



SARVAJANIK COLLEGE OF ENGINEERING AND TECHNOLOGY
COMPUTER ENGINEERING DEPARTMENT



B. Tech. IV, CO, SEM - VIII, DIV - I
(Term : EVEN - 2025 - 26)

Internship Presentation
on
“MERN Stack Internship”

Subject Name : Internship (BTCO16804)

Prepared and Presented by
Krishna Kankotiya (Enrollment No. : ET22BTCO051)

Guided by
Prof. (Dr.) Purvi Tandel

Details of Company/Industry

- Name : Opash Software
- Address : 129, The Galleria Shopping Hub, Nr. Sanjeev Kumar Auditorium, Pal, Adajan, Surat
- Web-site : <https://www.opashsoftware.com/>
- Industry mentor's Details :
 - Name : Swapnil Raval
 - Contact number : +91 6359012471
 - E-mail : sra.opash@gmail.com

Company Profile

- Software Development Company based in Surat, India
- Provides Custom Software Solutions
- Works with Modern Tech Stack
- Serves Startups and Enterprise Clients
- Expertise in Web, Mobile & Custom Application Development
- Focused on Scalable, Secure & Client-Oriented Solutions
- Delivered Projects Across Multiple Business Domains



Presentation Outline

- Week 1 – JavaScript & TypeScript
- Week 2 – TypeScript + HTML + CSS
- Week 3 – Advanced TypeScript
- Week 4 – Frontend Mini Project
- Week 5 – React + TypeScript Fundamentals
- Week 6 – State Management & UI Patterns
- Week 7 – Advanced React + TypeScript
- Week 8 – Testing, Deployment & Review

<https://drive.google.com/file/d/1rtlinualLOk8GfnP-5i5QVnfq0q0scij/view?usp=sharing>

Week 1 – JavaScript & TypeScript

- Internship Orientation & Understanding Development Roadmap
- Review some different websites for understanding
- Introduction to Full-Stack Workflow (Frontend–Backend Overview)
- Overview of MERN + TypeScript Architecture
- Understanding Industry Coding Standards & Best Practices
- JavaScript Fundamentals (Variables, Data Types, Functions, Arrays)
- Problem-Solving using Basic JavaScript Programs
- Introduction to TypeScript & Static Typing Concept
- Git & GitHub Workflow (Clone, Commit, Push)
- Created & Managed Repositories
- Uploaded JS & TS Assignments to Version Control

Week 2 – TypeScript + HTML + CSS

- TypeScript Types, Interfaces & Enums
- Strongly Typed Functions
- Type Aliases & Union Types
- TypeScript Functions & Enums
- HTML Structure & Semantic Tags
- Form Elements & Input Handling
- CSS Flexbox & Layout Structuring
- Responsive Design using Media Queries
- Mobile-First Design Approach
- Built Static Login Page
- Added TypeScript-Based Form Validation
- Improved Code Readability with Type Safety

[Implementation](#)

Week 3 – Advanced TypeScript

- DOM Manipulation using TypeScript
- Type-Safe Element Selection
- Dynamic Content Rendering
- Event Handling & Form Validation
- Preventing Default Form Behavior
- Async Programming (Promises, async/await)
- Error Handling with try/catch
- Fetch API Integration
- LocalStorage Data Persistence
- Data Retrieval on Page Reload
- Built Fully Functional To-Do App using TypeScript

[Implementation](#)

Week 4 – Frontend Mini Project

- Mini-project(skillswap) UI Setup
- Base UI layout
- Explore about some real word problems
- Implemented basic Operations
- Validation & Error Handling
- Refactored Code to Strict TypeScript
- loose JS to strict TS
- Project Review & Code Optimization

Week 5 – React + TypeScript Fund

- React + Vite + TypeScript Setup
- Functional Components & Props
- Functional components Typed props & Functional components
- useState & useEffect with Types
- API Integration
- React Router Setup
- Dashboard & Profile routes
- Built Typed Forms (Login & Signup)
- Client-side validation in React TS

[Implementation](#)

Week 6 – State Management & UI Patterns

- Context API with TypeScript
- Global Authentication State
- Error Boundaries Implementation
- Tables with Pagination
- Paginated data display
- Search & Filter Functionality ([Implementation](#))
- Filtered UI results
- Frontend mini project (Phase 1)
Skillswap - [Implementation](#)

