JESKEI: BUILDING A BETTER ONLINE VIDEO EXPERIENCE

Technical Whitepaper v2.0



Abstract

Jeskei is a decentralized media distribution platform that revolutionizes content creation and monetization through blockchain technology. By representing media assets as NFTs and enabling automated revenue sharing, Jeskei empowers creators while providing viewers with authentic, fairly-compensated content. The platform addresses critical industry challenges including performer authenticity, equitable revenue distribution, and content piracy through innovative technical solutions. Unlike token-dependent platforms, Jeskei operates through a sustainable self-funding model based on creator hosting fees and platform revenue sharing.



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1 Introduction

1.1 Problem Statement

The entertainment industry faces fundamental structural problems:

- **Inequitable Revenue Distribution**: Content creators receive minimal compensation while platforms and studios capture most value
- **Performer Authenticity Crisis**: AI deepfakes threaten performer livelihoods and audience trust
- **Centralized Control**: Major studios and platforms control distribution, limiting creative freedom
- **Complex Rights Management**: Collaboration between multiple creators lacks transparent revenue sharing mechanisms
- **Invasive Advertising**: Viewers suffer poor user experience and privacy violations from traditional advertising models
- **Fragmented Creative Economy**: Musicians, video creators, and other artists lack unified monetization platforms

1.2 Solution Overview

Jeskei addresses these challenges through:

- 1. **NFT-Based Asset Representation**: Every component of media content (video, audio, scripts, performances) becomes a tradeable digital asset
- 2. Automated Revenue Sharing: Smart contracts distribute earnings based on predefined rules among all contributors
- 3. **Performer Authentication**: Blockchain-based identity verification prevents AI impersonation
- 4. **Privacy-First Advertising**: Client-side ad matching that pays viewers while protecting privacy
- 5. **DAO-Powered Communities**: Decentralized studios, crowdfunding, and collaborative content creation
- 6. **Multi-Media Support**: Unified platform for video, music, podcasts, and cross-media content
- 7. **Decentralized Storage**: IPFS and hybrid cloud solutions ensure content availability without single points of failure
- 8. **Cross-Platform Compatibility**: EVM-based architecture enables interoperability across blockchain networks
- 9. **Sustainable Self-Funding Model**: Creator-funded hosting ensures platform sustainability without token dependency



2 Technical Architecture

2.1 System Overview

Jeskei Platform Architecture





2.2 Blockchain Implementation

2.2.1 EVM-First Strategy

Network Selection Criteria:

- Low transaction fees for micropayments
- High throughput for media operations
- Strong developer ecosystem
- Future migration path to Catalyst Network

Deployment Strategy:

Phase 1: Primary Network (Polygon/Arbitrum)

- ---- Smart contract deployment
- NFT marketplace
- L____ Basic revenue sharing

Phase 2: Multi-chain Expansion

- Cross-chain bridge implementation
- Unified token standards
- L- Network-agnostic user experience

Phase 3: Catalyst Migration

- Enhanced performance features
- ---- Native file storage integration
- Advanced media-specific optimizations

2.2.2 Smart Contract Architecture

Core Contracts:

- 1. AssetRegistry.sol ERC-721 NFT contract for media assets
- 2. RevenueDistributor.sol Automated payment splitting
- 3. PerformerAuthentication.sol Identity verification system
- 4. ContentAccess.sol Access control and licensing
- 5. DAOGovernance.sol Decentralized governance
- 6. HostingManager.sol Creator hosting fee management



Asset NFT Structure:

```
struct MediaAsset {
    address creator;
    string contentHash; // IPFS hash or storage URL
    string metadataURI; // Additional metadata
    uint256 revenueShare;
    bool isVerified;
    uint256 creationTime;
    mapping(address => uint256) contributorShares;
    string storageProvider;
    uint256 hostingFeesPaid;
}
```



