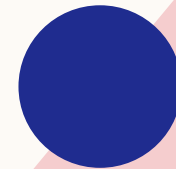# BLOOD DONATION

INTRODUCTION

- Project Title: Blood Bank Management System
- Technology Stack: MERN (MongoDB, Express.js, React.js, Node.js)
- Objective: Efficiently manage and streamline blood donation processes through a modern, web-based application.

PROJECT OVERVIEW

- **Purpose**: Facilitate the collection, storage, and distribution of blood donations.
- **Key Features**: Donor registration, Blood inventory management, Request and distribution system, User authentication, Admin panel for monitoring and management.
- **Benefits**: Real-time tracking, Centralized database, Improved communication, Enhanced efficiency in emergency situations.

MERN STACK OVERVIEW

• **MongoDB**: NoSQL database for storing donor information, blood inventory, and user credentials.

• **Express.js**: Web application framework for building robust and scalable backend APIs.

• **React.js**: Frontend library for creating dynamic and interactive user interfaces.

• **Node.js**: JavaScript runtime for executing server-side code and managing the backend.
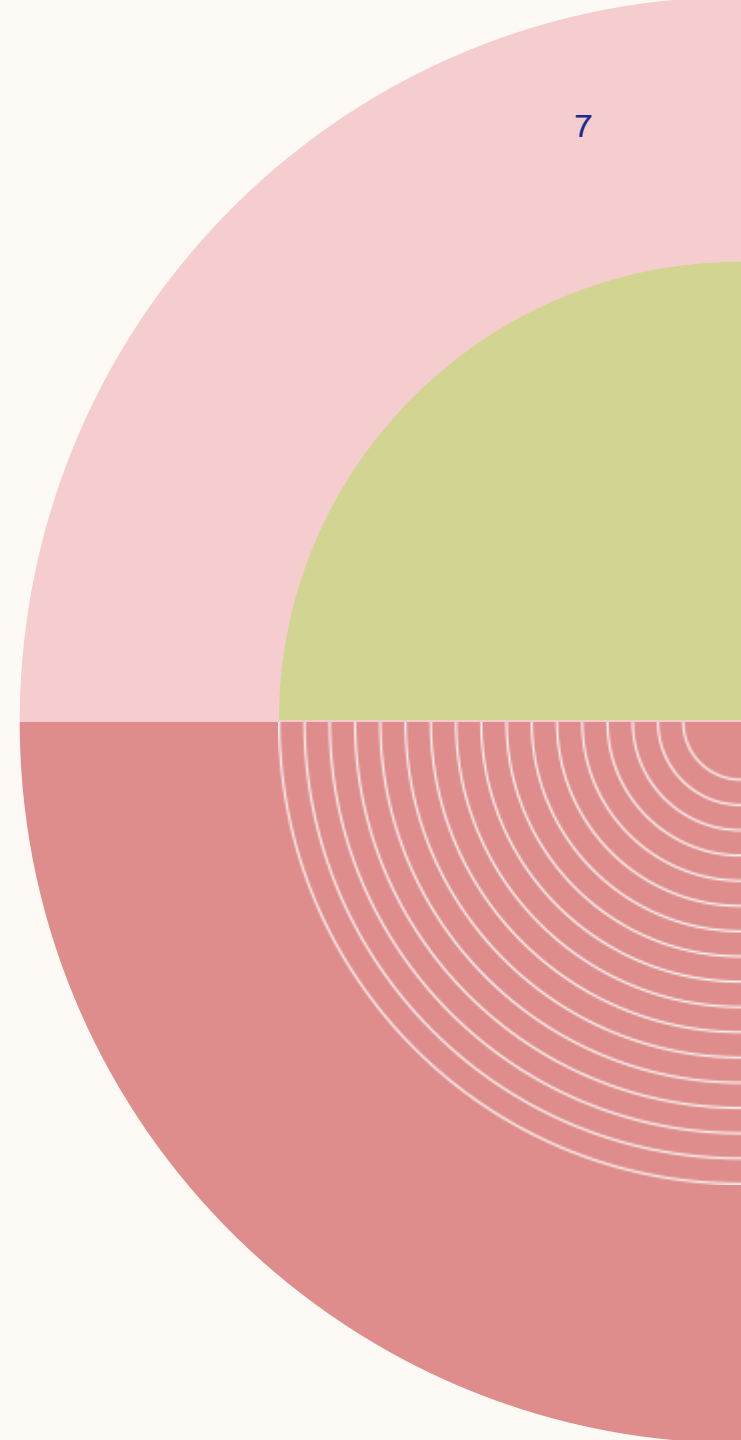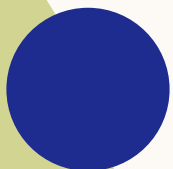
SYSTEM ARCHITECTURE

•**Client-Side (Frontend)**: React.js components for a user-friendly interface.

•**Server-Side (Backend)**: Express.js for handling API requests and interacting with the database.

•**Database**: MongoDB for storing donor data, blood inventory, and application records.

•**Communication**: RESTful APIs for seamless interaction between frontend and backend.

KEY MODULES

- **Donor Registration**: Users can register as blood donors by providing necessary information.
- **Blood Inventory Management**: Tracking and managing available blood types and quantities.
- **Request and Distribution System**: Streamlined process for hospitals and organizations to request and receive blood donations.
- **User Authentication**: Secure user authentication and authorization for different roles (donors, administrators).
- **Admin Panel**: Dashboard for administrators to monitor and manage the entire blood bank system.

PROJECT WORKFLOW

•**Donor Registration Flow**: Step-by-step process for donors to register and provide necessary details.

•**Blood Donation Process**: Outline the journey of a donated unit from registration to distribution.

•**Request and Distribution Flow**: How organizations request blood and how the system handles the distribution.

THANK YOU

Anshika Nagpal

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