

Software Engineering

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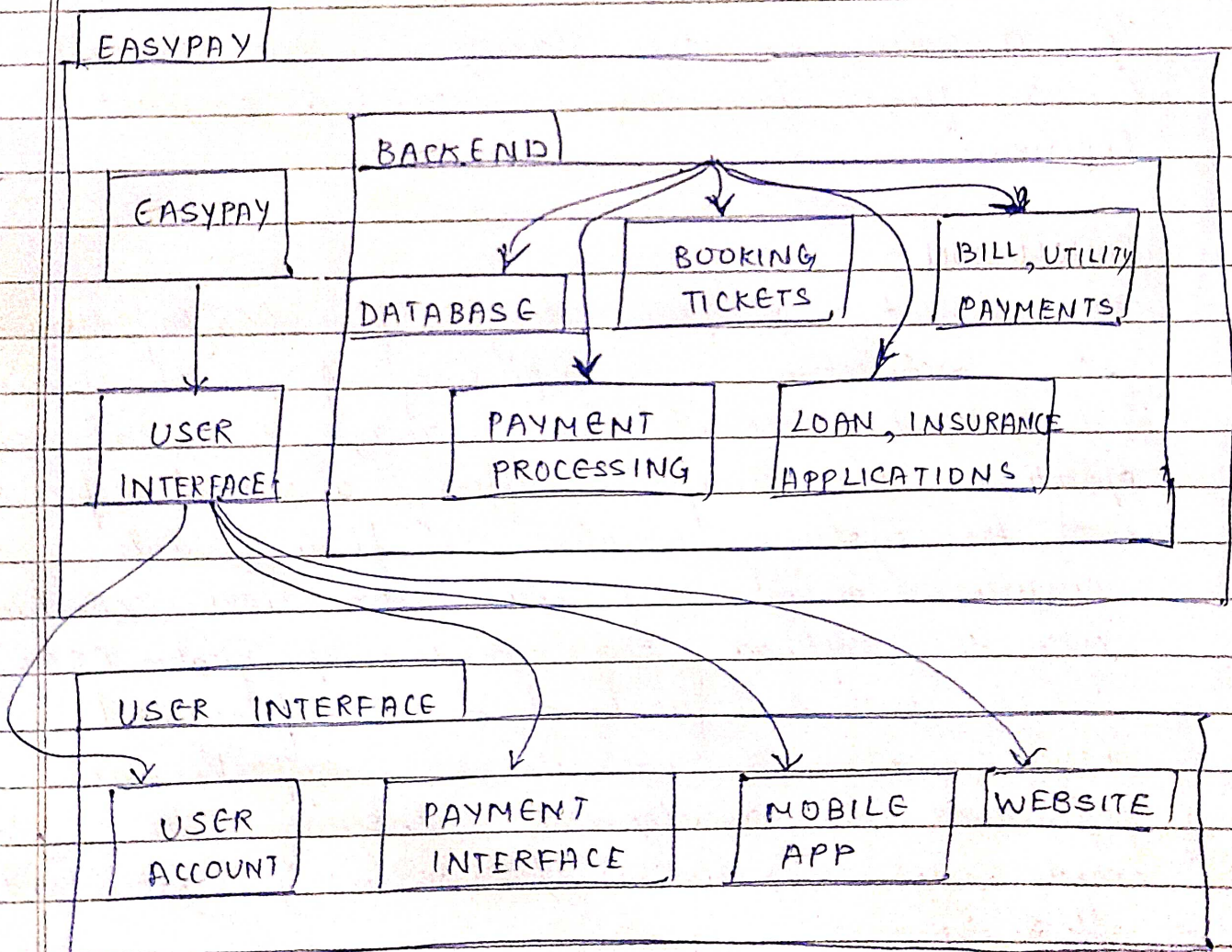
Div - C2 Batch - 1

Experiment no. 2

Aim :- To develop software requirement specification (SRS) document in IEEE format for the project.

Theory :-

PRODUCT PERSPECTIVE DIAGRAM :-



The product perspective diagram depicts EasyPay's architecture comprising of the frontend and backend components.