2.3 Content Storage Strategy

2.3.1 Hybrid Storage Architecture

Multi-Tier Storage System:

```
Storage Hierarchy
Tier 1: Blockchain (Metadata Only)
--- Asset ownership records
---- Access permissions
--- Revenue distribution rules
L___ Content references (hashes/URLs)
Tier 2: IPFS (Primary Decentralized Storage)
--- Public content (free streaming)
Encrypted premium content
- Content metadata and thumbnails
L___ Redundant distribution network
Tier 3: Cloud Storage (Performance Optimization)
High-bandwidth streaming
Geographic content delivery
---- Enterprise compliance requirements
L___ Creator-managed private storage
Tier 4: Edge Caching (User Experience)
--- Popular content caching
---- Reduced latency streaming
--- Mobile optimization
L___ Offline capability
```

2.3.2 IPFS Implementation

Content Distribution Strategy:

IPFS Network Configuration

```
Content Preparation:
```

- ---- Video transcoding (multiple qualities)
- Chunk-based storage (streaming optimization)
- Encryption for premium content
- igsquare Metadata extraction and indexing



Network Topology: Pinning services (Pinata, Fleek, etc.) Geographic distribution nodes Creator-operated nodes (optional) Platform-managed infrastructure nodes Performance Optimization: Preloading popular content Predictive caching algorithms CDN integration for hot content Progressive download for large files

IPFS Gateway Strategy:

- Multiple gateway providers for redundancy
- Custom gateway optimization for media streaming
- Fallback mechanisms for gateway failures
- Integration with CDN providers for performance

2.3.3 Access Control & DRM

Decentralized Content Protection:

DRM Implementation Flow

- 1. Content Encryption
 - AES-256 encryption per asset
 - Unique keys derived from blockchain data
 - Time-based key rotation
 - L____ Hardware-level protection where available
- 2. Access Verification
 - Smart contract validates payment/subscription
 - Generates time-limited access tokens
 - Cryptographic proof of purchase
 - L___ Revocable access controls

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- 3. Client-Side Decryption
 - Secure key delivery to authenticated clients
 - Watermarking for content tracking
 - Playback monitoring and analytics
 - └── Anti-tampering mechanisms
- 4. Streaming Protection
 - Encrypted transmission protocols
 - Browser-based DRM (EME/MSE)
 - Mobile platform DRM integration
 - └── Screen recording detection





3 Privacy-First Advertising Engine

3.1 Revolutionary Ad Model

Problems with Traditional Advertising:

- Centralized demographic profiling violates user privacy
- Intrusive ad placement disrupts viewing experience
- Viewers receive no compensation for their attention
- Advertisers lack genuine engagement metrics

Jeskei's Solution - Pull-Based Advertising:

Privacy-Preserving Ad Flow

- 1. Advertiser Upload
 - Ad content and metadata (demographics, interests)
 - Bid price per impression/click
 - Campaign budget and duration
 - L Quality and compliance verification
- 2. Client-Side Matching
 - User profile stored locally (never uploaded)
 - On-device ad relevance calculation
 - Privacy-preserving demographic matching
 - \square User controls ad frequency and topics
- 3. Opt-In Revenue Sharing
 - Viewer chooses to see ads for compensation
 - Real-time revenue distribution
 - Enhanced engagement through incentives
 - L Transparent earnings tracking



3.2 Technical Implementation

Client-Side Ad Matching:

javascript

```
class PrivacyAdEngine {
 constructor() {
    this.userProfile = this.loadLocalProfile();
    this.adDatabase = new Map();
  async matchAds(contentMetadata) {
    const relevantAds = [];
   for (const [adId, ad] of this.adDatabase) {
     const relevanceScore = this.calculateRelevance(
       this.userProfile,
       ad.targeting,
       contentMetadata
     if (relevanceScore > 0.7 && this.userConsents(ad)) {
        relevantAds.push({adId, score: relevanceScore, ad});
    return relevantAds.sort((a, b) => b.score - a.score);
  async watchAd(adId) {
    const payment = await this.processAdPayment(adId);
    this.earnings += payment.viewerShare;
    this.updateLocalProfile(adId);
```



