

Design and Development of Rentloop Using Mern Stack

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Abstract - The rapid growth of e-commerce and sharing economies has given rise to digital rental platforms. RENTLOOP is a multi-category local rental system that allows users to rent and lend various items such as cameras, clothes, electronics, jewelry, and other utilities. The platform promotes sustainable consumption by reducing product ownership costs and supporting a circular economy. RENTLOOP ensures user trust through verified profiles, secure payments, and location-based listings. The project integrates web technologies for seamless item discovery, smart recommendations, and efficient rental management. The platform encourages local community engagement and provides economic benefits for both owners and renters.

Key Words: Rental Platform, Sharing Economy, Sustainable Consumption, Web Application, Community Marketplace, RENTLOOP.

1. INTRODUCTION

RENTLOOP is a community-based rental platform that allows people to share and borrow items such as clothing, electronics, and daily-use products within their local area. It ensures safety and trust through verified users, location tracking, and instant communication. By encouraging the repeated use of products, RENTLOOP helps lower costs and supports an eco-friendly, sustainable lifestyle.

2. Body of Paper

The RENTLOOP platform operates as a full-stack web application built using HTML, CSS, JavaScript, and a database-driven backend. Users can register, verify their identity, and list items available for rent. The system features advanced search and filtering, secure online payment options, and a transparent rental history. It

includes an admin module to manage disputes, listings, and community feedback.

The rental process involves three main steps: listing, booking, and return. Each transaction is monitored for trust and security using user ratings and review systems. RENTLOOP's algorithm suggests trending and nearby items, promoting local exchanges and faster access. Notifications and reminders help users track rental periods and payments efficiently.

Table -1: Sample Table format

Category	Example Items	Rental Duration
Electronics	Camera, Laptop, Speaker	1-7 Days
Fashion	Dress, Jewelry, Watch	1-3 Days

To ensure a seamless experience, RENTLOOP incorporates responsive design for both desktop and mobile users. This enables users to browse, book, or lend items anywhere, anytime. The backend ensures data integrity, while the frontend emphasizes simplicity and speed.

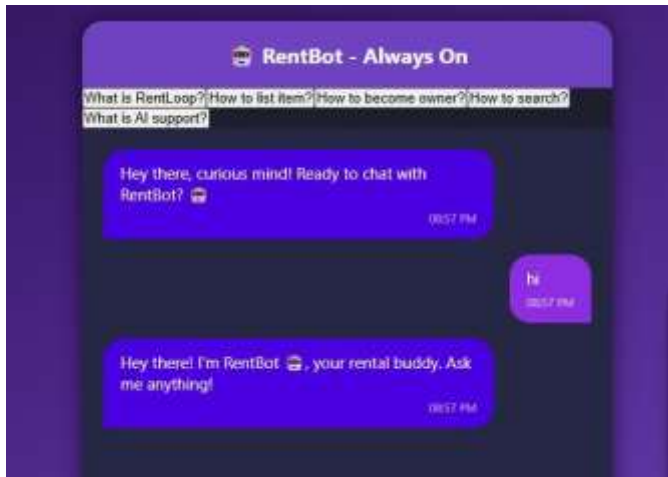
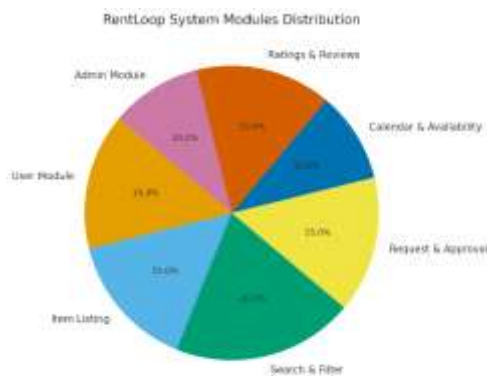


Fig. -1: Figure

RENTBOX is an AI-powered chat assistant integrated into the RENTLOOP platform. It helps users by answering queries, suggesting suitable rental items, guiding them through booking, and providing instant support. The chatbot enhances user engagement, reduces response time, and ensures a smoother rental experience for both lenders and renters.

Charts



3. CONCLUSIONS

The RENTLOOP project demonstrates how technology can empower community-driven rental markets. By connecting local users and supporting multiple item categories, the platform promotes sustainability, reduces waste, and makes temporary access affordable. With a strong focus on usability, security, and trust, RENTLOOP can expand into various regions and serve as a blueprint for future circular economy initiatives.

ACKNOWLEDGEMENT

We would like to express our sincere gratitude to our project guide and faculty members for their invaluable guidance and encouragement throughout the development of RENTLOOP. Their insights helped shape the technical and conceptual framework of our work. We also thank our institution for providing essential facilities, and our peers for their consistent support during the research and implementation process.

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