FYP SRS Document

Final Year Project

Software Requirement Specification

For

XPK Application

BSCS

By

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1. Introduction

1.1 Purpose

The document will not only describe, as much as possible, the software requirements of Explore Pakistan (XPK), i.e., the mobile application of tourism for Pakistan. With this app, you can navigate cities based on your plan and how much time you have available. The project scope includes creating an intuitive platform and supporting features - like trip suggestions, location-based services, and social sharing options.

1.2 Document Conventions

● Headings are numbered for hierarchy.
● Bold text represents vital terms.
● Useful requirements are classified as REQ-1, REQ-2, and so forth.
● Relevant placeholder textual content is marked as TBD (To Be decided).

1.3 Intended Audience and Reading Suggestions

Intended Audience

1. **Developers**:
   ○ **Purpose**: To use this record as a reference for enforcing the practical and non-functional necessities of the project.
   ○ **Key Sections**: System Features, purposeful necessities, Non-functional requirements, and records flow Diagrams.
2. **Project Managers**:
   ○ **Purpose**: To use this document as a reference for implementing the functional and non-functional requirements of the project.
   ○ **Key Sections**: Mission Scope, overall Description, system features, and Assumptions and Dependencies.
3. **Testers**:
   ○ **Purpose**: To broaden test instances and make sure the system meets the required requirements.
   ○ **Key Sections**: Functional necessities, Non-practical necessities, and any described take a look at eventualities.
4. **End Users**:
   ○ **Purpose**: Understand the application and its behavior.
   ○ **Key Sections**: Device capabilities and Overview Sections.
5. **Documentation Writers**:
   ○ **Purpose**: To develop person guides or coaching materials primarily based on the capabilities and necessities specified on this record.

  - **Key Sections**: Requirements that matter, functions related to a device
6. **Stakeholders (Supervisors, Internal/External Evaluators)**:
   - **Purpose**: Evaluate whether or not the venture aligns with fundamentals of commercial enterprise targets, instructional necessities , and technical feasibility.

   - **Key Sections**: Overview, assignment extent & device character.

Reading Suggestions:

To negoiate this document effectively:

1. **Begin with the Introduction Section**:
   - Check out the assignment goals and typical description.
2. **Proceed to System Features**:
   - Learn the unique features of the application.
3. **Review Functional and Non-Functional Requirements**:
   - Those sections are of prime importance to developers and testers for proper implementation and validation
4. **Refer to Assumptions and Dependencies**:
   - Become aware of outside elements or boundaries impacting the project.
5. **Consult Appendices** (if included):
   - Use additional substances or references for in-intensity expertise.

1.4 Product Scope

Explore Pakistan (XPK) aims to:

- Offer an all-in-one platform(Android ,ios) for travelers to discover Pakistan.

- Offer tailor-made recommendations based on personal preferences, which include price range, experience duration, and area.

- Allow social interplay by permitting users to upload and percentage vlogs/blogs.

- Enhance personal experience through AI-powered trip planning and location-based services.

2. Overall Description

2.1 Product Perspective

The product is a **standalone mobile application** aimed at helping tourists plan and explore journeys inside Pakistan. It's far a new, **self-contained product** designed to provide customers with custom-designed trip plans based totally on their options, which include having time, budget, and preferred destination.

The application integrates the following components:

1. **Node.js Backend**:
    - Handles user authentication, authorization, and overall backend common sense.
    - Guarantees a comfy conversation between the consumer app and the database.
2. **MongoDB Database**:
    - It serves as the central repository for consumer statistics, ride plans, vlogs, blogs, and other application content.
3. **External APIs**:
    - **Google Maps API**: Geolocation and mapping offerings are provided to assist users in navigating vacationer spots and making plans for routes.
4. **User Interface**:
    - Built using Flutter for seamless go-platform overall performance, offering a user-friendly and intuitive experience.