Revenue Distribution Contract:

solidity

```
contract AdRevenueDistributor {
   struct AdCampaign {
       address advertiser;
       uint256 budget;
       uint256 viewerPaymentRate;
       uint256 creatorPaymentRate;
   function distributeAdRevenue(
       uint256 campaignId,
       address viewer,
       address creator,
       AdCampaign storage campaign = campaigns[campaignId];
       require(campaign.budget >= getTotalPayment(campaignId), "Insufficient
budget");
       uint256 viewerPayment = campaign.viewerPaymentRate * viewCount;
       uint256 creatorPayment = campaign.creatorPaymentRate * viewCount;
       uint256 platformFee = (viewerPayment + creatorPayment) / 10; // 10%
platform fee
       payable(viewer).transfer(viewerPayment);
       payable(creator).transfer(creatorPayment);
       campaign.budget -= (viewerPayment + creatorPayment + platformFee);
```

3.3 User Experience Features

Viewer Controls:

- Ad Frequency Settings: Maximum ads per hour/content piece
- Topic Preferences: Choose relevant categories, block unwanted topics
- **Revenue Tracking**: Real-time earnings from ad viewing
- Privacy Dashboard: Full transparency on data usage (all local)



Creator Benefits:

- Higher CPM: Engaged, incentivized viewers command premium rates
- Quality Audience: Opt-in model ensures genuine interest
- Flexible Integration: Ads seamlessly integrated into content flow
- Analytics: Detailed engagement metrics without privacy invasion





4 DAO-Powered Creative Economy

4.1 Advanced Community Features Roadmap

Phase 1: Basic DAO Functions (Launch)

Foundation Layer

- --- Channel creation and management
- ---- Simple revenue sharing
- ---- Basic community voting
- L Content creator verification

Phase 2: Digital Studios (Months 6-12)

Studio Formation Features

- --- Multi-creator collaborative DAOs
- Shared revenue pools and budgets
- Project-based team assembly
- Intellectual property management
- L Cross-project asset sharing

Studio Types:

- --- Film Production Studios
- Music Labels and Collectives
- --- Podcast Networks
- Educational Content Creators
- L____ Multi-Media Brand Studios

Phase 3: Crowdfunding Platform (Months 12-18)

Project Funding Ecosystem

- Campaign creation and management
- Milestone-based fund release
- Investor NFT rewards and perks
- Success-based revenue sharing
- └── Community-driven project curation

Funding Types:

- --- Film/Video Production
- Album/EP Recording
- Podcast Series Development



Educational Course Creation
Community Events and Experiences

Phase 4: Advanced Features (Months 18+)

Mature Ecosystem Features

- Cross-platform content syndication

- AI-assisted content creation tools

--- Virtual reality/metaverse integration

--- Advanced analytics and insights

L___ Enterprise B2B marketplace



4.2 Digital Studio Implementation

Studio DAO Architecture:

solidity

```
contract DigitalStudio {
   struct StudioMember {
       address memberAddress;
        string role; // Producer, Director, Musician, etc.
       uint256 contributionScore;
       uint256 revenueShare; // Basis points
       bool isActive;
       uint256 projectId;
       string projectType; // Film, Album, Series, etc.
       uint256 budget;
       uint256 fundsRaised;
       address[] contributors;
        mapping(address => uint256) contributions;
        ProjectStatus status;
   mapping(address => StudioMember) public members;
   mapping(uint256 => Project) public projects;
   function createProject(
       string memory projectType,
        uint256 targetBudget,
        address[] memory initialContributors
   ) external onlyMember returns (uint256) {
       // Project creation logic
        // Automatic revenue sharing setup
        // Milestone-based fund release
```



