

Save-buddy: A Secure Assisted Coupon & Purchase Mediation Platform

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Abstract—The advent of e commerce websites has made these types of discounts and promotions a common feature in online purchases, where digital discounts, promos, and card-based offers play a significant role in helping firms attract customers and increase their revenues. However, digital discount promotions are associated with issues, such as coupon abuse, coupon sharing, fraudulent redemptions, and restricted access to some coupons, because many coupon sites display codes and some high-value offers can only be unlocked using a certain kind of bank cards.

Some cashback sites try to close the gaps between discounts and their benefits by making their payments via commissions. At the same time, such methods may be associated with various delays and tracking issues, as well as complicated payment systems.

In this research, Save Buddy, a safe and effective website that helps unlock discounts in a controlled manner will be proposed. The site operates via payment gated unlocking of digital discounts and guided purchases of restricted offers.

The save buddy app does not give back cash rebates but rather ensures that there is safety and security in accessing the deals, eligibility verification and trusted mediation. This is because the app incorporates role-based access control, payment verification, hidden coupon revelation, buy request to cardholder acceptance model, know your customer (KYC) verification and customer mediation services. These components help minimize the incidence of fraud, coupon leakage, transaction transparency and trust issues among all other involved parties.

Additionally, this app minimizes the reliance of users on unreliable intermediaries as well as insecure coupons whenever they require using certain restricted coupons.

I. INTRODUCTION

Currently, online retail portals are greatly utilizing various kinds of promotions to lure in new customers as well as retaining their existing customers and generating more sales transactions. Nevertheless,

despite the benefits associated with such promotional strategies, there are numerous flaws inherent within the majority of the current discount schemes employed by e-commerce firms.

Some major issues include:

- Coupons being visible to everyone and easy to copy
- Bots or scripts trying many codes automatically
- Misuse of promotional campaigns
- Eligibility restrictions
- Strict eligibility rules that block many genuine users
- Fraudulent use of discounts
- No safe support system for non-eligible users

However, in reality, individuals usually receive enticing deals requiring a specific bank card or membership. If individuals do not have the required prerequisites, they might resort to insecure means, such as exchanging private information, relying on anonymous third parties, or trusting unreliable coupon websites.

Individuals get many good deals requiring a specific bank card or membership. In cases where they lack the eligibility criteria, individuals exchange their private information with an unknown party or rely on unreliable coupon sites, which is unsafe.

Also, businesses lose revenue due to coupon abuse, code dissemination in public forums, waste of marketing funds, and ineffective management of coupons. To minimize these problems, save buddy is introduced as a safe and organized platform that facilitates validated transactions and gives a secure medium for qualified individuals to assist other

individuals in accessing exclusive offers.

1.1 Background and Motivation

The digital coupon environment has developed rapidly, but it remains vulnerable to manipulation. Since the original methods were not intended for mass distribution over the Internet, various issues have emerged that have led to:

Legacy Practice	New Challenges
coupon codes	Cloning issues
Manual validation of coupons	Delayed procedures
Cashback programs	Payment conflicts
High restrictions	True consume are denied access

For these reasons, there is a pressing requirement for a mechanism that will center its attention on controlled exposure of coupons in addition to enhanced security and equity among all users.

1.2 Research Problem

Existing platforms lack the ability to effectively manage the release of coupon information. There is an absence of systems that can:

- Limiting coupons to transactions verified by the system
- Supporting tightly coupled transactions related to eligibility criteria
- Employing multiple roles within a workflow for different parties

1.3 Research Objectives

This study intends to:

- Provide payment-gated coupons
- Employ assisted eligibility mediation techniques
- Use RBAC for security enforcement
- Put in place fraud prevention measures
- Increase transaction transparency
- Make the platform more trustworthy

II. RELATED WORK AND LITERATURE CONTEXT

2.1 Coupon Distribution Platforms

These currently available platforms tend to concentrate only on aggregating deals rather than controls. Limitations identified in these platforms:

- Lack of disclosure restrictions
- Coupon scraping vulnerabilities
- Weak verification flows

Implication:

Need for conditional coupon exposure.

2.2 Cashback-Based Economic Models

The majority of currently available platforms attempt to lure consumers through cashbacks. Rather than making any reduction at the point of sale, they offer cash backs sometime afterward through affiliate commissions

Limitations associated with the platforms include:

- Extensive delays before reward
- Inconsistencies in tracking
- Dependence on third parties

Save-buddy Approach

Eliminates cashback → introduces direct deal unlocking economics.

2.3 Digital Trust and Platform Governance

These include:

- Identity validation
- Transaction verification
- The mediating function

Adoption:

Save-buddy includes Customer Care mediation service.

