id, amount and payment date.

Payment can be made by customers for specific policies.

- Travel Platform: It represents platform that collaborate with the insurance company to sell policies to their own users which includes platform_id and name.
- Partnership: Captures the partnership between travel platforms and insurance policies which has commission and date.

A platform can have multiple policies in partnership with the insurance company.

- High Risk coverage: It represent additional coverage for high risk customers who travels to high-risk areas which includes coverage_id, risk_type and coverage_amount.

High risk coverage is linked with insurance policies.

- Country Offers: Specific country that covers the insurance mostly which include discount and special_terms.

Provide insurance to specific countries.

Cardinality and Relationships:

- Customer to policy: Many to many relationships through CustomerPolicy table, as a customer have multiple policies, and each policy can be bought multiple customers.
- Customer to Personalized Quote: one to many, a customer can get multiple quotes.
- Customer to Claim: one to many, since a customer can claim multiple claims.
- Agent to customer policy: Many to many relationships through AgentSales where agents can sell multiple policies to many customers.
- Agent to ClaimProcessing: One to many as agents can process multiple claims.
- Policy to Claim: One to many, since policy can have multiple claims.

Business Requirements & Coverage:

- Risk Level: Each customer may have different risk level policy that can impact the premium and the coverage details provided.
- Claim Status: Claims need to pass through different stages such as submitted, under review and resolved. Design needs to track and update the status.
- Agent Commission: Agents should earn commission based on the policies they are selling. Commission should be tracked for each sale.
- Specific Country Policies: Some policies may offer different type of policy and premium depending on the location and safety.

Unsupported Business Requirements:

- The current design does not support real time claim processing or claim adjusting.
- The current system also not support dynamic pricing model for the customers based on their data.
- The current database design uses static risk_level to customers and policies but not supporting real time risk calculations.
- The current database does not handle policy cancellation or any sort of refund policy.

EER Diagram and UML Diagram:





