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An ECRM System Design for CLINIC and PHARMACY Management

Prachi A. Bhagwat[1] and N. S. Kulkarni[2]
Department of Computer Engineering[1,2]
Siddhant College of Engineering, Pune, Maharashtra, India
hprachiofficial@gmail.com

Abstract: *Operational inefficiencies present a major hurdle for small to medium-sized healthcare facilities, stemming primarily from disconnected digital solutions and reliance on manual record-keeping for inventory and sales. This paper details the development of an Electronic Customer Relationship Management (eCRM) system specifically designed to streamline the operations of clinics and pharmacies. The system utilizes the Flutter framework, enabling cross-platform deployment to web, mobile, and desktop environments from a single codebase. The backend is powered by Supabase, leveraging PostgreSQL for a secure, relational database and offering built-in authentication and real-time capabilities. Key functionalities include medicine inventory management with automated expiry date tracking, sales recording with automated calculations, and systematic tracking of vendors, stockists, and medical representative (MR) visits. The implementation adheres to modern clean architecture principles, utilizing the Provider pattern for efficient state management. Testing confirms successful, efficient database operations and a responsive user interface, thereby offering an affordable and scalable solution for digital transformation in local healthcare settings.*

Keywords: eCRM, Healthcare Management, Flutter, Supabase, Inventory Management

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