2.4 Access Control & Security Models

RBAC approaches have been well-known to add system integrity.

Application:

Role isolation prevents privilege misuse.

2.5 Behavioral Economics & Incentive Systems

System performance is boosted where:

- Tasks are clear
- Rewards are adequate
- There is fairness perception

III. SYSTEM DESIGN AND ARCHITECTURE

3.1 System Overview

Save-buddy incorporates two systems into its

structure:

A. Payment-Gated Coupon Unlocking System

Purpose:

- Prevent coupon leakage
- Preserve merchant value
- Ensure fair access

B. Assisted Purchase Mediation System

Purpose:

- Bridge eligibility gaps
- Ensure safe interactions
- Maintain transaction integrity

3.2 Stakeholder Roles

Role	Responsibilities
Buyer	Request / Active
Card user	Acknowledge / Support
Customer Care	Moderate
Administrator	Rule

3.3 High-Level Architecture

Frontend Layer

- Responsive UI
- Dashboards
- Secure forms

Backend Layer

- Business logic
- Payment validation
- Fraud checks

Database Layer

Stores:

- Users
- Deals
- Payments
- Requests
- Logs

Security Layer

- JWT Authentication
- RBAC Enforcement
- Encryption

IV. CORE FUNCTIONAL MODULES

4.1 Payment-Gated Coupon Module

Workflow:

Deal Selection → Unlock Action → Payment → Verification → Coupon Reveal

Benefits:

- Prevents free copying
- Protects merchant campaigns
- Enables monetization

4.2 Coupon Protection Mechanism

- Coupon hidden by default
- Revealed only after successful payment
- Token-based validation

4.3 Assisted Buy Request Module

Allows users lacking eligibility to submit structured requests.

Workflow:

Buyer Request → Visibility to Eligible Cardholders → Acceptance → Mediation

4.4 Cardholder Acceptance Engine

Cardholders:

- Review requests
- Accept / Reject
- Require KYC validation

4.5 Customer Care Mediation Layer

Ensures:

- Controlled communication
- Fraud prevention
- Dispute mitigation

4.6 Fraud Mitigation Controls

- No direct coupon exposure
- Verified payments only
- Role restrictions
- Audit logging
- KYC enforcement

V. METHODOLOGY

Save-buddy platform uses a structured approach for its development with focus on security, usability, and

scalability.

Engineering strategy:

Modular architecture was used to separate different functions like coupon unlocking, payment validation, Buy Requests handling process, RBAC enforcement, and mediator services in order to improve maintenance and simplify system.

Development approach:

