Requirements Gathering Document

# Project: Blockchain-Enabled Platform for TechReadyBlocks.com

## 1. Stakeholder Identification

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| --- | --- | --- |
| Role | Name/Group | Responsibility |
| Product Owner | TRB Founder / Project Sponsor | Overall vision, budget, high-level requirements |
| Tech Lead | Blockchain Developer | Design & implementation of blockchain components |
| Frontend Team | Web Developers | UI/UX and interactive listing components |
| Backend Team | API & Server Devs | Marketplace logic, authentication |
| QA/Testers | QA Engineers | Testing all components |
| Users | Blockholders, Buyers/Sellers | Actual users who will use marketplace and communication features |
| Legal | Compliance Advisors | Ensure regulatory alignment for blockchain usage |

## 2. Problem Definition

TechReadyBlocks wants to evolve from a static site into a decentralized, interactive platform that supports:  
- Verified interactive listings.  
- A blockchain-based marketplace (TRB Marketplace).  
- Secure communication between verified blockholders.  
  
Current pain points:  
- Centralized architecture is limiting trust.  
- No verified ownership of listings.  
- No transparent transaction records.

## 3. Project Scope

In Scope:  
- Implement blockchain layer to record transactions and ownership.  
- Develop TRB Marketplace with crypto transactions.  
- Enable secure messaging between verified users.  
- Build interactive listing UI with blockchain verification.  
- Integration with popular blockchain platforms (e.g., Ethereum, Polygon).

Out of Scope:  
- Fiat payment gateway integration.  
- Support for non-TRB token marketplaces.  
- Mobile app (initial phase is web-only).

## 4. Functional Requirements

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| --- | --- | --- |
| ID | Requirement | Priority |
| FR1 | Users can register and verify blockholder identity | High |
| FR2 | Users can list digital/physical items with blockchain proof of ownership | High |
| FR3 | Users can buy/sell via TRB tokens on the blockchain | High |
| FR4 | Transactions are recorded on-chain and viewable | High |
| FR5 | Users can message each other securely (on or off-chain) | Medium |
| FR6 | Admin panel for content and user management | Medium |
| FR7 | Smart contract integration with wallet (MetaMask etc.) | High |

## 5. Non-Functional Requirements

- Security: Blockchain-backed verification, secure login  
- Scalability: Can handle growing number of users and listings  
- Performance: Transaction confirmation under 10 seconds  
- Compliance: GDPR, KYC, and token transaction compliance  
- Usability: Clean UX, responsive across devices

## 6. Requirement Prioritization (MoSCoW)

- Must Have: Blockchain listing, TRB token transactions, blockholder verification, wallet integration  
- Should Have: Secure communications, on-chain messaging  
- Could Have: Reputation system, listing reviews  
- Won’t Have (Now): Fiat payments, mobile app

## 7. Requirement Validation

Methods:  
- Stakeholder review workshops  
- Blockchain prototype testing  
- User feedback sessions  
- UAT (User Acceptance Testing)

## 8. Constraints & Assumptions

Constraints:  
- Limited to EVM-compatible blockchains  
- Budget limitations may restrict real-time features  
- Web-only (no mobile app yet)  
  
Assumptions:  
- Users are familiar with crypto wallets  
- Sufficient TRB token liquidity is available  
- Third-party tools (e.g., MetaMask, Infura) are stable

## 9. Risks

|  |  |  |  |
| --- | --- | --- | --- |
| Risk | Likelihood | Impact | Mitigation |
| Blockchain gas fees too high | Medium | High | Use Layer 2 (e.g., Polygon) |
| Regulatory changes | Medium | High | Include legal team in planning |
| User onboarding friction (wallets etc.) | High | Medium | Add tutorials, simplify UX |
| Smart contract vulnerabilities | Medium | High | Conduct audits |

## 10. Acceptance Criteria

- User listings are verifiable on blockchain  
- TRB transactions are recorded on-chain  
- Blockholder messaging is secure and functional  
- Platform passes all QA and UAT checks  
- All high-priority requirements implemented

## 11. Stakeholder Sign-Off

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| --- | --- | --- | --- |
| Stakeholder | Role | Signature | Date |
| Product Owner | Vision & Funding | \_\_\_\_\_\_\_ | \_\_\_\_\_\_ |
| Tech Lead | Architecture | \_\_\_\_\_\_\_ | \_\_\_\_\_\_ |
| Legal | Compliance | \_\_\_\_\_\_\_ | \_\_\_\_\_\_ |
| QA Lead | Testing | \_\_\_\_\_\_\_ | \_\_\_\_\_\_ |