SHOPBLOCK

Affordable, Convenient, and Community-Driven Shopping – Made for You!

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1 Introduction

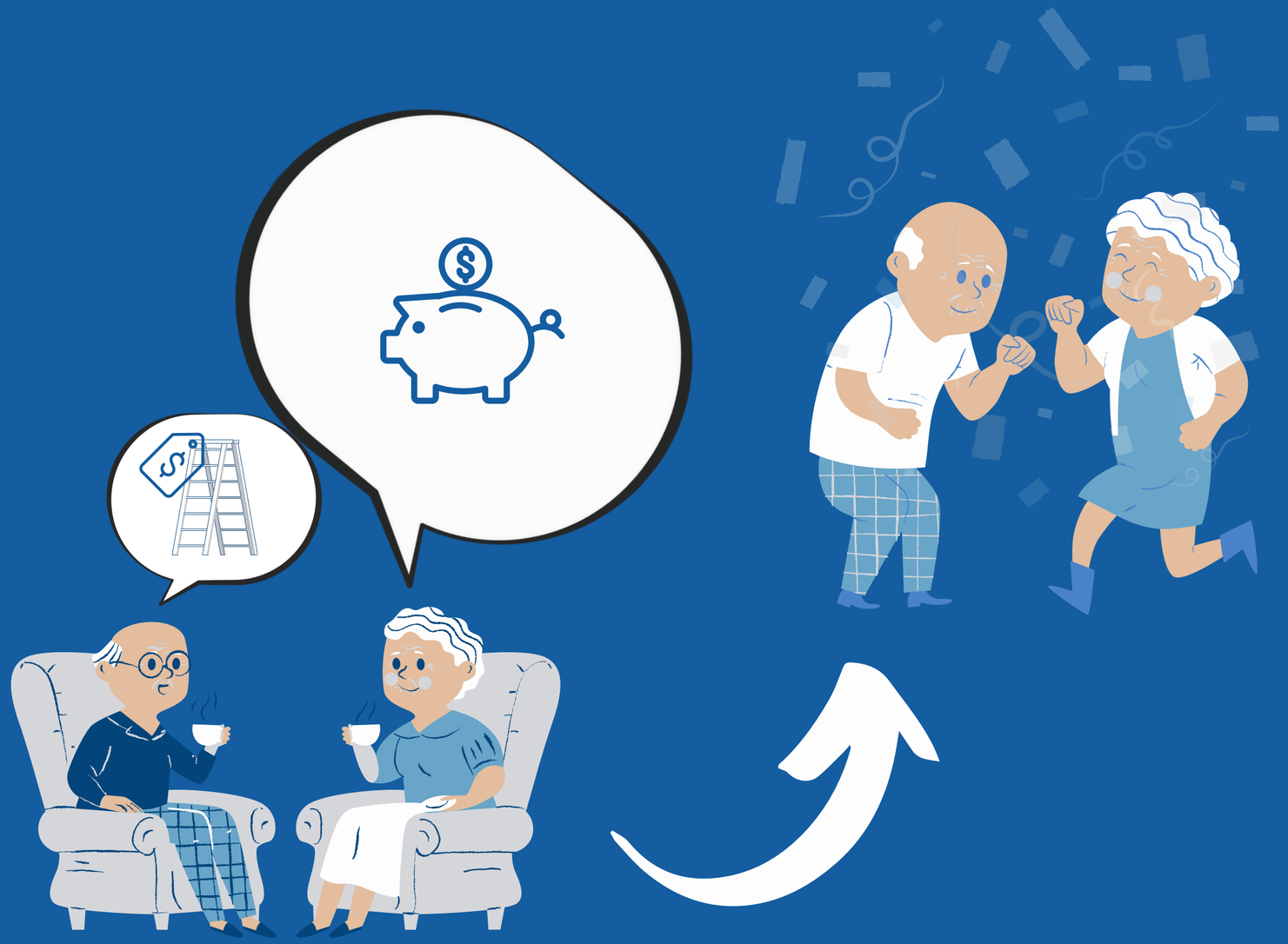
- 1.1 Problem Statement
- 1.2 Case Studies
- 1.3 Smart solution
- 1.4 Use Case Diagram
- 1.5 Key Features
- 1.6 External APIs
- 1.7 Quick Demo

Problem statement 1.1

- **High upfront** costs prevent low-income families from accessing essential items and services.
- Coordinating rentals and services is inconvenient, leading to **wasted time and effort**.
- **Limited storage space** at home makes it challenging for consumers to keep bulky items like power tools or camping gear that are only used occasionally.