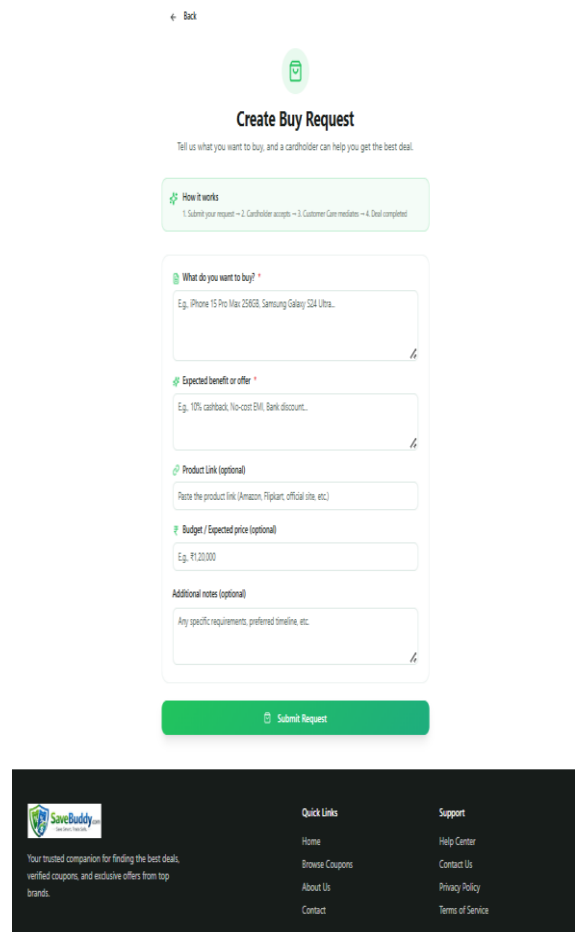
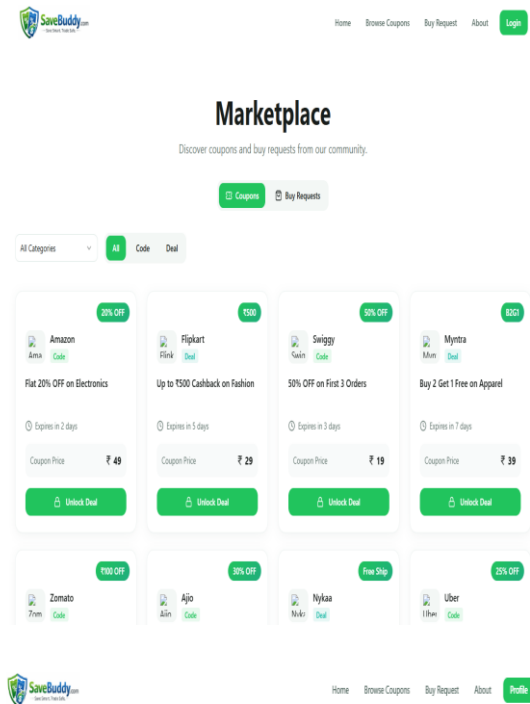
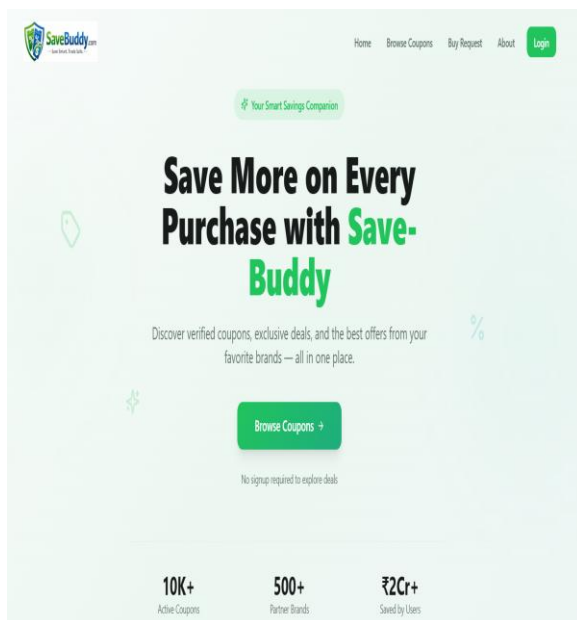
Iterative development was utilized which allows implementing and refining functionality like payment-gated coupon disclosure, KYC checks, and role-based dashboards one-by-one.

Testing techniques:

Unit For developing the Save-buddy platform, iterative development was utilized in which functions like payment-gated coupons, KYC validation, and role-based dashboards were implemented one-by-one. The system was tested using unit testing, integration testing, and additional security, load, and correctness checks.

Such approach ensured functional reliability and security integrity.

VI. RESULTS



The image shows two screenshots of the SaveBuddy platform. The top screenshot displays a user's profile with the following sections: Basic Information (Name: John Doe, Email: john@example.com), Account Status (KYC Status: Not Verified), Wallet (Available Balance: ₹ 500.00), My Purchased Coupons (No coupons purchased yet), and My Buy Requests (No buy requests yet). A green button at the bottom says 'Complete KYC to Unlock Coupons'. The bottom screenshot shows the 'Complete Your KYC' form, which includes a progress bar for Personal Details, Identity Verification, and Confirmation. The Personal Details section has input fields for Full Name and Date of Birth, and a green 'Next' button.

VII. DISCUSSION

The proposed Save-buddy platform provides a trustworthy solution for coupon marketplaces. While most other coupon systems display discount

codes without any protection measures, in Save-buddy system coupon unlocking requires prior payment validation, providing better protection against fraudulent behavior. In addition, the assisted Buy Request feature makes purchasing accessible for everyone via eligible cardholders.

Integration of the Customer Care mediator service improves trust level of transactions as it minimizes fraud-related actions and disagreements between users. Role-based access prevents privileges misuse and strict role separation.

Generally speaking, this system proves a potential way to improve fairness, security, and credibility of coupon marketplaces.

VIII. FUTURE ENHANCEMENTS

Potential enhancements may include:

- There are quite a few possible improvements to the project in the future. One potential solution may include adding AI based fraud detection and behavior monitoring functionality to automatically detect any fraudulent activities
- The system may provide smart buyer-seller matchings where the user will be able to easily find a seller holding a card required to unlock a certain deal.
- Merchant side API for real time deal validation
- Advanced analytics and reporting dashboards
- Multi-language and multi-country support

These features will allow further improving the platform efficiency and scalability.

IX. CONCLUSION

The proposed research describes Save buddy as a safe and efficient digital savings platform designed to address the main issues typically encountered on traditional coupon websites by implementing payment gated coupon unlocking, access control based on RBAC, KYC verification, and a mediation assisted purchasing flow.

Save buddy provides a scalable solution for secure and fair discount distribution.

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