

Project Proposal

Title: Charity Donation System — Transparent, Shariah-Compliant Platform for Personal and Campaign-Based Donations

Team: DataSquad

1. Problem Statement

Despite the development of financial technology, many Islamic charitable systems—such as Waqf, Zakat, and Sadaqah—still operate using outdated and manual processes. These approaches result in a lack of transparency, limited impact tracking, inefficient fund distribution, and a gap in accessibility for marginalized communities.

Donors are often unaware of how their contributions are used. At the same time, recipients who need urgent help may not receive timely support due to delayed approvals, weak verification processes, and the absence of smart prioritization tools.

2. Proposed Solution

We propose a **Charity Donation System**—a secure, transparent, and Shariah-compliant platform that supports both **individual donation requests** and **organized fundraising campaigns**, powered by approval mechanisms, AI-driven prioritization, and blockchain logging.

Key Functionalities:

A. Personal Donation Workflow

- Any user can submit a request for personal aid (education, medical, food support, etc.).
- Admins verify and approve each request before it is published.
- Once approved, the request becomes visible to all donors.
- AI algorithms rank requests based on urgency and need to guide donors toward impactful giving.

B. Campaign-based Fundraising

- Organizers can launch donation campaigns for verified causes (e.g., flood relief, community projects).
- Donors contribute until the organizer marks the campaign as completed or cancels it.
- Organizers are required to report how every Ringgit is spent.
- All expenditure reports are transparently stored using blockchain technology to ensure trust.

C. Donation System and Gateway

- Integration with a payment gateway (HitPay) enables donations through FPX, eWallets (e.g., Touch 'n Go), and cards.
- Only Shariah-compliant donation categories are allowed (e.g., asnaf, medical, education).

D. Real-Time Dashboard for Stakeholders

Includes dynamic data visualization and analytics to enhance trust and transparency:

- Number of personal donation cases
- Number of active and completed campaigns
- Total received donation (RM)
- List of personal donation transactions
- Ongoing campaign funds (collected vs spent)
- Personal donation history for each campaign
- Top 7 donors ranking
- Campaign organizer expenditure breakdown

3. Technologies Used

Technology	Function
React + Chakra UI	Responsive web interface

Technology	Function
AWS Amplify + GraphQL Backend infrastructure with real-time sync	
HitPay API	Secure and Shariah-compliant payment gateway
AI Prioritization Engine	Rank personal aid requests by urgency
Webhook Notification	Donor/admin alerts for status and milestones
Blockchain (Log)	Immutable records of campaign fund usage
Chart.js / Plotly	Interactive dashboard data visualization

4. Shariah Compliance

- Only approved donation categories are allowed (medical, food, education, etc.)
- All campaigns are manually reviewed for alignment with Shariah principles.
- Funds cannot be used for non-halal or interest-bearing activities.
- Expenditure tracking and transparency are mandated for every campaign using blockchain records.
- The platform avoids speculative investment, interest-based mechanisms, and gambling elements.

5. Target Users

- **General Donors:** Individuals seeking verified causes with clear impact
- **Aid Recipients:** Individuals or families applying for personal financial assistance
- **Organizers:** NGOs, institutions, or verified individuals organizing campaigns
- **Administrators:** Review and verify aid requests and campaigns before publishing

6. Impact Goals

- Reduce approval and fund allocation time by 70%
 - Increase donor trust through blockchain-recorded transparency
 - Enable data-driven decisions via dashboard analytics
 - Expand reach to underbanked communities through mobile-friendly digital tools
-

7. Roadmap

Phase 1 (Hackathon Delivery)

- Submit-aid-request form + admin approval logic
- Donation page with AI prioritization
- Campaign launch, donation, and reporting
- Dashboard with partial data visualization
- Payment gateway integration (FPX, eWallet, Card)

Phase 2 (Pilot Deployment)

- Partner with NGO to launch first real campaign
- Implement full campaign lifecycle with reporting
- Blockchain logging and verification added

Phase 3 (Scale-Up)

- Cross-platform webapp version
 - API access for third-party Shariah-compliant platforms
 - Global donation option with currency conversion
-

8. Dashboard Visualization Overview

The dashboard will display the following live data in an intuitive and filterable layout:

- Total personal donation cases
- Total active/completed campaigns
- Total received donation amount (RM)
- Personal donation transaction history
- Each campaign's donation progress and expenditure (collected vs used)
- Individual donation history per campaign
- Top 7 donors by amount
- Organizer expenditure breakdown (itemized spending reports)

10. Task Distribution

Webapp Development: Patrick Tai Kie Jung, Goh Sin Hua

AI Training: Wong Neng Horng

Blockchain: Bryan Cho Zhe, Brendon Wong Tiing Sheng

11. Future Vision: Advanced Features and Sustainability Plan

To ensure long-term scalability, technological relevance, and financial sustainability, the Charity Donation System is designed with the following future enhancements in mind:

A. AI-Based Identity Verification

- **Face Action Authentication:** Users perform simple gestures (blink, head-turn) during onboarding for real-time biometric identity verification.
- **IC Image Matching:** Compares the user's selfie with their government-issued ID to prevent identity fraud and ensure that aid is only received by verified individuals.

B. Automated Document Processing

- **OCR-Based Document Scanning:** Uses Optical Character Recognition to scan payslips, utility bills, and supporting documents.

- **Automated Income Assessment:** Extracted income and expense details can be used to strengthen the verification process and speed up admin auditing.

C. Smart AI Assistant (LLM + RAG)

- An AI chatbot assistant, trained with both donation FAQs and platform-specific information, will assist users instantly.
- The assistant supports multilingual conversation, including **Manglish** and **Malay**, to improve user experience and inclusivity.

D. Blockchain + AI for Predictive Social Assistance

- Leverages AI and historical donation data to forecast regions or communities likely to require aid (e.g., disaster-prone areas).
- Supports early planning of campaigns and resource allocation using data-driven predictions.

E. Smart Donation Plans

- Users can schedule recurring donations (e.g., RM100/month) specifically directed at verified urgent cases.
- AI will dynamically allocate the funds to the most critical and impactful recipients.

F. Revenue Model

- A transparent **3% service fee** (separate from donations) will be charged to support the operational and development costs of the platform.
- This model ensures sustainability while maintaining full accountability and Shariah-compliant practices.