**AI Agent Project Proposal**

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**1. What is the AI Agent you are building?**

**Agent Name:** TravelWise

**Primary Function:**  
TravelWise is an AI-powered tool designed for travel agents to streamline trip planning and booking for multiple customers. It optimizes travel arrangements (flights, hotels, tours and activities) while maximizing agent commissions.

**2. Why is this AI Agent necessary?**

Travel agents encounter a complex and demanding environment when striving to deliver seamless and efficient services. One of the most significant challenges lies in managing diverse customer requirements. Each customer brings unique preferences, budgets, and schedules, which require careful attention and customization. This complexity multiplies when handling group or multi-customer itineraries, as it involves synchronizing multiple schedules, coordinating shared accommodations or transportation, and addressing differing expectations within the group.

Moreover, tracking and leveraging commission opportunities across various providers adds another layer of difficulty. With numerous airlines, hotels, and tour operators offering constantly changing incentives and commission structures, agents must stay informed. Failing to identify or act on these opportunities not only impacts profitability but also diminishes the value agents can offer to their clients.

This landscape becomes even more challenging in today’s fast-paced market, where customers expect quick responses and tailored solutions. Without the right tools, agents often rely on manual processes, which are time-consuming, prone to errors, and inefficient. These inefficiencies can lead to overlooked details, missed opportunities for upselling or cross-selling, and reduced profitability.

Lastly, maintaining a high level of customer service is crucial but demanding. Agents must ensure that every booking, whether for a solo traveler or a large group, meets the customer’s expectations while staying within budget and accommodating specific preferences. When inefficiencies or errors occur, customer satisfaction suffers, which can result in lost clients, negative reviews and damage to an agent's reputation.

Together, these hurdles create a challenging environment where inefficiencies, lost revenue, and declining customer satisfaction undermine the success and growth of travel agencies. Addressing these pain points is critical to enabling agents to thrive in an increasingly competitive and dynamic industry.

TravelWise addresses these challenges by streamlining operations and automating key tasks. By intelligently managing diverse customer preferences, budgets, and schedules, the tool enables agents to create customized itineraries quickly and efficiently, even for large groups or multi-customer bookings. It integrates real-time data from various travel providers, ensuring agents are always up to date on the latest pricing, promotions and commission opportunities.

The tool automatically identifies the best commission structures and incentive opportunities, reducing the risk of missed revenue potential and ensuring agents maximize their earnings. By handling repetitive tasks such as flight searches and price comparisons, the agent saves valuable time, allowing agents to focus on higher-value activities like customer service and relationship building.

With personalized travel plans, real-time updates and error reduction, the tool enhances the overall customer experience, ensuring that each client’s needs are met efficiently and effectively. As a result, the agent boosts productivity, increases profitability and helps travel agents maintain high levels of customer satisfaction, ultimately leading to stronger client retention and business growth.

**3. What dataset(s) will you use?**

* **Travel APIs**: Sources like Booking, Google Flights and Tripadvisor for real-time flight, hotel, and activity data.
* **Commission Data**: Data from travel providers, highlighting commission rates (syntactic data).
* **Customer Profiles**: Input data on customer preferences, budgets, and past travel history (syntactic data).

**4. What tasks will the AI Agent perform?**

* Input Processing Phase - Accept, clean, and preprocess the raw input data (customer preferences, trip details, etc.) to create structured, actionable information.  
  What the agent does:

1. Extract key information from customer requests, including destinations, travel dates, budget, preferred activities, and special preferences (e.g., hotel amenities, flight class).
2. Clean and standardize the input, ensuring consistency across various sources, and convert raw data into structured formats such as JSON or database entries.

* Main Business Logic - Acts as the central decision-making unit that interprets structured inputs, applies travel-specific logic, and determines actions or outcomes for the system.  
  What the agent does:

**Micro Agents:**

* + Micro AI Agent 1 – Find Destination

What the agent does:

1. Evaluate customer inputs, such as budget, travel dates, and desired activities, while incorporating insights from previous bookings and feedback to establish a comprehensive profile of the customer's preferences.
2. Align the customer's preferences with seasonal travel trends, local events, and available deals to identify suitable destinations.
3. Compile a curated list of travel destinations that best match the customer’s profile, ensuring relevance, feasibility, and appeal.
   * Micro AI Agent 2 – Trip Matching

What the agent does:

* 1. Agentic RAG: Given a chosen destination, retrieve travel packages, flight schedules and hotel availability from multiple databases.
  2. Compare the customer’s preferences with available itineraries, ensuring compatibility in terms of cost, location and activities.
  3. Offer personalized trip suggestions and itineraries that include recommended accommodation, tours and activities based on the customer’s unique profile.
  + Micro AI Agent 3 – Commission Optimization

What the agent does:

1. Monitor various providers and track commission rates to find the most profitable combinations for the agent.
2. Prioritize premium services or high-demand providers, adjusting for higher commissions, while also identifying opportunities for more flexible, budget-friendly options for lower-demand roles.
3. Suggest commission-maximizing travel bundles or services.

* Output Phase - The final stage, transforming processed results into actionable, user-ready formats.  
  What the agent does:

1. Summarize Results: Present a selection of travel options, highlighting the best matches for the customer’s needs in a clear, easy-to-read format.
2. Trigger Actions: Automatically send booking details to customers for review.

* General Support Tasks - Handle different data management tasks such as database management, API interactions and error handling to support the agent's goals.  
  What the agent does:

1. Database Management: Organize and update travel provider databases with the latest flight, hotel, and activity information, ensuring data is current and accurate.

* Performance Monitoring and Improvement - Evaluate and enhance the performance of the AI agent by tracking output quality, detecting inefficiencies and incorporating feedback for continuous improvement.  
  What the agent does:

1. Monitor system output: Continuously evaluate the quality of generated itineraries, booking recommendations and commission optimizations to ensure they meet the desired objectives.
2. Detect issues: Identify any inefficiencies, such as mismatches between customer preferences and suggested itineraries or missed commission opportunities.
3. Iterative Refinement: Use feedback from agents and customers to refine the logic behind travel suggestions, improve commission recommendations and ensure a higher level of customer satisfaction.

**5. Provide a high-level diagram of your AI Agent and its interactions.**

*(Attach a diagram using tools like Figma, Canva, or a hand-drawn sketch showing the following components:)*