Front-end elements include the website, mobile app, booking tickets interface, payment interface, and user account management.

Back-end functionalities include authentication, payment processing, database management, ticket booking, loan & insurance applications & bill, utility payments.

The diagram provides clarity on user interaction & data flow facilitating a seamless payment experience.

CONCLUSION

The product perspective diagram for EasyPay delineates its architecture, encompassing front-end elements & backend elements that manage the database operations. The diagram offers a visual representation of the system's structure & flow of data, ensuring a seamless experience for users combined with the software requirements specification (SRS) which outlines functional & non-functional requirements, it provides a comprehensive framework for development ensuring the platform meets user expectations & industry standards effectively.

Software Requirements Specification

for

EasyPay-Payment Management System

Version 1.3

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1 Introduction

1.1 Document Purpose

The purpose of this document is to specify the requirements of the EasyPay Payment Management System. It outlines the functional and non-functional requirements of the system, covering services such as mobile recharge, UPI payments, ticket booking, insurance, and loan services.

EasyPay: Simplifying Your Financial Life

- Are you tired of the cumbersome process of managing your finances across multiple platforms? Say goodbye to the hassle and welcome EasyPay into your life. EasyPay isn't just another mobile application; it's your gateway to a seamless and secure financial ecosystem. Designed to simplify every aspect of your financial life, EasyPay serves as your one-stop solution for all your monetary needs.
- *Streamlining Everyday Transactions*
- With EasyPay at your fingertips, mundane tasks like mobile recharges and bill payments become effortless endeavors. No more switching between multiple apps or websites; EasyPay consolidates all your financial activities into one intuitive interface. Whether you're topping up your phone balance or settling utility bills, EasyPay ensures every transaction is quick, convenient, and secure.
- *Beyond the Basics*
- But EasyPay doesn't stop there. It's more than just a payment app – it's a comprehensive financial toolkit. Need to book movie tickets for the weekend? EasyPay has you covered. Looking to secure an insurance policy for peace of mind? EasyPay offers dedicated modules for insurance services too. And if you're thinking about investing in your future, EasyPay provides avenues for digital gold investments and more. With EasyPay, managing your financial portfolio has never been easier or more accessible.

Product Scope

EasyPay stands as an innovative, all-encompassing platform engineered to revolutionize the landscape of financial services, offering users unparalleled convenience and accessibility. It endeavors to redefine the way individuals interact with their finances, empowering them with seamless access to a myriad of essential services. With a vision to streamline and enhance financial transactions, EasyPay emerges as a beacon of efficiency and simplicity in an increasingly complex digital world. Unveiling the Spectrum of Services

At the core of EasyPay lies a comprehensive suite of services meticulously crafted to cater to the diverse needs of modern-day consumers. With a multifaceted approach, EasyPay endeavors to encompass every facet of financial management, ensuring users find solutions to their varied requirements under one roof.

1. Mobile Recharges:

Enabling swift and hassle-free mobile recharges, EasyPay allows users to effortlessly top up their prepaid accounts with just a few taps. Whether it's a quick



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refill for personal use or managing multiple accounts, EasyPay ensures users stay connected at all times.

2. Bill Payments:

Beyond mobile recharges, EasyPay extends its utility to cover a wide range of bill payments, including electricity, water, gas, and more. With intuitive interfaces and seamless integrations, users can settle their bills conveniently from the comfort of their homes.

3. Peer-to-Peer Transactions (UPI Payments):

Facilitating instantaneous money transfers between individuals, EasyPay harnesses the power of Unified Payments Interface (UPI) to enable swift peer-to-peer transactions. Users can transfer funds securely with just a few clicks, eliminating the need for cumbersome banking processes.

4. Ticket Bookings:

Say goodbye to long queues and tedious booking processes with EasyPay's intuitive ticket booking feature. Whether it's flights, trains, buses, or events, users can effortlessly browse, book, and manage their tickets with ease.

5. Insurance Services:

EasyPay serves as a gateway to comprehensive insurance solutions, offering users access to a diverse array of insurance products tailored to their needs. From health and travel insurance to vehicle and property coverage, EasyPay ensures users are protected against life's uncertainties.