4.3 Crowdfunding Mechanics

Investment Models:

- Equity-Style: Investors receive percentage of project revenues
- NFT Rewards: Exclusive content, merchandise, or experiences
- Tiered Access: Early access, behind-the-scenes content, credits
- Community Ownership: Partial IP rights for major investors

Example Crowdfunding Flow:

Album Production Campaign				
Musician creates funding proposal				
Defines reward tiers:				
↓ ↓ \$10: Early access to singles				
↓ ↓ \$50: Signed physical album + NFT				
↓ ↓ \$500: Producer credit + 0.1% revenue share				
└── \$5,000: Executive producer + 1% revenue share				
- Campaign launches with demo tracks				
- Community funds project over 60 days				
- Milestone payments released during production				
- Revenue sharing activated upon release				





5 Multi-Media Content Support

5.1 Music Industry Integration

Addressing Music Producer Needs:

- Unified Brand Management: Single platform for music, videos, merchandise, and fan engagement
- **Multi-Platform Distribution**: Direct integration with streaming services while maintaining primary presence on Jeskei
- Enhanced Revenue Streams: Beyond streaming royalties fan funding, NFT sales, exclusive content
- Fan Community Building: Direct artist-to-fan relationships with tokenized engagement

Music-Specific Features:

Music Producer Toolkit
- Audio Upload and Streaming
High-quality audio support (FLAC, 24-bit)
Multiple format transcoding
Playlist and album organization
│ └── Synchronized lyrics and metadata
- Video Content Integration
│
Behind-the-scenes content
Live performance recordings
Interactive video experiences
- Fan Engagement Tools
Limited edition NFT releases
Virtual meet-and-greets
Exclusive track previews
Fan-funded bonus content
L Revenue Optimization
Fan subscription tiers
Merchandise integration
L Concert/event promotion





5.2 Cross-Media Asset Utilization

Unified Content Ecosystem:

Artist Brand Architecture

- --- Core Identity NFT (Artist verification)
- Music Assets
 - Individual track NFTs
 - Album compilation NFTs
 - Remix and collaboration rights
 - └── Sample and loop libraries
- ---- Visual Content

 - Album artwork and photography
 - ---- Concert footage and documentaries
- L- Social media content
- --- Interactive Elements
 - Fan community spaces
 - --- Virtual concert venues
 - Educational content (tutorials, insights)
 - Collaborative creation opportunities
- L___ Merchandise & Experiences
 - Physical product integration
 - Virtual goods and collectibles
 - Event access and VIP experiences
 - Personalized fan interactions

5.3 Record Label Evolution

Digital-First Label Model:

Traditional record labels can leverage Jeskei to:

- Transparent Artist Relations: Smart contract-based deals with automatic royalty distribution
- Fan-Funded A&R: Community voting and funding for new artist development
- Global Distribution: Simultaneous release across traditional and decentralized platforms
- Data Ownership: Artists retain control of fan relationships and data
- **Reduced Intermediaries**: Direct artist-to-fan relationships while maintaining label support services

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Implementation for Existing Labels:

Labe	el Integration Strategy
├	Artist Onboarding
	Existing catalog tokenization
	Fan community migration tools
	L- Revenue stream optimization
├	Catalog Management
	- Bulk upload tools for existing content
	Metadata standardization and enhancement
	Rights management and licensing
	L Cross-platform synchronization
├	Fan Engagement
	Label-wide community spaces
	Cross-artist collaboration opportunities
	- Exclusive label member benefits
	L- Alumni and tribute content
L	Business Model Evolution
	Community-driven A&R decisions
	— Transparent financial reporting

└── Artist empowerment and retention



6 Content Creation & Management

6.1 Asset Tokenization Process

Content Asset Breakdown

- Video Production Components:
- | beilpe wit (witeet ownerbilip)
- Performance NFTs (Actor ownership)
- Music/Audio NFTs (Composer ownership)
- Visual Effects NFTs (VFX artist ownership)
- Editing NFT (Editor ownership)
- └── Final Production NFT (Producer ownership)