Case Studies

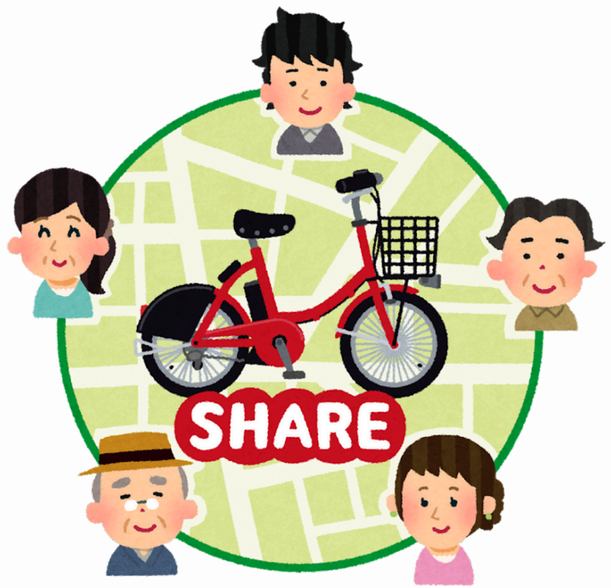
1.2



What if we could **borrow** instead of buy, making everyday essentials more **accessible** while **reducing waste** for everyone?

Smart Solution

1.3

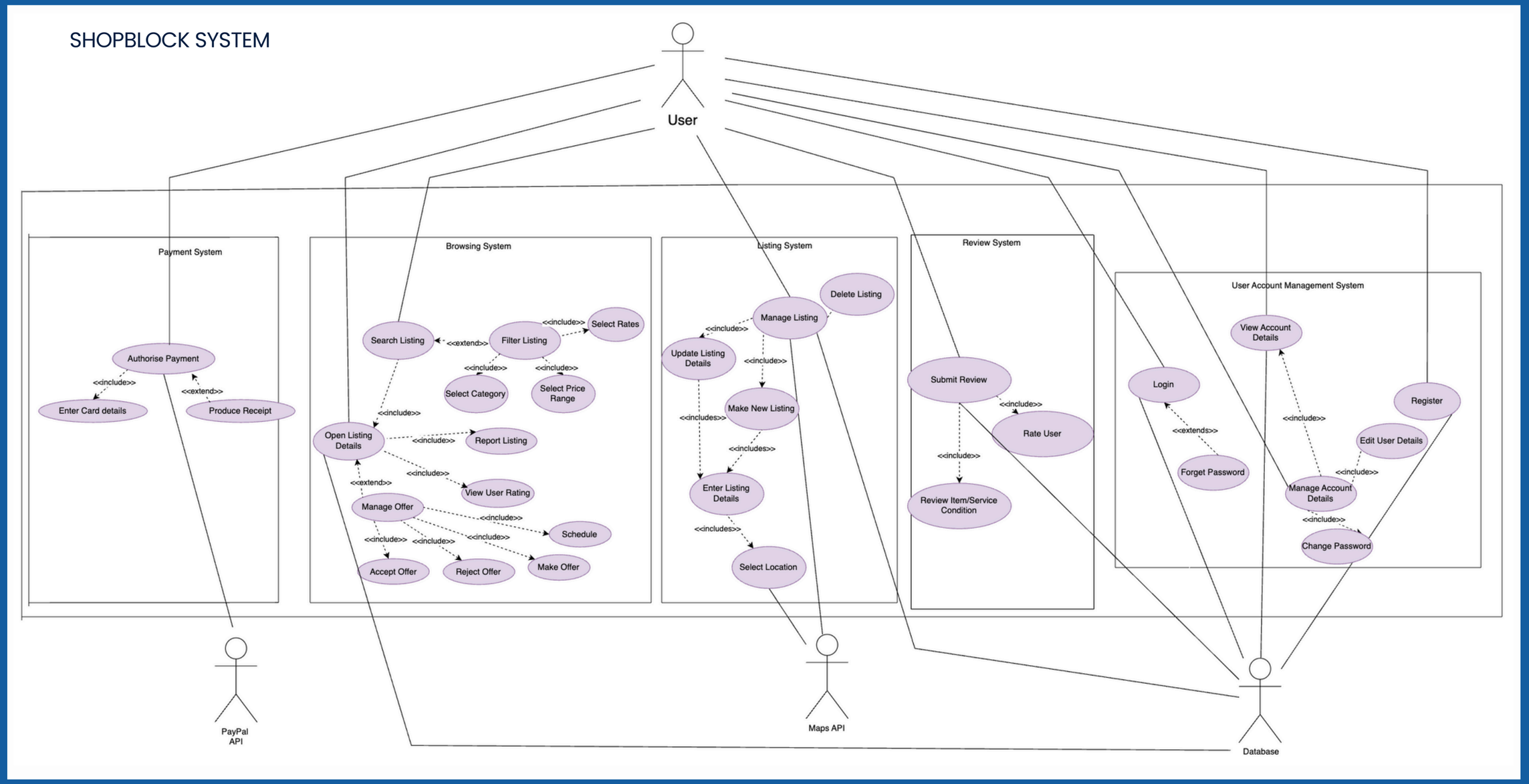


Shopblock is a **community-powered** platform that makes essential items and services more affordable and accessible. It helps families overcome **high upfront costs**, solves **storage limitations** by offering rentals for bulky items used occasionally, and eliminates the hassle of coordinating rentals and services.

With Shopblock, users can rent what they need, when they need it, **saving money**, **time**, and **space**. This approach promotes efficient resource use for everyone

Use Case Diagram

1.4



Keyfeatures

1.5

User Management

- User Authentication
- Account Management
- Secure Database

Browse/Filter/Search

- Filter Options
- Search Functionality
- Category Navigation

Listing

- Item Listings
- Location-Based Posts
- Photos & Pricing

Keyfeatures

1.5

Offers

- Offer Management
- Transaction history

Payment

- PayPal Integration
- Secure Transactions
- Card Payments

Review

- User Reviews
- Rating System

External Api

1.6

One Map API

One Map API – Allows users to view the location of their products or services, providing accurate geolocation data and map visualization to make it easier for users to find items and services nearby.

PayPal API

PayPal API – Provides secure transactions and seamless payment processing, it gives users flexibility and confidence in making or receiving payments through the SHOPBLOCK platform.

Quick Demo!

1.7

Demonstration of the various usage scenarios by the different end-users.

