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APP: KASANGGA

A dual-purpose platform for motorcycle booking and service provider hiring.

Problem Overview:

In the Philippines, urban residents face distinct challenges in their daily lives that reflect the country's unique socioeconomic and infrastructural realities. Metro Manila and other major Philippine cities suffer from severe traffic congestion, ranking among the worst globally, with commuters spending an average of 257 hours annually in traffic (JICA-NEDA, 2023). Motorcycle taxis have emerged as a vital transportation alternative, navigating through gridlocked streets where larger vehicles cannot. However, they operate in a complex regulatory environment with varying levels of formalization (Guillen & Ishida, 2021).

Simultaneously, Filipino households regularly require assistance with home services, but finding reliable, skilled workers remains challenging. The informal nature of many service providers (karpintero, tubero, elektrisista, pintor) creates trust issues, pricing inconsistencies, and scheduling difficulties (Barros & Sicat, 2023). A recent study by the Philippine Statistics Authority (2024) indicates that 72% of urban Filipino households hire informal service providers at least twice monthly, with 65% reporting dissatisfaction with finding and vetting these workers.

Currently, these needs are addressed by fragmented solutions—motorcycle taxi apps like Angkas operate separately from service provider platforms like Gawain or MyKuya, forcing Filipinos to juggle multiple applications with different interfaces and payment systems (Medina & Morales, 2022). Switching between apps is particularly burdensome given the variable internet connectivity across the country, where even urban areas experience connectivity issues during peak usage times or inclement weather (DICT, 2023).

Furthermore, in a country where the average Filipino carefully monitors household expenses due to economic pressures, the lack of integrated expense tracking across transport and services represents a missed opportunity for comprehensive financial management (Kahneman & Tversky, 2020). The "Bayanihan" spirit (communal unity and cooperation) that characterizes Filipino culture suggests a natural affinity for a platform that connects community needs with local service providers.

Kasangga ("partner" in Filipino) aims to create a seamless platform that addresses these uniquely Filipino challenges through an intuitive interface that reflects local values and needs. By streamlining the process of booking motorcycle taxis and hiring service providers while offering comprehensive expense tracking, the application responds directly to the daily struggles faced by urban Filipinos (Nielsen & Budiu, 2022).

Description of the Important Characteristics of the Users

Target Users:

- **Urban Commuters**: People who rely on motorcycle taxis for daily transportation in congested urban areas where this mode is prevalent and advantageous (Guillen & Ishida, 2021).
- **Household Managers**: Individuals responsible for maintaining homes and arranging for repair services, cleaning, and other household maintenance tasks (Barros & Sicat, 2023).
- **Budget-Conscious Consumers**: Users who carefully track expenses across categories and seek value in both transportation and service hiring (Kahneman & Tversky, 2020).
- **Time-Constrained Professionals**: People with limited time who value convenience and efficiency in addressing both transportation and home service needs (Saez & Rodriguez, 2024).
- **Service Providers**: Plumbers, electricians, carpenters, painters, cleaners and other skilled workers who need an organized platform to connect with clients (Arcilla & Santos, 2022).
- **Motorcycle Taxi Drivers**: Individuals who provide transportation services and may benefit from a steady stream of customers through a dedicated app (De Leon & Perez, 2021).

Characteristics of the Tasks Performed by Users

For Motorcycle Taxi and Service Hiring Users:

- **Location/Service Specification**: Users specify pickup and drop-off locations (for motorcycle taxis) or describe the problem/task needing attention (for service hiring).
- **Provider Selection**: Users can choose drivers/service providers based on ratings, proximity/availability, and price.
- **Fare/Price Review and Agreement**: Users check estimated fares (for motorcycle taxis) or agree on pricing (for service hiring) before confirming.
- **Real-time Tracking/Appointment Monitoring**: Users monitor the progress of their ride in real-time (for motorcycle taxis) or track/manage scheduled appointments (for service hiring).
- **Rating and Feedback**: Users provide feedback after completing rides or services.
- **History Access/Management**: Users review past rides for reference or expense reporting, and access records of past services for future reference.
- **Account Management**: Users manage and create profiles with personal information.
- **Payment Processing**: Users link payment methods and complete transactions.
- **Expense Tracking**: Users monitor spending across both transportation and services.
- **Communication**: Users message drivers or service providers for clarification.