System Overview:

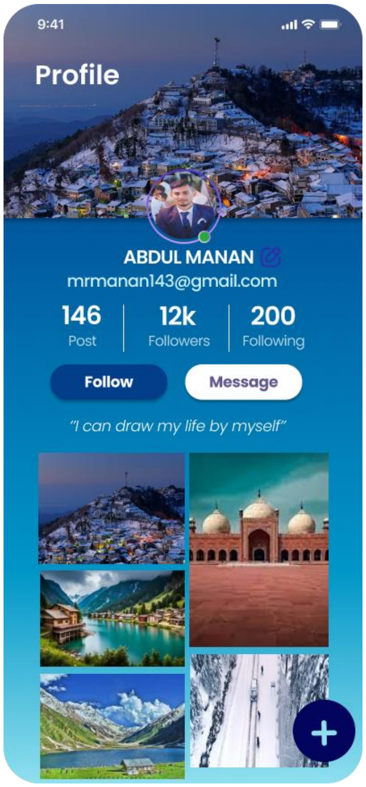
This mobile application operates as a self-contained device; however, it interacts with outside APIs and offerings. Beneath is a simple breakdown of its additives:

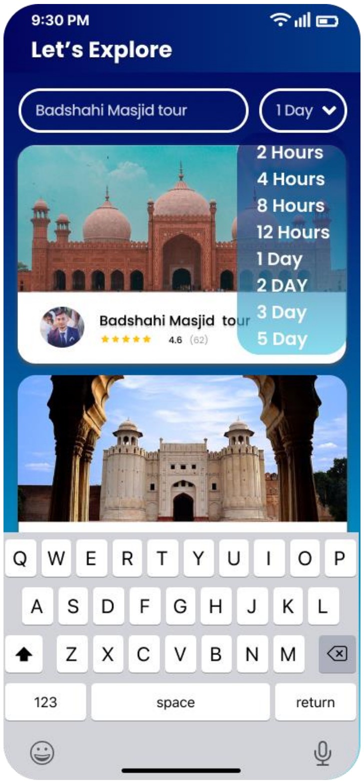
- **Frontend (Flutter) ↔ Backend (Node.js) ↔ Database (MongoDB)**
- **Frontend ↔ External APIs** (e.g., Google Maps API)

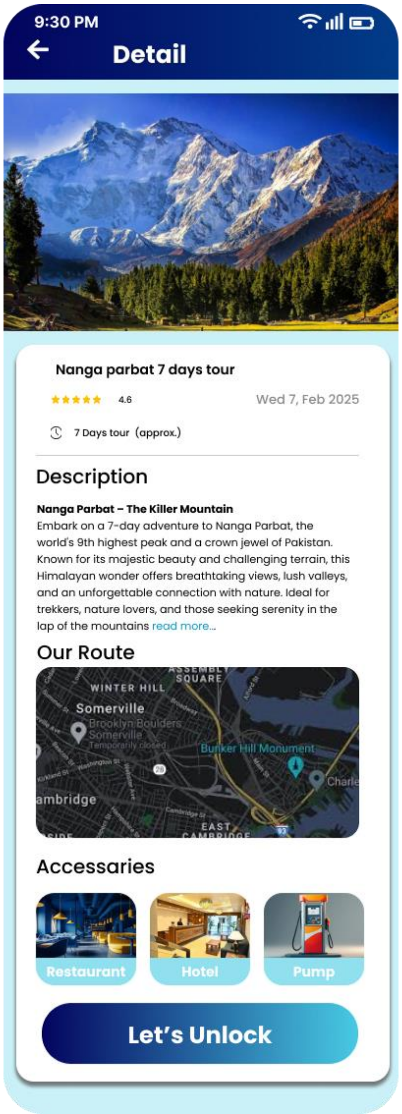
2.2 Product Functions

- Seek and examine traveler spots by means of the city.
- Plan journeys based on time and finances.
- Add vlogs/blogs with multimedia.
- View itineraries and nearby sights.
- Person authentication and profile control.

2.2.1 Prototype:







Nanga parbat 7 days tour

★★★★★ 4.6 Wed 7, Feb 2025

7 Days tour (approx.)

Description

Nanga Parbat – The Killer Mountain
Embark on a 7-day adventure to Nanga Parbat, the world's 9th highest peak and a crown jewel of Pakistan. Known for its majestic beauty and challenging terrain, this Himalayan wonder offers breathtaking views, lush valleys, and an unforgettable connection with nature. Ideal for trekkers, nature lovers, and those seeking serenity in the lap of the mountains read more...

