RAJALAKSHMI ENGINEERING COLLEGE

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Department of Information Technology

TRANSPARENT ORPHANAGE SUPPORT SYSTEM

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Introduction

The **Transparent Orphanage Support System (TOSS)** is a blockchain-based platform that makes donations and child welfare management more transparent and trustworthy. It records all transactions on a secure ledger, manages children's health records with doctor verification, and gives donors clear insights into the impact of their support.

- **Transparent donation tracking** with blockchain.
- **Smart contracts** for secure fund release.
- **Verified healthcare records** with doctor approval.
- **Donor dashboards** for real-time impact tracking.

Motivation

The **Transparent Orphanage Support System (TOSS)** is a **secure blockchain platform** that helps orphanages manage **funds and health records** clearly and safely. It ensures all donations are **used properly** for **food, education, and healthcare**. Donors can see **live updates** on how their money is spent, and staff can easily keep **accurate child health records**. It also helps **reduce fraud and misuse of funds** by making every transaction **tamper-proof and verifiable**. TOSS builds **trust and transparency**, ensuring every child gets the care they deserve.

Existing System

The **Transparent Orphanage Support System (TOSS)** makes donation and welfare management **clear, secure, and trustworthy**. Many platforms collect donations but don't show how funds are used, leading to **donor doubt**. TOSS uses **blockchain and smart contracts** to record every transaction safely and transparently. Donors can **track their money** and see **real-time updates** on children's welfare. By managing **funds, health records, and donor data** in one place, TOSS ensures **honesty, efficiency, and trust** in orphanage support.

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Inference from the Survey

The **Transparent Orphanage Support System (TOSS)** uses **blockchain technology** to make donation and welfare management **clear, safe, and trustworthy**. It connects **donations and verified health records**, so every contribution is **trackable and used properly**. With **smart contracts** and **secure decentralized storage**, all data remains **protected and tamper-proof**. Donors can **see real-time updates** on fund usage, improving **transparency and trust**. Overall, TOSS builds **accountability, efficiency, and fairness**, ensuring that **every child receives the care and support they truly deserve**.

Project Objectives

- Ensure **transparency** in how donations are used.
- Securely manage and verify **children's healthcare records**.
- Build **trust** between donors, NGOs, doctors, and welfare institutions.
- Use **smart contracts** to allocate funds only for approved services.
- Provide donors with **real-time dashboards** to track their impact.
- Create a **scalable system** that supports multiple orphanages and hospitals.

Software Requirement Specification

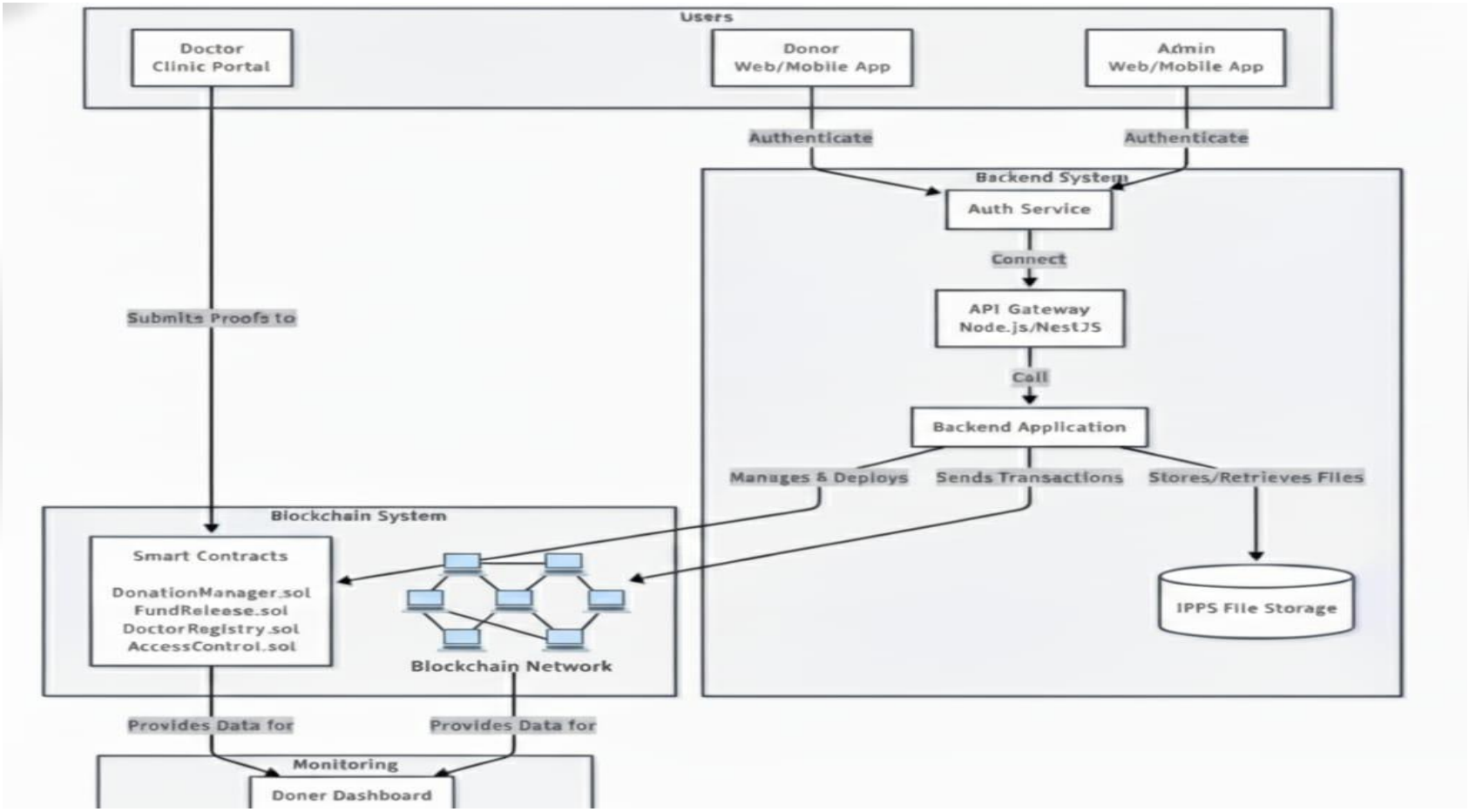
Functional Requirements:

- User Authentication (Donors, Admins, Doctors).
- Donation ledger & fund allocation.
- Healthcare record management.
- Donor dashboard with real-time updates.

Non-Functional Requirements:

- Security & Privacy (encryption, immutability).
- Scalability for multiple orphanages.
- Reliability (24/7 cloud).
- Usability (mobile-first UI).

System Architecture



Project Methodologies

- **Blockchain:** Ethereum / Hyperledger for immutability.
- **Smart Contracts:** Automated, conditional fund release.
- **IPFS:** Distributed storage for reports, receipts, invoices.
- **Digital Signatures:** Verified medical reports.
- **Donor Dashboard:** Real-time transparency portal.

Modules Design

1. **Donation Management** – Handles donor contributions with blockchain-based transparency.
2. **Healthcare Record Management** – Stores and verifies children's health records securely.
3. **Donor Interaction** – Provides dashboards and updates to engage donors.
4. **Admin** – Manages NGO operations, approvals, and system oversight.
5. **Doctor** – Uploads and digitally signs children's verified health reports.
6. **Smart Contract** – Automates and enforces transparent fund allocation rules.

Result

The **Transparent Orphanage Support System (TOSS)** is a smart platform that makes **donations and welfare management clear and secure**. It uses **blockchain** to record every donation so donors can **see how their money is spent**. **Smart contracts** release funds only after approval, stopping misuse. **Doctors upload verified health records** stored safely in **IPFS**, keeping data real and safe. Donors can view **children's progress and welfare updates** anytime. Though it needs small improvements like **lowering fees** and **training users**, TOSS is a **trustworthy and efficient system** that builds confidence and supports better care in orphanages.

Conclusion

The **Transparent Orphanage Support System (TOSS)** is a **secure and transparent platform** that helps manage **donations and child welfare** in orphanages. It uses **blockchain** to keep all records safe and prevent misuse of funds. **Smart contracts** automatically release money for approved needs like food, health, and education. **Medical reports** are stored safely using **IPFS**, making them real and unchangeable. Donors can **see how their money is used in real time**, while admins and doctors can easily manage records. TOSS builds **trust, saves time, and ensures** every child gets the **care and support they deserve**.

Future Work

1. **AI and Analytics Integration:** Use AI to predict funding needs, prevent fraud, and improve data-driven welfare decisions.
2. **Mobile and Multi-Language Access:** Create a mobile app with multi-language support for easy, global accessibility.
3. **Cross-Border Donations:** Allow secure international donations through stablecoins or cryptocurrency wallets.
4. **Government and NGO Collaboration:** Connect with official databases for real-time verification of child welfare data.
5. **Predictive Dashboards and Automation:** Add smart dashboards and automated reports to boost transparency and efficiency.

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Thank You