For All Users:

- **Account Management**: Users create and manage profiles with personal information.
- **Payment Processing**: Users link payment methods and complete transactions.
- **Expense Tracking**: Users monitor spending across both transportation and services.
- **Communication**: Users message drivers or service providers for clarification.

Characteristics of the Task Environment

- **Mobile-First Interaction**: Users primarily access the app through smartphones, necessitating a responsive design optimized for smaller screens (Shneiderman et al., 2023).
- **Home-Based Service Planning**: Service hiring may occur in more relaxed settings where users can take time to input detailed requirements (Dix et al., 2024).
- **Time Sensitivity**: Transportation booking is typically urgent and time-sensitive, while service hiring may be planned further in advance (Rogers et al., 2021).
- **Dual-Purpose Navigation**: The interface must allow intuitive switching between transportation and service hiring modes (Cooper et al., 2022).

Structured Task Analysis

Open App and Select Mode:

- User opens the application and chooses either "Taxi" for motorcycle transport or "Hire" for service providers.

Specify Needs:

- **If "Taxi":** Input or confirm current location (or select from saved locations). Input destination (or select from saved locations or map).
- **If "Hire":** Select service category (e.g., plumber, electrician). Input job description or select from common service types. Choose preferred date and time for the service.

Review Options:

- **If "Taxi":** Review estimated fare and available drivers displayed based on ratings, proximity, and price.
- **If "Hire":** Review available service providers with their ratings and pricing.

Confirm Booking/Selection:

- User confirms the motorcycle taxi booking or selects a specific service provider.
- For service hiring, confirm booking details and payment method.

Monitor Progress:

- **If "Taxi":** Track the driver's approach on the map in real-time. Receive a notification upon the driver's arrival.
- **If "Hire":** Receive booking confirmation and the service provider's contact information. Optionally, track the provider's estimated arrival if integrated with a location-sharing feature (similar to the taxi service).

Completion:

- The motorcycle taxi ride is completed.
- The hired service is completed.

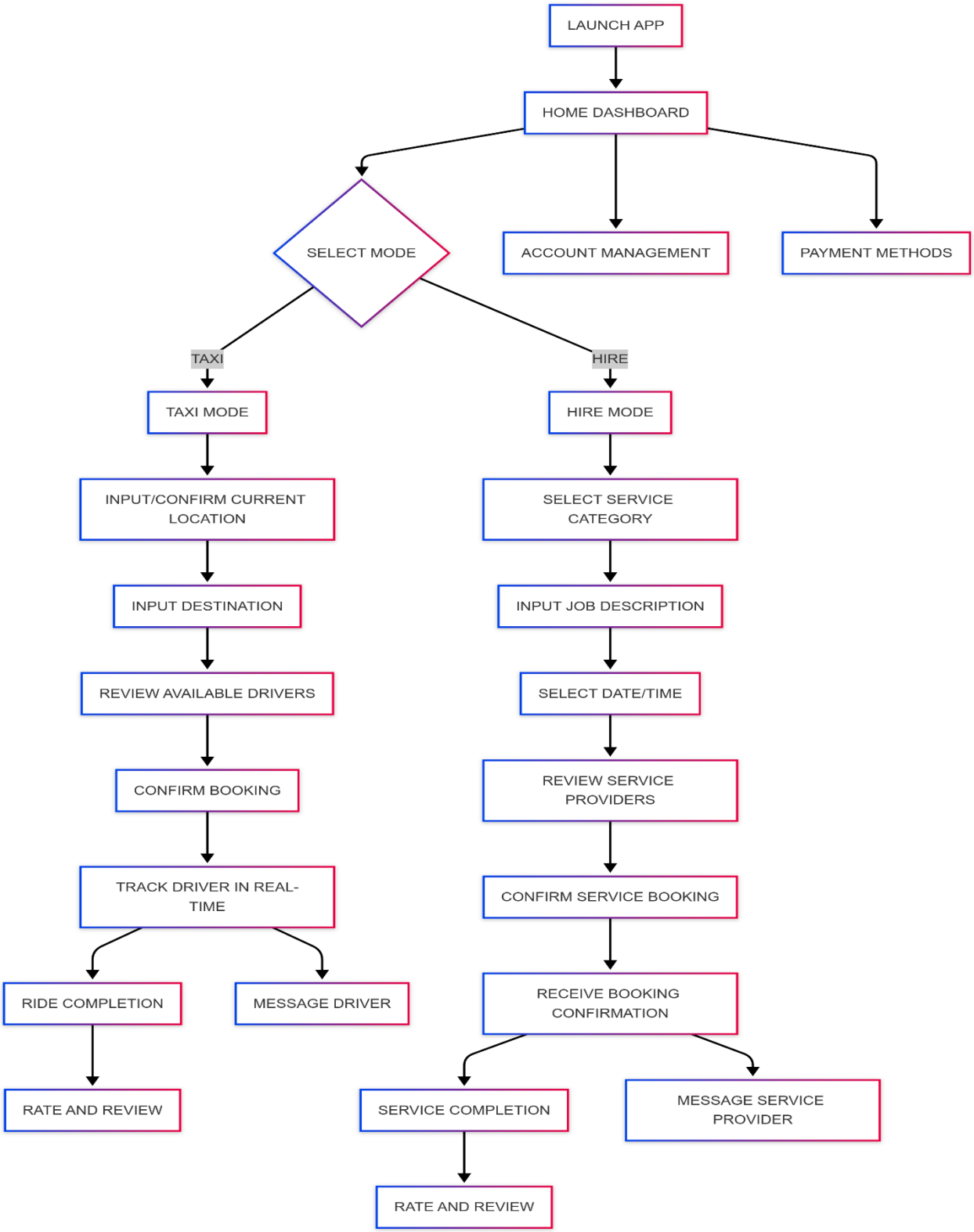
Feedback and Review:

- Rate the driver and the motorcycle taxi service.
- Rate the service provider and the quality of the hired service.

Expense Tracking:

- Review the expense entry for the completed ride or service within the budget tracker.

System Flowchart



Analysis of Existing Systems

Several existing applications address either motorcycle taxi booking or service provider hiring in the Philippine context, but few combine these functionalities:

Strengths:

- Efficient location-based matching of riders and drivers (Gonzales & Chan, 2023)
- Real-time tracking and ETA estimation (Chua & Lee, 2021)
- Rating mechanisms for quality control (Reyes et al., 2022)

Description of the Larger Social and Technical System

Kasangga will operate within the complex sociotechnical ecosystem of Philippine urban environments, requiring seamless functionality across different mobile platforms (iOS/Android) to serve the broadest possible user base. The application must navigate the existing regulatory frameworks governing both transportation and service provision sectors, which involves different licensing requirements and operational guidelines. Additionally, the platform may require strategic collaborations or permissions from other service providers and transit systems for effective data sharing and integration. These partnerships will be crucial for creating a comprehensive solution that addresses the interconnected nature of transportation and home service needs in Filipino households. The application must also consider the cultural context of "Bayanihan" (community cooperation) that characterizes Philippine society, designing features that reinforce rather than replace these social values.

Usability Criteria and Measurement

Kasangga's usability will be evaluated through multiple criteria to ensure the application effectively meets user needs. Primary among these is efficiency—users should be able to quickly input information and view transportation fares or service rates with minimal steps required, streamlining daily interactions with the platform. The interface must demonstrate high learnability with clear labels and intuitive navigation that accommodates users across varying levels of technological proficiency. Performance metrics will focus on responsiveness, ensuring the app functions quickly even when users input transportation requests or service needs in real-time environments with variable connectivity. Error tolerance is essential, with users able to easily correct mistakes in fare entries, location inputs, or service specifications without frustration or data loss. User satisfaction will be systematically measured through in-app feedback mechanisms, while empirical testing will track task completion times for core functions like adding transportation requests or viewing expense summaries. Comprehensive usability testing with diverse user samples will identify pain points and improvement opportunities throughout the development cycle.

Discussion of Implications

The dual-purpose nature of Kasangga presents unique implications for user experience design that must be carefully addressed. Since many users will interact with the transportation component while commuting, the system should prioritize quick and easy data entry mechanisms that minimize typing or complex navigation sequences in potentially distracting environments. When booking motorcycle taxis, the interface must accommodate users standing, walking, or in crowded spaces. For the service provider component, the design should support more deliberate interaction patterns that allow users to provide

detailed service specifications while maintaining overall simplicity. The application must balance comprehensive functionality with streamlined user flows, recognizing that the convenience of an integrated platform must not come at the cost of usability in either primary function.

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