6. Loan Facilities:

Empowering users with financial flexibility, EasyPay facilitates seamless loan applications, simplifying the borrowing process for individuals and businesses alike. With transparent terms and efficient processing, users can access the funds they need to achieve their goals.

7. Digital Gold Investments:

In addition to traditional financial services, EasyPay opens doors to digital gold investments, allowing users to diversify their portfolios and safeguard their wealth against market fluctuations. With EasyPay, investing in gold has never been easier or more accessible. Revolutionizing Financial Management:

Through its holistic approach and commitment to innovation, EasyPay emerges as a transformative force in the realm of financial management. By consolidating a plethora of services into a single platform, EasyPay empowers users to take control of their finances like never before. With its user-centric design, robust security measures, and unparalleled convenience, EasyPay sets new standards for excellence in the financial services industry, ushering in a new era of seamless transactions and financial empowerment.

1.2 Intended Audience and Document Overview

This document is intended for developers, project managers, and stakeholders involved in the development of the EasyPay system. It provides an overview of the system's requirements, including functional and non-functional aspects, to guide the development process.



1.3 Document Conventions

This document follows the IEEE formatting requirements. Arial font size 11 or 12 is used throughout the document for text. Document text is single-spaced with 1" margins.

1.4 References and Acknowledgments

IEEE Guide for Software Requirements Specification (IEEE Std 830-1998)



2 Overall Description

2.1 Product Perspective

The EasyPay Payment Management System is a standalone application that integrates with external systems such as banks, insurance companies, and utility providers. It serves as a centralized platform for users to access various financial services.

2.2 Product Functionality

EasyPay offers the following functionalities:

- Mobile recharge service
- UPI payment service
- Ticket booking service
- Insurance purchasing service
- Loan application service

Embark on a journey of financial empowerment with EasyPay, where convenience meets innovation. EasyPay transcends the boundaries of traditional payment platforms, offering a plethora of functionalities designed to revolutionize the way you manage your finances. Dive into a world of endless possibilities as EasyPay opens doors to a range of cutting-edge services, all seamlessly integrated into one intuitive platform.

2.2.1.1 Mobile Recharge Service

Say goodbye to the days of hunting for recharge vendors or navigating through cumbersome USSD menus. With EasyPay's mobile recharge service, topping up your phone balance is as easy as a few taps on your smartphone. Whether it's a quick refill for yourself or a thoughtful gesture for a loved one, EasyPay ensures that staying connected is always a breeze.

2.2.1.2 UPI Payment Service

Gone are the days of lengthy bank transfers and cumbersome payment processes. With EasyPay's UPI payment service, sending and receiving money becomes a seamless experience. Whether you're splitting bills with friends or making payments to merchants, EasyPay empowers you to transact effortlessly, all with just a few clicks.

2.2.1.3 Ticket Booking Service

From movie nights to travel adventures, EasyPay's ticket booking service puts the world at your fingertips. Skip the long queues and tedious booking processes as EasyPay allows you to browse, book, and manage tickets for a variety of events and modes of transportation, all from the comfort of your home.

2.2.1.4 Insurance Purchasing Service

Protecting what matters most has never been easier with EasyPay's insurance purchasing service. Explore a range of insurance options tailored to your needs, from health and travel insurance to vehicle and property coverage. With EasyPay, safeguarding your future is just a few clicks away.



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2.2.1.5 Loan Application Service

Dream big and achieve your goals with EasyPay's loan application service. Whether you're looking to fund your education, start a business, or make a major purchase, EasyPay simplifies the borrowing process. With transparent terms and efficient processing, EasyPay empowers you to turn your aspirations into reality.

2.3 Users and Characteristics

Users of EasyPay include:

- Regular users: Individuals who use the application for personal financial transactions.
- Merchants: Businesses that accept payments through the EasyPay platform.