2 Software Engineering Practices and Design Patterns

2.1 Tech Stack

2.2 Documentation & Good Coding Practices

2.3 Reusability & Readability

2.4 SCRUM

Tech Stack

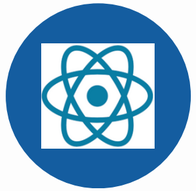
2.1

Front End

JavaScript

Material UI

React



CSS

Back End

Python

Django

Open API

Documentation

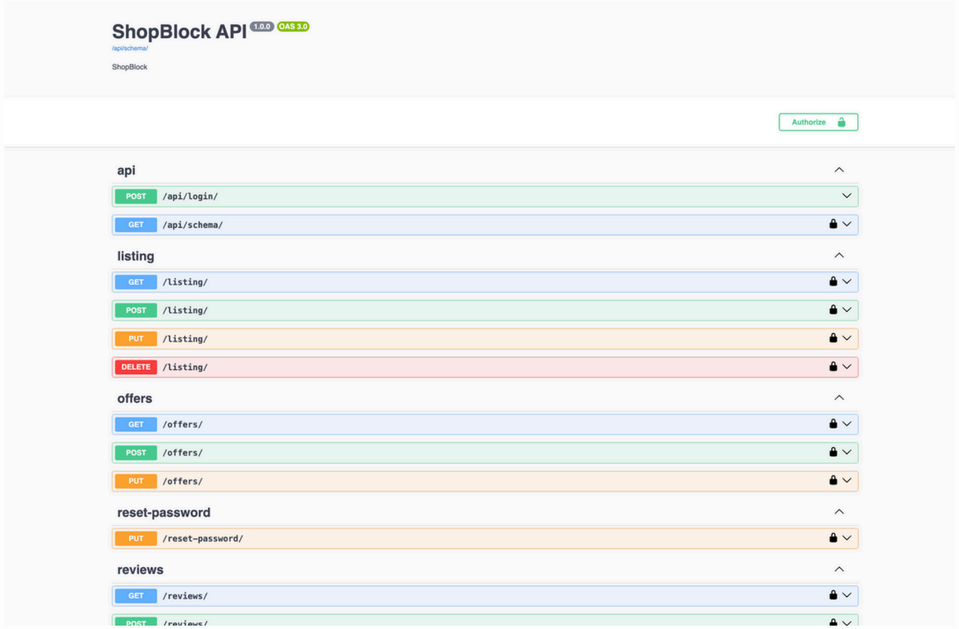
2.2

README

README provides an easy reference guide for future developers, promoting long-term consistency and supporting efficient development.

Backend

Swagger UI fosters collaboration between front-end and back-end teams by providing an interactive interface to explore, test, and understand API endpoints, ensuring clear communication and a smoother development process.



Good Coding Practices

2.2

Modular System Design

Modular design enables independent development, testing, and debugging, allowing new features to be added easily without overhauling the entire system.

Version Control (Git)

Enables efficient collaboration, minimizes conflicts, tracks changes, and supports continuous integration for smooth feature deployment.

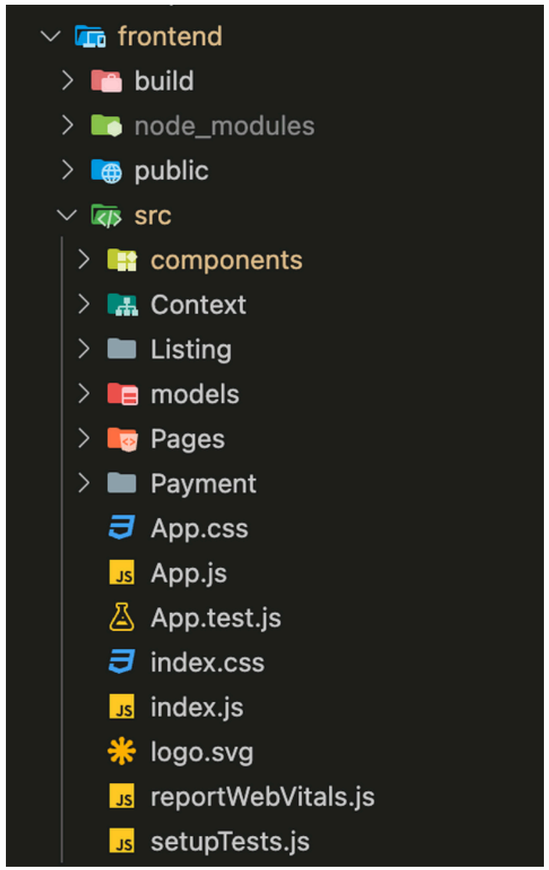
Test-Driven Development (TDD)

Improves code quality by catching bugs early and allows enhancements while safeguarding existing functionality with tests.

Clear Use Case Definition

Defines feature behavior, covers all scenarios (including edge cases), and helps assess the impact of new features.

Reusabilty & Readability 2.3



FrontEnd

Reusability: Components can be reused across multiple pages, reducing redundancy and ensuring consistency.