2.3 User Classes and Characteristics

This tourism application caters to different user classes, which enables users to plan a personal trip, create content, and view vlogs and blogs. The following are the refined user classes with their characteristics:

1. Tourists

Description: Casual customers seeking tour recommendations, itinerary planning, and local information.

Key Features:

- The ability to create a personal profile that includes individual preferences, like preferred destinations, travel period, and budget.
- Plan a trip using the app based on available time (in hours or days).
- Get recommendations for restaurants, hotels, fuel pumps, tourist attractions, and emergency services after planning the trip.
- Search for a particular tourist destination, accommodation, or service.
- View recommended vlogs and blogs to discover the authentic experiences of other travelers.

2. Content Creators

Description: Users are enthusiastic about sharing their travel experiences in the form of vlogs and blogs.

Key Features:

- Can create and manage profiles showcasing their travel content.
- They can upload vlogs and blogs directly to the website with detailed descriptions of travel tips, costs, routes, and experiences.
- Like, comment, and share with their viewers about their content.
- They can monitor analytics for any content uploaded in terms of views, likes, and engagement rates.

3. Viewers

Description: People who view the vlogs and blogs to obtain inspiration and ideas for their own trips.

Key Features:

- People who view the vlogs and blogs to obtain inspiration and ideas for their trips.
- Browse and search for vlogs and blogs by destination, category, or user recommendation.
- Save favorite vlogs/blogs for later.
- Leave comments, likes, or ratings to give feedback.
- Share content with friends through social media or in-app sharing options.

4. Planners

Description: Users who rely extensively on the app for planning trips.

Key Features:

- Can input travel preferences such as budget, trip duration, and desired activities.
- Have access to personalized itineraries, including optimized routes and estimated costs.
- Obtain real-time updates concerning nearby attractions, traffic conditions, weather, and available services.
- Download or disseminate the finalized trip plan among companions.

5. Planners

- Advanced search andfiltering by keyword, location, rating,or category in regard to tourist places, restaurants, or blogs
- Push notifications that alert users to nearby attractions, deals, or updates on planned trips.
- Travel groups can be formed, discussions joined, or fellow travelers contacted
- Emergency Assistance section with the contact information for hospitals, police stations, and vehicle repair services.

2.4 Operating Environment

- **Mobile Platforms**: Android and iOS.
- **Backend**: Node.js with MongoDB.
- **APIs**: Google Maps, Firebase, and ZEGOCLOUD for verbal exchange.

2.5 Design and Implementation Constraints

Platform Guidelines:

- The utility must observe Google Play and App Store rules for deployment.

Backend and Database:

- **Development:** The backend will use **HTTP** with **Node.js** all through local improvement.

External APIs:

- Integration with **Google Maps API** must adhere to usage limits and reaction requirements.

Security:

- In manufacturing, the secure communication will use **HTTPS** and token-primarily based authentication (e.g., JWT).

Cross-Platform:

- The utility will aid each Android and iOS through **Flutter** for regular performance.

2.6 User Documentation

User documentation components will be provided with the tourism application to ensure smooth user onboarding, effective navigation, and resolution of common issues. These resources will cater to users of all levels and will be available in various accessible formats.

1. User Manual

Description: A comprehensive guide to help users understand the app's features and functionalities.

Contents:

- Step-by-step instructions for creating a profile.
- Guidance on uploading vlogs/blogs.
- Using the trip planning feature (e.g., entering timestamps, destinations, budget).
- Searching for tourist spots, accommodations, and services.
- Finalizing a trip and accessing nearby recommendations.
- Managing preferences and app settings.

Format: PDF, in-app interactive guide, and downloadable document from the official website.

2. In-App Tutorials

Description: Short, interactive tutorials to guide users through the app's core features during onboarding.

Contents:

- Introduction to the home screen and key navigation elements.
- Tutorials for posting vlogs/blogs and interacting with other users.
- Demonstration of the trip planning process with sample itineraries.