Revenue Distribution:

- Automatic calculation based on NFT ownership
- ---- Customizable percentage allocations
- ---- Real-time payment distribution
- L Transparent accounting on-chain

6.2 Collaborative Production Workflow

DAO-Based Content Creation:

- 1. **Project Initialization**
 - o Creator establishes production DAO
 - Defines project scope and requirements
 - Sets initial revenue sharing parameters

2. Contributor Onboarding

- Contributors submit asset NFTs
- o DAO votes on inclusion and revenue shares
- Smart contracts lock in agreements

3. Production Assembly

- o Assets combined into final content
- Automated compliance and quality checks
- Distribution-ready package creation



4. Revenue Activation

- Content published with embedded payment logic
- Real-time revenue tracking and distribution
- Performance analytics for optimization



7 Performer Authentication System

7.1 Identity Verification Protocol

Blockchain-Based Authenticity:

Performer Verification Process

- 1. Identity Submission
 - KYC documentation submission
 - Biometric data capture (optional)
 - Professional credentials verification
 - L Public key generation and registration
- 2. On-Chain Registration
 - Verified performer public key storage
 - Identity hash commitment (privacy-preserving)
 - ---- Reputation scoring system
 - L Historical performance tracking
- 3. Content Authentication
 - Performer signs NFT representing their appearance
 - --- Cryptographic proof of authenticity
 - Time-stamped verification
 - L Immutable authenticity record
- 4. Anti-Deepfake Protection
 - Real-time verification during content upload
 - AI detection algorithm integration
 - --- Community reporting mechanisms
 - L- Automatic content flagging for suspicious material

7.2 Verification Challenges

Technical Implementation:

- **Privacy Protection**: Zero-knowledge proofs for identity verification without revealing personal information
- Scalability: Efficient verification processes that don't slow content creation
- **Dispute Resolution**: Mechanisms for handling false positives and verification challenges
- **Cross-Platform Compatibility**: Standards that work across different content platforms



8 Revenue Distribution Mechanism

8.1 Smart Contract Payment Logic

Automated Revenue Sharing:

```
struct RevenueShare {
    address recipient;
    uint256 percentage;
    bool isActive;
mapping(uint256 => RevenueShare[]) public assetShares;
function distributeRevenue(uint256 assetId, uint256 amount) external payable {
    require(msg.value == amount, "Incorrect payment amount");
    RevenueShare[] storage shares = assetShares[assetId];
    uint256 platformFee = (amount * 15) / 100; // 15% platform fee
    uint256 availableRevenue = amount - platformFee;
    for (uint i = 0; i < shares.length; i++) {
        if (shares[i].isActive) {
            uint256 payment = (availableRevenue * shares[i].percentage) / 100;
            payable(shares[i].recipient).transfer(payment);
            emit RevenueDistributed(assetId, shares[i].recipient, payment);
    // Platform fee handling
    payable(platformTreasury).transfer(platformFee);
```

8.2 Payment Token Strategy

Multi-Currency Support:

• **Primary**: USDC (stability for creators)





- Secondary: ETH/WETH (ecosystem integration)
- Fiat Gateway: Credit card integration for mainstream adoption

Fee Structure:

```
Revenue Distribution (Per Transaction)

- Content Creators: 85%

- Platform Operations: 15%

Advertising Revenue Split

- Viewer (Ad Watcher): 50%

- Content Creator: 40%

- Platform: 10%

Hosting Fee Structure

- Creator Payment: $1-50 per upload

- Platform Margin: 50-100%

- Scaling Discounts: Volume-based reductions
```





9 Platform Access & User Experience

9.1 Multi-Platform Strategy

Progressive Web Application (Primary):