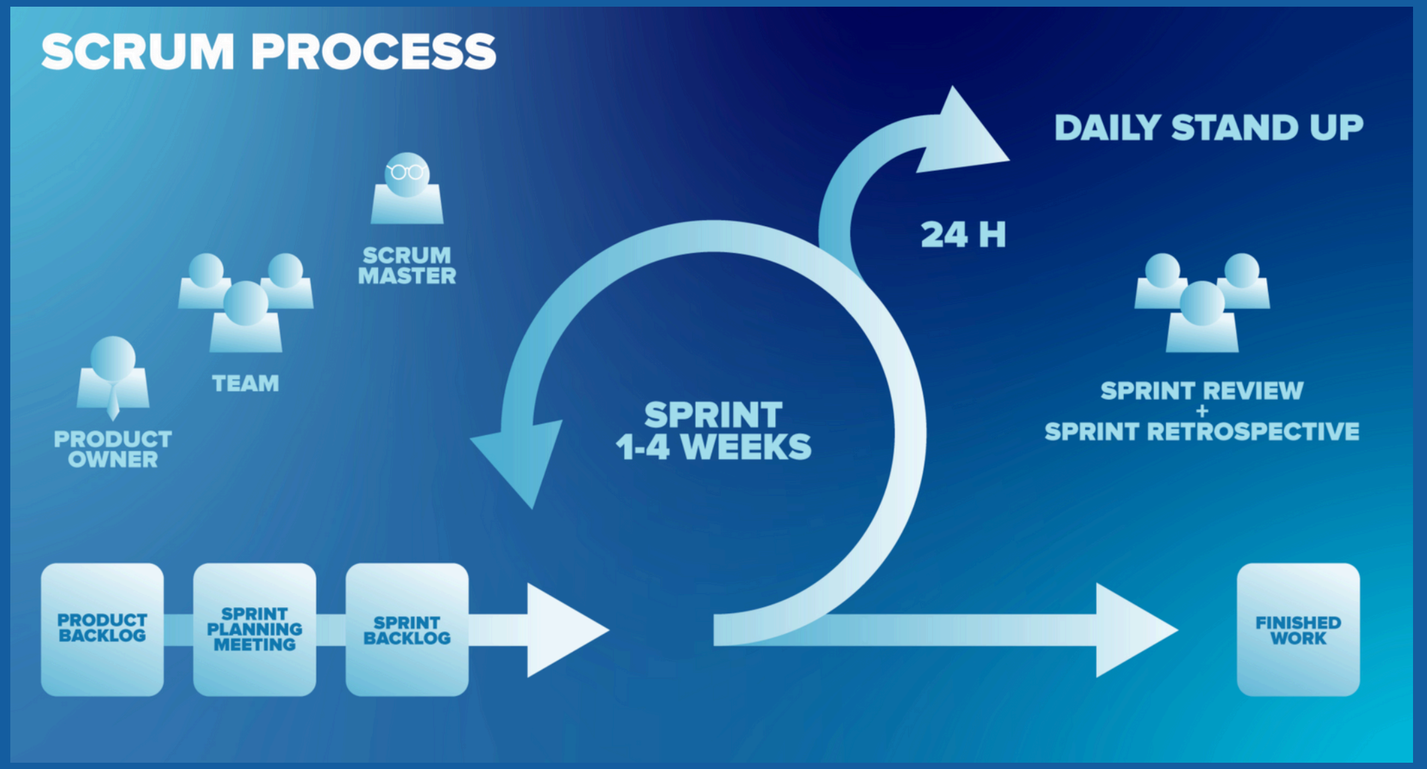
Readability: Separating components and pages improves code organization, making it easier to understand and navigate.

Maintainability: Changes to a component affect all instances, simplifying updates and minimizing bugs.

Scalability: The modular structure allows the project to grow easily by adding new components or pages without disrupting existing code.

SCRUM

2.4



The Scrum Process

The team used the Scrum process to enhance collaboration by organizing work into **sprints** with clear goals. We held planning meetings to assign tasks and daily stand-ups to track progress and address challenges.

3 System Design

2.1 Architecture Diagram

2.2 Documentation & Good Coding Practices

2.3 Reusability & Readability

2.4 SCRUM

Thank **You**