TRIPBOOK
Specifications Document

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July 20, 2023

Contents

Part. 1

Introduction

1: Project Name
TRIPBOOK

2: Project Initiator
Lado Saha

3: Project Reference(Work covered / Updates)
Project github repositories

4: Project Version
Version 2 (Tripbook 2.0) **Note:** The previous versions and protypes could be seen following the project reference.

1.1 Project context

This undertaking originated from a *sense of discontentment*. The dissatisfaction stemmed from the need to visit the bus station twice before commencing a journey: *once to secure a seat for an overnight trip and again for the departure*. The frustration of engaging in seat disputes aboard buses was also a prominent issue.

A close acquaintance suggested the concept of developing an application where travelers could effortlessly reserve tickets at their convenience, regardless of the time or destination. Nevertheless, as we embarked on the project, we uncovered the potential to address numerous additional challenges. We made the decision to expand the original idea beyond a mere ticket booking platform and *transform it into a comprehensive service capable of managing an extensive network of messaging services, travel agencies, and millions of ticket purchasers.*

1.2 Our Aim:

Our aim is to create a platform where travelers (referred to as "bookers") could not only search for their ideal tickets, but also book them without constraints of time and space. Regardless of when or where they desired to travel, there would

always be an agency available to facilitate their journey. Tripbook now had a grander objective: to become an expansive network connecting bookers, tourists, and travel agencies worldwide, ensuring safe and efficient transportation of people and goods.

With our ambitious vision already taking shape, we decided to ground it in reality by executing this thrilling project. Our initial step involved developing an Android app, followed by an iOS version and a web-based platform. Subsequently, we recognized the necessity of creating our own customized map tailored to our specific requirements. And thus, we find ourselves on the path to materialize our groundbreaking idea. This dream must transcend into actuality, not only for the aforementioned reasons but also to contribute to the advancement and digital transformation of our homeland, Cameroon.

1.3   Objectifs:

The objectives of a Tripbook are diverse, aiming to improve various aspects of the agency's operations and customer experience. Here are some potential objectives:

- Streamline operations: The project may aim to automate and streamline various processes within the travel agency, such as reservation management, payment processing, itinerary creation, and customer communication. By implementing efficient systems, the objective is to increase operational efficiency, reduce manual errors, and enhance overall productivity.

- Enhance customer experience: The project can focus on improving the customer experience throughout the booking and travel process. This includes providing user-friendly interfaces for easy reservation, personalized recommendations based on customer preferences, timely communication and updates, and efficient customer support. The goal is to create a seamless and satisfying experience for travelers.

- Increase accessibility and convenience: The objective may be to provide travelers with convenient access to a wide range of travel services and options through the application. This includes enabling online bookings, flexible search and filtering capabilities, real-time availability information, and secure online payment options. The aim is to make travel planning and booking more accessible and convenient for customers.

- Expand market reach: The project may have an objective to expand the agency's market reach by leveraging digital channels and technology. This can include targeting international customers, establishing partnerships with other travel agencies or service providers, and integrating with global distribution systems. The aim is to attract a broader customer base and tap into new market segments.

- Improve operational decision-making: The project can focus on providing data analytics and reporting capabilities to assist in making informed operational decisions. This may involve generating insights on customer preferences, booking trends, revenue analysis, and performance metrics. The objective is to enable the agency to make data-driven decisions and optimize its business strategies.

- Foster business growth and profitability: Ultimately, the project may aim to drive business growth and increase profitability for the travel agency. This can be achieved through improved operational efficiency, enhanced customer satisfaction leading to repeat business and positive word-of-mouth, expansion into new markets, and effective revenue management strategies. The specific objectives may vary depending on the goals and priorities of the travel agency. It is important to align the project objectives with the agency's overall business strategy and vision for growth and success.

Even though we do all these things, we are free for to use by the agencies and bookers. In fact, our source of income is just taking 0.02% of all transactions.

1.4   Project's Scope range(Perimeter) :

Tripbook 2.0 is geographically limited to the National territory including all main towns and villages as shown on our *TripMap*. Our project will permit customers to search and book for travel trips easily from those proposed by the Travel Agencies. Bookers will also have the ability to mail goods and others through the mailing services provided by Agencies. For now, Tripbook 1.0 (Version 1) is limited to:

- Providing a platform for agencies to create digital agencies backed by the physical ones.