At the heart of EasyPay lies a vibrant community of users, each contributing to the platform's rich tapestry of financial interactions. From everyday individuals seeking convenience in personal transactions to enterprising merchants propelling their businesses forward, EasyPay caters to a diverse array of users, each with their own unique needs and aspirations. Let's delve deeper into the multifaceted personas that comprise the EasyPay user base:

2.3.1.1 Regular Users: Pioneers of Personal Finance

Regular users form the cornerstone of the EasyPay ecosystem, navigating the platform with the finesse of seasoned adventurers exploring uncharted territories. These individuals rely on EasyPay as their trusted companion in the realm of personal finance, leveraging its intuitive features to manage their day-to-day transactions with unparalleled ease and efficiency. Whether it's topping up mobile balances, settling utility bills, or sending money to loved ones, regular users wield the power of EasyPay to navigate the complexities of modern financial landscapes with confidence and poise.

2.3.1.2 Merchants: Architects of Enterprise

For merchants, EasyPay transcends the boundaries of a mere payment platform, emerging as a beacon of opportunity in the vast sea of commerce. These enterprising visionaries harness the power of EasyPay to propel their businesses forward, offering customers seamless payment solutions and unlocking new avenues for growth and expansion. From small businesses to large enterprises, merchants leverage EasyPay's robust features and comprehensive support to streamline their operations and enhance their bottom line.

In the bustling ecosystem of EasyPay, users take center stage, each playing a unique role in shaping the platform's evolution and success. From regular users navigating the intricacies of personal finance to merchants charting new frontiers in commerce, EasyPay empowers individuals and businesses alike to realize their financial goals and aspirations. With its intuitive interface, robust features, and unwavering commitment to excellence, EasyPay stands as a testament to the power of innovation and collaboration in transforming the way we interact with money.



2.4 Operating Environment

EasyPay operates on various platforms including web, mobile, and desktop. It is compatible with operating systems such as Windows, iOS, and Android.

2.5 Design and Implementation Constraints

- Compatibility with existing banking systems
- Integration with third-party APIs for ticket booking and insurance services.

2.6 User Documentation

User documentation components include user manuals, on-line help, and tutorials provided with the software.

2.7 Assumptions and Dependencies

Assumptions:

- Users have access to internet connectivity for using EasyPay services.
- Third-party service providers maintain their APIs for integration.



3 Specific Requirements

3.1 External Interface Requirements

3.1.1 User Interfaces

- Easy-to-use interfaces for mobile, web, and desktop platforms.
- Standard buttons and functions for consistent user experience.

3.1.2 Hardware Interfaces

- Integration with standard hardware components such as cameras and GPS for authentication.

3.1.3 Software Interfaces

- Integration with banking systems for transaction processing.
- Integration with third-party APIs for ticket booking and insurance services.

3.1.4 Communications Interfaces

- Use of standard communication protocols such as HTTP and HTTPS for data transfer.
- Encryption of sensitive data during transmission.

3.2 Functional Requirements

Mobile Recharge Service

- Users should be able to select their mobile service provider and recharge their phones with specified amounts.
- The system should process recharge requests securely and provide confirmation to users.

UPI Payment Service

- Users should be able to initiate UPI payments to individuals and merchants.
- The system should facilitate secure transactions and provide real-time status updates.

Ticket Booking Service

- Users should be able to search for and book tickets for various modes of transportation.
- The system should provide real-time availability and pricing information.

Insurance Service



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- Users should be able to explore and purchase insurance policies within the application.
- The system should provide policy details and renewal options.

Loan Service

- Users should be able to apply for loans within the application.
- The system should facilitate loan approval processes and provide repayment details.

3.3 Behaviour Requirements

3.3.1 Use Case View

Use Case Diagram:



Actors:



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- Users
- Bank
- Insurance Company
- EasyPay Admin
- Loan Service Provider
- Ticket Service Provider
- Utility Provider
- Mobile Service Provider

4 Other Non-functional Requirements

4.1 Performance Requirements

- Transactions should be completed within 10 seconds.
- System should handle concurrent user requests efficiently.

4.2 Safety and Security Requirements

- User data should be encrypted during transmission and storage.
- Multi-factor authentication should be implemented for sensitive operations.

4.3 Software Quality Attributes

- System should be reliable with minimal downtime.
- User interface should be intuitive and user-friendly.