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Smart Product Warranty Tracking System

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***Abstract*—This project designs an e-commerce website with a warranty tracking feature to enable customers to track warranties on products and receive notification alerts before expiration. It captures dates of activation, computes warranty terms, and notifies automatically through SMS or email. Customers can archive invoices and keep track warranties through a user-friendly dashboard. It increases customer convenience, minimizes warranty issues, Companies also gain from product usage insights to improve service planning. Through the combination of automation and intelligent tracking, enhancing brand-customer relationships and overall user satisfaction.**

***Index Terms*— Product sales, Warranty Tracking, Bot integration, Buying Products.**

I. INTRODUCTION

In the current competitive consumer market, it is easy to lose track of product warranties. Most people buy electronic devices, appliances, and other everyday products without properly keeping a record of their warranty duration. Subsequently, they end up missing the deadline, forfeiting free repairs, replacements, or servicing that could have saved them lots of money. To solve this problem, we suggest a Warranty Tracking System, an online solution to assist users in handling product warranties more efficiently.

The Warranty Tracking System is a centralized system where users can capture activation dates, monitor warranty durations, and be reminded before expiration. The system guarantees that users never miss a chance to claim warranty services. The app is developed with React on the frontend for a responsive and interactive user interface. The backend is maintained on Node.js and Express for a scalable and robust server-side setup, with MongoDB being employed for storing data, allowing for secure and structured product and warranty information management.

Key characteristics of the system are storage of invoices, which enables users to upload and store purchase receipts to refer to when claiming warranties easily. The system also has automatic reminders, sending alerts ahead of the expiration date of the warranty so that users can act on time. The other critical characteristic is product categorization, enabling users to classify their products into various categories to track and manage them effectively.

Through this system, users are spared the inconvenience of manually maintaining warranties, thus avoiding financial losses and optimizing the use of after-sales services. This project is intended to promote consumer awareness and convenience, thereby enhancing product lifecycle management.

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