Format: Interactive pop-ups, videos, and tooltips within the app.

3. Frequently Asked Questions (FAQs)

Description: A collection of common questions and their answers to assist users in resolving issues quickly.

Contents:

- Account creation and login issues.
- Problems with uploading or viewing vlogs/blogs.
- Trip planning errors or unexpected results.
- How to contact support for further assistance.

Format: Available as a searchable section within the app and on the website.

4. Troubleshooting Guide

Description: A dedicated section to help users identify and resolve technical or functional issues.

Contents:

- Common app errors and how to fix them (e.g., connectivity issues, failed uploads).
- Tips for optimizing app performance on different devices.
- Steps to update the app or report bugs.

Format: Integrated in the FAQs section and downloadable as a PDF.

5. Video Tutorials

Description: Visual guides to assist users in mastering app functionalities.

Contents:

- How-to videos for navigating the app, uploading content, and planning trips.
- Tips for using advanced features like recommendations for nearby places.
- Community-focused videos showcasing top vlogs/blogs or user stories.

Format: Embedded in the app, hosted on platforms like YouTube, and linked on the app's website.

6. Support Contact Information

Description: Detailed information on how users can reach out for further help or report critical issues.

Contents:

- Support email, phone number, and in-app chat support link.
- Links to submit feedback or suggestions.

Format: Available in the "Help & Support" section of the app.

Delivery Formats

- Mobile-friendly documents accessible within the app.
- Downloadable PDFs and video links hosted on the official app website.
- Offline access to the user manual and FAQs after installation.

This documentation will ensure that users have all the necessary resources to utilize the app efficiently and resolve any challenges independently.

2.7 Assumptions and Dependencies

Assumptions:

- Users can have a stable net connection.
- Necessary permissions (e.g., region access) may be granted through users.

Dependencies:

- **Google Maps API**: Center features like navigation and close-by searches depend on Google Maps. Superior services, which include region seek via name and unique vicinity data, require paid plans starting at $5, consistent with 1000 requests for locations API.

- **Node.js Backend**: Used for authentication and records dealing with calls for a server, with web hosting costs varying from $5 to $20 in keeping with monthly reliance on usage; however, first of all, we are able to paint with localhost.
- **Mobile Platforms**: Deployment depends on Android and iOS platform guidelines, with developer account prices of $25 (one-time) for Google Play and $ ninety-nine/12 months for the Apple App shop.

3. External Interface Requirements

3.1 User Interfaces

- Intuitive and responsive UI/UX.
- Monitors for ride-making planning, profile control, and vlog/blog uploads and many others.

3.2 Hardware Interfaces

- Smartphones with minimum 2GB RAM and GPS.
- laptop for development minimum 256 SSD 12 RAM

3.3 Software Interfaces

- **Google Maps API**: For region offerings.
- **Node js**: For backend offerings.
- **MongoDB:** Data storage
- **ZEGOCLOUD API**: For chat and video call functionalities.

3.4 Communications Interfaces

- Relaxed communication via HTTP.
- Real-time messaging

4. System Features

4.1 Trip Planning

Description and Priority:

Allow the user to plan a trip by time, budget, and personal preferences.
Priority: High.

Stimulus/Response Sequences:

- The user selects a city and gives preferences such as budget, length of the trip, and activities.
- The system processes the information and returns a list of recommended itineraries.
- The user confirms the trip, and the system gives the user information on restaurants, hotels, and fuel pumps in the area.

Functional Requirements:

- **REQ-1:** Support the entry of user preferences, including time, budget, and activities.
- **REQ-2:** Produce optimized itineraries based on user inputs.
- **REQ-3:** Provide key local services, such as hotels and restaurants, after the trip is finalized.
- **REQ-4:** Enable users to download or share the trip plan.

4.2 Content Creation (Vlogs/Blogs)

Description and Priority:

Enable users to upload vlogs and blogs to share their travel experiences.
Priority: High.

Stimulus/Response Sequences:

- The user goes to the upload section and uploads a vlog or blog.
- The system verifies the content for compliance with guidelines.
- The machine verifies the content for compliance with pointers.
- The content is uploaded and made to be had for different customers to view.