PWA Technical Stack

- Frontend: React/TypeScript
- State Management: Redux Toolkit
- Blockchain Integration: ethers.js/web3.js
- --- Media Streaming: HLS.js/Dash.js
- Service Worker: Offline capability
- L- WebAssembly: Performance-critical operations

Mobile Applications (Secondary):

- React Native wrapper around PWA core
- Native DRM integration (ExoPlayer, AVPlayer)
- Platform-specific optimizations
- App store compliance features

Desktop Applications (Optional):

- Electron wrapper for enhanced features
- Creator-focused professional tools
- Advanced content management capabilities

9.2 Streaming Technology

Adaptive Bitrate Streaming:



WebRTC (Future Enhancement):

- Peer-to-peer streaming
- Reduced bandwidth costs
- Real-time interaction features
- ${{\textstyle \sqsubseteq}}$ Decentralized delivery network



10 Security & Privacy

10.1 Content Protection

Multi-Layer Security:

1. Encryption at Rest

- AES-256 encryption for stored content
- Key derivation from blockchain state
- Secure key rotation mechanisms

2. Transmission Security

- TLS 1.3 for all communications
- Certificate pinning for API endpoints
- End-to-end encryption for sensitive data

3. Access Control

- Time-limited access tokens
- Granular permission systems
- Revocable access rights

4. Audit & Compliance

- Immutable access logs on blockchain
- GDPR compliance for user data
- Content industry standard adherence

10.2 Privacy Protection

User Privacy Measures:

- Minimal data collection (wallet-based identity)
- Zero-knowledge age verification
- Optional personal information
- IPFS content addressing (no tracking URLs)
- Local ad matching (no profile uploading)



11 Platform Economics & Governance

11.1 Self-Funding Economic Model

Sustainable Revenue Model Without Tokens:

Revenue Streams

- —— Creator Hosting Fees
 - Video processing: \$1-3 per upload
- Storage: \$0.25/GB/month
- Bandwidth: \$0.10/GB transfer
- Premium tools: \$10-50/month

----- Platform Transaction Fees

- Content sales: 15% platform fee
- Advertising: 10% platform fee
- Crowdfunding: 5% platform fee
- └── Merchandise: 10% platform fee
- Enterprise Services
 - Cinema integration: \$100/month
 - Label partnerships: Custom pricing
 - API access: Tiered pricing

Growth Strategy:

Phase 1: Bootstrap (Year 1)

- Creator-funded operations
- Break-even at 1,000 active creators
- 50-100% margin on hosting services
- Reinvestment in platform development

Phase 2: Scale (Year 2-3)

- Advertising revenue supplementation
- Free hosting for successful creators
- Community grant programs
- Geographic expansion

Phase 3: Sustainability (Year 3+)

Self-sustaining operations



- Major content funding programs
- Industry partnerships
- └── Optional governance token consideration

11.2 Community Governance

Decentralized Decision Making Without Tokens:

Governance Structure:

- Creator Council: Elected representatives from active creators
- **Community Representatives**: User-elected delegates
- Technical Committee: Core development team
- Advisory Board: Industry experts and investors

Decision-Making Process:

Governance Flow

- Proposal Submission (Any community member)
- Technical Review (Core team assessment)
- —— Community Discussion (Public debate period)
- Council Voting (Weighted by contribution/usage)
- Implementation (Automatic via smart contracts)
 - Feedback Integration (Continuous improvement)

Governance Scope:

- Platform fee adjustments (within reasonable bounds)
- New feature development priorities
- Community fund allocation criteria
- Partnership and integration decisions
- Technical upgrade pathways

Future Token Considerations:

- Governance tokens may be introduced once platform reaches maturity
- Token distribution would favor early creators and contributors
- Any token implementation would maintain the self-funding model
- Community vote required for token introduction



12 Implementation Roadmap

Phase 1: Foundation (Months 1-6)