- This platform should permit agencies to setup trips and their prices, stations across the country, buses, personnel for each stations, managers for each stations, receive payments from bookers directly into their bank accounts, Schedule departure times, communicate directly with bookers, monitor the state of each bus (is it full or not), scan tickets etc

- As for bookers after (not necessarily) they can create an account search for trips and filter them for the best agency, select the number of seats, select departure date and schedule, vip or not, digitally pay the seats and receive scanable virtual tickets which can be confirmed at departure at the closest station. Also, bookers can share and trade tickets with others, get employed by agencies and create their own agencies from the comfort of their home. Free trips are not excluded for loyal bookers.

Part. 2

Functional and Technical Aspects

2.1 Functional Aspects

The functional aspects Tripbook can include the following:

1. <u>Reservation management</u>: The application should allow users to search, book, and manage their reservations for flights, hotels, car rentals, tours, etc. It should provide a user-friendly interface to facilitate the reservation process.

2. <u>Customer management</u>: The application should enable the management of customer information, including profiles, preferences, travel histories, payment preferences, etc. This facilitates personalized offers and services based on customer needs and preferences.

3. <u>Pricing and availability management</u>: The application needs to handle real-time pricing and availability for various services offered by the travel agency. This includes synchronization with service providers to display the latest rates and ensure availability of travel options.

4. <u>Payment management</u>: The application should integrate secure payment features to enable customers to make online payments for their bookings. It should support various payment methods, such as credit cards, bank transfers, e-wallets, etc.

5. <u>Itinerary and travel management</u>: The application should allow users to create, modify, and manage their travel itineraries, including flights, accommodations, activities, transfers, etc. It may also provide information on tourist attractions, restaurants, local transportation services, etc.

6. <u>Promotion and special offers management</u>: The application can offer features for managing promotions and special offers to attract customers and drive bookings. This may include displaying discounted rates, special packages, promotional codes, etc.

7. <u>Review and rating management</u>: The application may allow customers to leave feedback, ratings, and reviews for the services they have used. This can help future customers make informed decisions and enable the travel agency to gather insights for service improvements.

8. <u>Reporting and analytics</u>: The application can provide reporting and analytics features to allow the travel agency to track performance, analyze market trends, measure customer satisfaction, etc.

These functional aspects may vary based on the specific needs of each travel agency and the desired features for the application. Thorough analysis of requirements is essential to define the key functionalities to be implemented.

2.2   Technical Aspects:

When developing an application to manage a travel agency, there can be several technical constraints to consider. Here are some common constraints:

1. Integration with existing systems: If the travel agency already has systems in place, it may be necessary to integrate the application with these existing systems. This can involve setting up connections and interfaces to enable data exchange between the application and other systems.

2. Data security: A travel agency handles sensitive information such as customer details, reservations, payments, etc. It is essential to implement strong security measures to protect this data against unauthorized access and cyberattacks.

3. Connectivity and availability: The application should be designed to work reliably, even in environments with limited or unstable internet connectivity. It may be necessary to implement data synchronization and offline operation mechanisms to ensure a seamless user experience.

4. Reservation and availability management: The application must be able to efficiently handle real-time reservations and account for the availability of hotels, flights, trains, etc. This requires integration with service providers and accurate management of availability data.

5. User-friendly interface: The application should provide a user-friendly and intuitive interface, both for travel agency employees and customers. It is important to design a pleasant user experience that facilitates booking, travel management, and finding relevant information.

6. Scalability: The application should be designed to handle a growing volume of data and users as the travel agency expands. It is important to plan for a scalable architecture and suitable infrastructure to meet future needs.

7. Payment integration: The application should support different payment methods and be integrated with secure payment systems to enable reliable online transactions.

8. Technical support and maintenance: Once the application is deployed, it is essential to provide effective technical support and regular maintenance to address any issues, perform updates, and enhance application features.

These technical constraints may vary depending on the specific requirements of each travel agency and the application being developed. Thorough planning and analysis are necessary to anticipate and overcome these challenges during application development.