Functional Requirements:

- **REQ-1:** Permits customers to add motion pictures and textual content primarily based on blogs.
- **REQ-2:** Offer content moderation for uploaded vlogs/blogs.

- **REQ-3:** Allows users to edit or delete their uploaded content.

- **REQ-4:** Provide analytics for content views, likes, and engagement.

4.3 Search and Discovery

Description and Priority:

Allow the look for places of interest, accommodations, and services with the aid of area and options.
Priority: Medium.

Stimulus/Response Sequences:

- The user inputs search criteria (for example, town, type of vicinity, score).

- The system presents relevant effects in a prepared shape.

- The person clicks on the area, and the gadget returns extra data.

Functional Requirements:

- **REQ-1:** The device shall provide superior seek functionalities, which will provide filtering through place, category, and rankings.
- **REQ-2:** The system shall offer detailed facts, such as cope with, photographs, and evaluations.
- **REQ-3:** Permit users to bookmark places for later access.
- **REQ-4:** It offers customers the capability to seek results on social media or messaging apps.

4.4 Personalized Notifications

Description and Priority:

Notify the consumer of local points of interest, deals, and information based totally on the consumer's alternatives and region.
Priority: Medium.

Stimulus/Response Sequences:

- The machine video display units the user's place and possibilities.

- When the consumer is near an endorsed area, the gadget notifies them.

- The person clicks on the notification to view the info or take action.

Functional Requirements:

- **REQ-1:** location-primarily based notifications ought to be in real-time.
- **REQ-2:** Customers should be able to personalize their notification choices, such as kind and frequency.
- **REQ-3:** Alert the user of special offers, activities, or updates on stored journeys.
- **REQ-4:** Non-intrusive and smooth to brush aside.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

- Response time should be beneath 2 to 3 seconds for all operations.
- Help 1,000 concurrent users.

5.2 Safety Requirements

- Data backups every 24 hours.
- Compliance with GDPR for personal information.

5.3 Security Requirements

- Two- element authentication.
- End-to-end encryption for communications.

5.4 Software Quality Attributes

- **Usability**: Easy navigation and person-pleasant interface.
- **Reliability**: 99.9% uptime.
- **Maintainability**: Modular code for easy updates.

5.5 Business Rules

- Content material by AI in case of any irrelevant picture is sent through the user**(optional)**.
- **User roles and permissions:** Travelers, Content Creators, AI detected.

References

1. Google Maps API Documentation
Title: Google Maps API Documentation
Author: Google
Version: Latest (2025)
Date: 2025
Source: https://developers.google.com/maps/documentation

2. Firebase Documentation
Title: Firebase Documentation
Author: Google
Version: Latest (2025)
Date: 2025
Source: https://firebase.google.com/docs

3. ZEGOCLOUD API Documentation
Title: ZEGOCLOUD API Documentation
Author: ZEGOCLOUD
Version: Latest (2025)
Date: 2025
Source: https://www.zegocloud.com/documentation

4. Node.js Documentation
Title: Node.js Documentation
Author: OpenJS Foundation
Version: v20.7.0
Date: 2025
Source: https://nodejs.org/en/docs

5. MongoDB Documentation
Title: MongoDB Documentation
Author: MongoDB Inc.
Version: v6.0
Date: 2025
Source: https://www.mongodb.com/docs

6. User Interface Design Guidelines
Title: User Interface Design Guidelines for Tourism Applications
Author: Internal Design Team
Version: 1.0

Date: January 2025
Source: Internal Project Documentation

7. Vision and Scope Document
Title: Vision and Scope Document for XPK Tourism App
Author: XPK Project Team
Version: 1.0
Date: January 2025
Source: Internal Project Documentation

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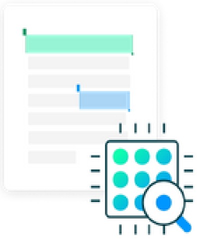

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XPK App

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8%	8%	3%	7%
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3	Submitted to University of East London Student Paper	1%
4	commons.emich.edu Internet Source	<1%

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