Week 7 – Advanced React + TypeScript

- **Implemented Custom Hooks** for reusable logic (e.g., fetching services, managing wallet state)
- **Performance Optimization** using useMemo, useCallback, and minimizing re-renders
- Developed **Advanced Components**: Service Cards, Credit Wallet, Admin Dashboard elements
- **Code Refactoring & Strict Typing** for maintainable and error-free frontend
- Followed **Clean Code Principles**: modular components, proper folder structure, readable TypeScript
- Continued **Frontend Mini Project (Skill-Swap – Phase 2)s**
- Completed Dashboard & Marketplace functionality

Week 8 – Testing, Deployment & Review

- React Testing Basics
- Project Documentation (README)
- Deployment on Vercel
- Code Review & Assessment
- UI/UX Improvements
- Final Project Demonstration

Skillswap Project Overview

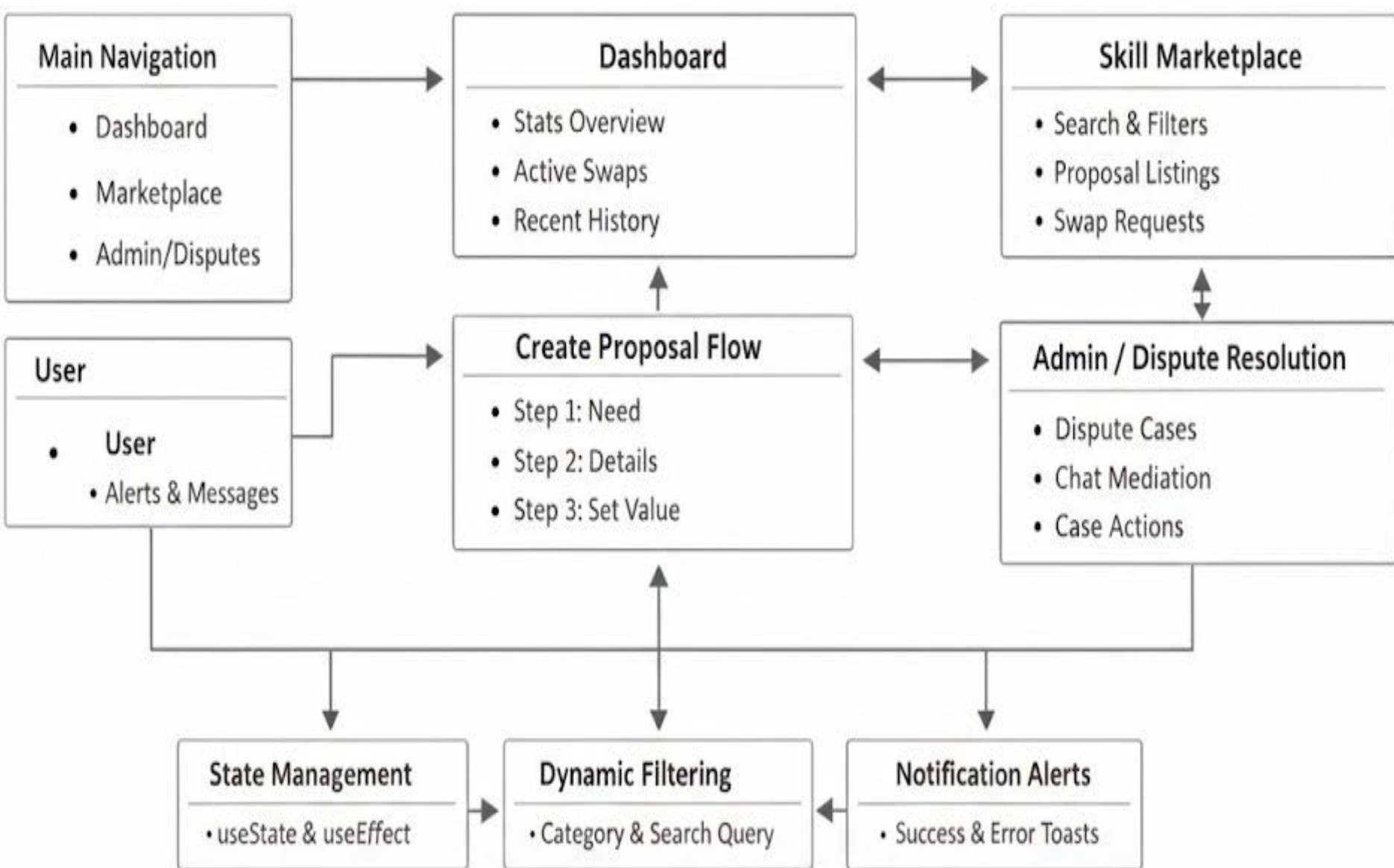
◆ Problem Statement

- Many freelancers and skilled individuals need services such as logo design, website development, content writing, or video editing.
- However, they may not always have sufficient funds to pay for these services.
- At the same time, they possess valuable skills that could benefit others.
- Traditional freelance platforms rely entirely on monetary transactions.
- There is no structured and secure system that allows direct skill-to-skill exchange.
- Lack of a fair value-exchange mechanism limits collaboration between skilled individuals.