Part.   3

Resources:

3.1   Human Resources:

- Android developers proficient in Kotlin, Jetpack compose. Click here for more information

- Database administrators proficient in PostgreSQL

- Web service administrators proficient in Typescript or Javascript

- Promotion committee to promote the app on social media like *Github, Facebook, Twitter, Youtube and Medium* (During the post development stages)

3.2 Technical resources:

- PCs for developers

- Internet access

- Android studio

- Project management software like trello

- Supabase server less services for hosting and authentications www.supabase.com

3.3 Deadline:

The time for each stage of this application development will be shared according to the level of importance and difficulty of the task. The deadline for Tripbook1.0 is programmed for 1st December 2023

The stages of development will go as thus:

- Training of the team in programming(Kotlin), payment systems, database management systems

- Development of Trip-map

- Development of the Payment Module

- Development of the Agency Management System

- Development of the Booking Module

- Testing and Deployment

- Advertissement

The full map is fully observed via a the folowing gantt chart:
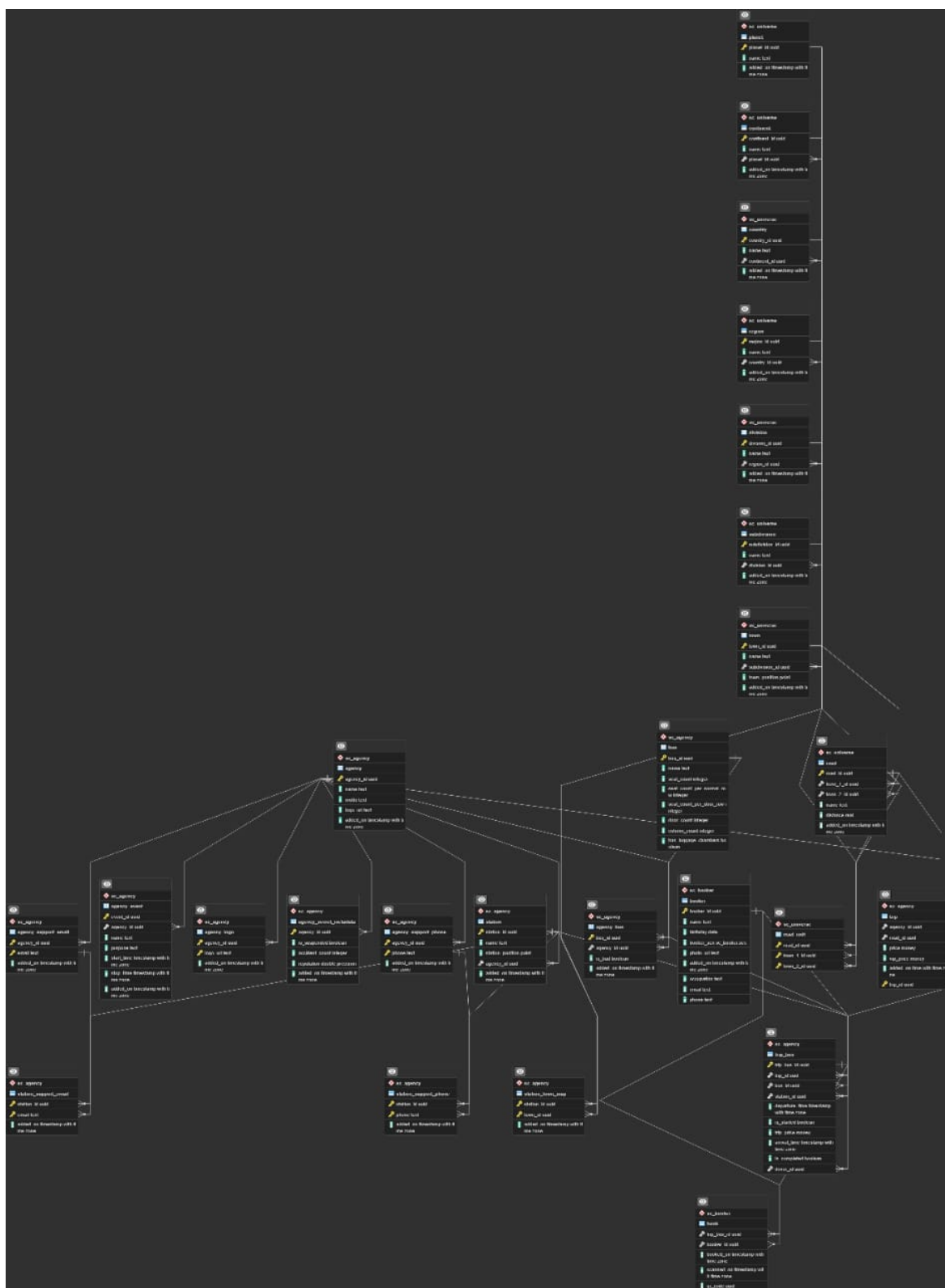
Part. 4

Budget

The costs associated with the development of this application are currently almost negligible, using a free hosting service, an IDE, and free tools. We choose these options to minimize expenses as much as possible.