

Defess

A Platform to Leverage Your Failure

Abstract

Defess (DeFi + Confess) is a decentralized, anonymous social platform that empowers users to share their failures and vulnerable moments freely. By embracing transparency and community validation, the platform transforms setbacks into sources of strength. Leveraging the Soroban smart contract framework, MongoDB, and Web3 integrations, Defess gamifies honesty with token rewards and NFT incentives—building a new form of digital credibility.

1 Problem Statement

In today's social media culture, success is glamorized while failure is hidden. This leads to:

- Mental health challenges due to unrealistic comparisons.
- Missed opportunities to learn from others' mistakes.
- Lack of safe spaces to vent, reflect, and connect authentically.

There is a need for a platform that rewards vulnerability and builds resilience by encouraging people to share their failures openly.

2 Solution Overview

Defess provides:

- Anonymity for honest self-expression.
- Community-powered likes to validate relatable content.
- Daily NFT rewards for the most impactful confessions.
- Transparent smart contract interactions for fairness.

3 Key Features

- **Anonymous Posting:** No login required. Confess freely.
- **Like System:** Users can like posts they resonate with.
- **Time-Based Feed:** Posts are shown in descending order of timestamp.
- **Soroban Smart Contracts:** For handling likes, rewards, and NFT minting.
- **NFT Rewards:** Most liked post every 24h earns a minted NFT.
- **Token Incentives:** DEF tokens for engagement (future scope).

4 Technology Stack

- **Frontend:** Next.js, Tailwind CSS, TypeScript
- **Backend:** Node.js, Express.js
- **Database:** MongoDB (Mongoose ORM)
- **Blockchain:** Soroban (Stellar Smart Contract Platform)
- **Others:** Lucide Icons, date-fns, Shadcn UI

5 System Architecture

1. User Interface Layer

Built using React (Next.js), users can post confessions, like posts, and view trending failures anonymously.

2. API Layer

Express routes handle:

- GET/POST /api/posts
- POST /api/posts/:id/like

3. Database Layer

MongoDB stores:

- Post content
- Like count

- Timestamp metadata

4. Soroban Contract Layer

Handles:

- Secure minting of NFTs
- Token distribution logic (planned)
- Leaderboard updates

6 Soroban Integration

- Each like event triggers a call to a Soroban contract that logs the interaction.
- At the end of every 24-hour cycle, the most liked post triggers NFT minting via Soroban and sends it to the author's wallet.
- Future expansion includes DEF token staking and vote-based incentives.

7 Reward Mechanism

- Every 24 hours, the confession post with the highest number of likes is selected.
- An NFT is minted and awarded to the author of that confession as a token of appreciation and validation.
- The NFT is stored in the user's wallet and may have utility in future features (e.g., XP boosts, leaderboard perks).
- Only one NFT is minted per 24-hour cycle, encouraging thoughtful and impactful confessions.
- DEF tokens may also be distributed to NFT holders as bonus incentives in future upgrades.

8 Future Improvements

- Integration with ZK (zero-knowledge) for enhanced anonymity.
- Implement token-gated voting and moderation features.
- Add a "Confession Journey" tracker for personal growth insights.
- Support for image-based confession formats.
- Mobile-first Progressive Web App (PWA).

9 Advanced Architecture

Note: This section provides a deeper dive into the infrastructure, showcasing how modules interact at a protocol and microservice level. Include diagrams (e.g., draw.io or PNG) here.

- **Post Processing Pipeline:** Handles metadata tagging, spam filtering, and Soroban event logging.
- **Reward Distribution Service:** Scheduled jobs calculate top confessions and invoke smart contract functions securely.
- **NFT Minting Queue:** Decouples minting logic via message queues to improve scalability and fault-tolerance.
- **Analytics Module (Future):** Tracks user behavior (anonymously) to suggest tokens, badges, and growth tips.

Figure 1: Advanced System Architecture of Defess

10 User Flow

1. **Landing Page:** User visits the homepage and is welcomed with an inspiring quote or trending confession.
2. **Post Confession:** Clicks “Confess” → fills out an anonymous form → submits post.
3. **View Feed:** Immediately sees their post in a timestamp-ordered feed.
4. **Like Mechanism:** Other users like the confession, triggering Soroban event logging.
5. **24h Timer:** At the end of the day, the most liked post is fetched by a backend job.
6. **NFT Minting:** The system mints an NFT via Soroban and transfers it to the associated wallet.
7. **Leaderboard Display:** NFT-winners are optionally featured on the daily leaderboard.

Figure 3: User Flow Diagram of Defess

Conclusion

Defess is more than an app—it's a movement. By rewarding failure and vulnerability, it creates a cultural shift in how we perceive and learn from our setbacks. With blockchain-powered fairness and community-driven engagement, Defess empowers people to be radically honest in a judgment-free zone.