◆ Proposed Solution

- A digital platform where users exchange services using **Time Credits** instead of money
- Introduces a time-based economy where value is measured by contribution, not currency
- Every skill is valued equally based on time invested
- **1 Hour of Any Skill = 1 Credit**
- Users can post service requests, accept offers, and complete tasks within the platform
- Credits are managed through a structured workflow to ensure fair exchange
- Enables transparent tracking of service status and credit usage
- Completely eliminates monetary dependency
- Promotes collaboration through fair, skill-based value exchange

SkillSwap Feature Map & Process Workflow




System Overview

[+ Create New Proposal](#)


Tracking your value-exchange metrics.

AVAILABLE



12.5h

IN ESCROW




3h

COMPLETED



12

RATING



4.9

Active Swaps

UI/UX Landing Page

With Sarah L. • Started 2 days ago

CONTRACT VALUE

2 Time Credits


DELIVERABLE

SEO Blog Post

ESCROWED

Mark as Complete


Recent History



Skill Transfer

from Provider


Completed recently



Skill Transfer

from Provider

Completed recently



Skill Transfer

from Provider

Completed recently

Skill Marketplace

Barter your expertise for high-value services.

🔍 Search skills or needs...

All

Design

Development

Marketing

Writing

Consulting

S

Logo Design DESIGN

Needs: [React Help](#)

★ 4.8 • Sarah L.

2h

TIME CREDIT

Swap Now ↔

J

Python Automation DEVELOPMENT

Needs: [Copywriting](#)

★ 4.9 • James K.

5h

TIME CREDIT

Swap Now ↔

E

Social Media Strategy MARKETING

Needs: [UI Design](#)

★ 4.5 • Elena V.

3h

TIME CREDIT

Swap Now ↔

M

Contract Review CONSULTING

Needs: [Logo Design](#)

★ 4.7 • Marcus T.

1h

TIME CREDIT

Swap Now ↔

Swap Credits

Barter your expertise for high-value services.

Logo

All

Design

Development

Marketing

Writing

Consulting

S

Logo Design **DESIGN**

Needs: [React Help](#)

★ 4.8 • Sarah L.

2h

TIME CREDIT

Swap Now ↔

Tracking your value-exchange metrics.

AVAILABLE



10.5h

IN ESCROW



5h

COMPLETED

12

🕒 Active Swaps

Logo Design

With Sarah L. • Started Just now

🔒 ESCROWED

CONTRACT VALUE

2 Time Credits

DELIVERABLE

React Help

🕒 Mark as Complete



Create New Proposal

PHASE 1 OF 3

Create a Barter

WHAT SERVICE DO YOU NEED?

Developer

Continue >

PHASE 2 OF 3

Create a Barter


SCOPE & DETAILS

Requirements...

Back Next

PHASE 3 OF 3

Create a Barter



Set Value

HOURS OF TIME TO LOCK IN ESCROW

Back Post to Market

Admin View

Conflict Resolution

Disputed

Case #8821

Video Editing Swap

2 messages

Disputed

Case #8822

Logo Design Contract

2 messages

Case Mediation #8821

VIDEO EDITING SWAP

Release

Refund

CLIENT

Provider did not meet quality standards.

PROVIDER

I followed the brief exactly.

Type a mediation message...



Conclusion

- Successfully completed **8 weeks of structured frontend training**, covering JavaScript, TypeScript, HTML, CSS, and React.
- Strengthened **fundamentals** and applied them in real-world scenarios.
- Built **scalable and modular frontend applications** using React + TypeScript.
- Developed the **Skill-Swap frontend** with role-based UI, dynamic service workflow, and credit system visualization.
- Enhanced **problem-solving, debugging, and UI/UX skills** through hands-on projects.
- Gained **practical experience** in designing clean, maintainable code and responsive interfaces.

References

- React Official Documentation - <https://react.dev>
- TypeScript Official Handbook - <https://www.typescriptlang.org/docs/>
- Node.js Documentation - <https://nodejs.org/en/docs>
- MDN Web Docs - <https://developer.mozilla.org>
- Stack Overflow - <https://stackoverflow.com>
- W3Schools - <https://www.w3schools.com>
- GeeksforGeeks - <https://www.geeksforgeeks.org>
- Medium - <https://medium.com>
- DEV Community - <https://dev.to>