# BloodLedger 🩸🏥

### Value Proposition

BloodLedger leverages blockchain technology to create a decentralized blood donation management system. It improves transparency, incentivizes donors, and ensures healthcare organizations have real-time access to blood inventory, ultimately enhancing patient care and safety.

### Product-Market Fit

The current blood donation and inventory management systems suffer from insufficient donor numbers and some inefficiencies. BloodLedger solves these problems using blockchain to secure data, offer tokenized incentives, and provide healthcare professionals with accurate and timely information about blood availability.

### Target User Profiles

- **The "Compassionate Donor":** Health-conscious individuals motivated by a desire to give back, who value recognition and transparency about how their contributions are used.
- **The "Efficient Administrator":** Healthcare professionals managing blood inventories, looking for error-free, real-time systems to support critical decision-making.

## User Stories

### ID: BL-001

- **Priority:** High
- **User Persona:** Teresa, a 27-year-old regular blood donor.
- **Goal:** Be recognized for her contributions and motivated to continue donating.
- **User Story:** As a donor, I want to receive tokens as rewards for my donations so that I feel appreciated and encouraged to donate again.
- **Acceptance Criteria:**
    - Tokens must be credited to the donor’s wallet after her donation has been used to help/save a patient.
    - Donors should be notified each time their blood is used to help a patient.
    - The donor dashboard should highlight cumulative contributions.
- **User Interaction:**
    - Register donations through a seamless process.
    - Access a personal impact summary and reward history.

**ID: BL-002**

- **Priority:** High
- **User Persona:** Dr. Vitoria, a hospital blood bank manager.
- **Goal:** Efficiently manage the blood inventory for emergency scenarios.
- **User Story:** As a healthcare administrator, I want to track blood inventory in real-time so that I can avoid shortages and streamline operations.
- **Acceptance Criteria:**
    - The platform should provide real-time updates on blood stock levels and expiry dates.
    - Integrate automated donor-recipient matching to reduce manual errors.
    - Include customizable reporting features for audits and forecasting.
- **User Interaction:**
    - Monitor inventory via a dynamic dashboard.
    - Receive alerts for critical shortages and upcoming expirations.

**ID: BL-003**

- **Priority:** Medium
- **User Persona:** Catarina, inspired by her friend Teresa's contributions, wants to contribute as well, becoming a first-time blood donor.
- **Goal:** Learn more about the blood donation process and feel confident about donating.
- **User Story:** As a first-time donor, I want to access detailed information about the donation process so that I can feel prepared and comfortable.
- **Acceptance Criteria:**
    - The platform provides a "New Donor Guide" with step-by-step details on the donation process.
    - FAQs should cover common concerns about safety, eligibility, and the impact of donations.
    - A contact form must be available for personalized inquiries.
- **User Interaction:**
    - Search or filter FAQs by topic.
    - Reach out to support through integrated communication tools.

## Acceptance Criteria

**Functionality:**

- The platform must allow healthcare providers to update and access blood inventory status in real-time.
- Donors must be able to register and receive tokenized rewards seamlessly.

**Attributes:**

- **BloodLedger:** Immutable and encrypted.
- **Token System:** Integrated and user-friendly.
- **Inventory Dashboard:** Real-time and accessible to healthcare providers.

**User Interaction:**

- Donors should interact with the platform through a simple registration and reward system.
- Healthcare providers should manage inventory via an intuitive dashboard with detailed blood availability reports.

## Priority

- High: Inventory management, donor incentives, and security protocols.
- Medium: User interface customization.
- Low: Integration of additional features (e.g., AI-based forecasting).

## Technical Notes

- **Dependencies:** Integration with the Solana blockchain and healthcare organization systems.
- **Considerations:** Ensure robust testing in a Devnet environment before deployment and conduct a third-party security audit.