Core Infrastructure

- Smart contract deployment on Polygon
- Basic IPFS integration for public content
- PWA with essential streaming features
- Creator hosting fee system implementation
- Simple revenue sharing implementation
- Privacy-first advertising MVP
- Music upload and streaming support

Deliverables:

- Functional content upload and streaming (video + audio)
- Basic NFT minting for assets
- Wallet integration and user authentication
- Proof-of-concept revenue distribution
- Client-side ad matching prototype
- Multi-media content management

Phase 2: Enhancement (Months 7-12)

Advanced Features

- Encrypted content support with DRM
- Mobile application launch
- Performer authentication system
- Basic DAO governance implementation
- Cinema integration (DCP support)
- Full advertising platform with revenue sharing

 Digital studio formation tools
- Music label integration features

Deliverables:

- Premium content protection
- Multi-platform access
- Identity verification system
- Community governance tools
- B2B cinema distribution
- Viewer-paid advertising system
- Collaborative content creation DAOs
- Record label onboarding tools



Phase 3: Scale (Months 13-18)

Network Expansion & Advanced Community Features

- Multi-chain deployment
- Catalyst network migration preparation
- Advanced creator tools and analytics
- Crowdfunding platform launch
- Cross-media content syndication
- Enterprise partnerships and B2B tools
- Advanced DAO features (sub-DAOs, specialized governance)

Deliverables:

- Cross-chain interoperability
- Enhanced performance and features
- Professional content creation suite
- Community-driven project funding
- Industry adoption and partnerships
- Mature digital studio ecosystem



13 Technical Challenges & Solutions

13.1 Streaming Performance from IPFS

Challenge: IPFS may not provide consistent streaming performance for high-quality video content.

Solutions:

- Hybrid CDN Integration: Combine IPFS with traditional CDNs for popular content
- Intelligent Caching: Predictive content placement based on viewing patterns
- Gateway Optimization: Custom IPFS gateways optimized for media streaming
- Peer-to-Peer Assistance: WebRTC integration for viewer-assisted distribution

13.2 Mobile DRM Implementation

Challenge: Implementing decentralized DRM on mobile platforms with varying capabilities.

Solutions:

- Platform-Specific Integration: Native DRM APIs on iOS and Android
- **Progressive Enhancement**: Graceful degradation for unsupported devices
- Cloud-Assisted Decryption: Secure cloud services for resource-constrained devices
- Hardware Security: TEE and secure enclave utilization where available

13.3 Network Fees and Micropayments

Challenge: Blockchain transaction fees may exceed small content payments.

Solutions:

- **Payment Channels**: Lightning-style payment channels for micropayments
- **Batch Processing**: Aggregate small payments for efficient processing
- Layer 2 Solutions: Utilize rollups and sidechains for reduced fees

13.4 Privacy-Preserving Advertising at Scale

Challenge: Maintaining user privacy while delivering relevant, high-converting advertisements across millions of users.

Solutions:

- Federated Learning: Collaborative ad optimization without data sharing
- Differential Privacy: Mathematical privacy guarantees for aggregate analytics
- Homomorphic Encryption: Compute on encrypted user profiles



• Zero-Knowledge Proofs: Prove ad relevance without revealing user data

13.5 Multi-Media Content Rights Management

Challenge: Managing complex rights across music, video, and other media types with multiple stakeholders.

Solutions:

- **Composable NFTs**: Nested rights structures for complex content
- Automated Royalty Calculation: Smart contracts handling complex splits
- Cross-Platform Rights Tracking: Integration with external platforms (Spotify, iTunes)
- **Dispute Resolution Mechanisms**: DAO-mediated conflict resolution





14 Conclusion

Jeskei represents a paradigm shift in media distribution, leveraging blockchain technology to create a more equitable and transparent ecosystem for content creators and consumers. The platform's technical architecture addresses key industry challenges while maintaining compatibility with existing systems and standards.

Key Innovations:

- 1. **Privacy-First Advertising**: Revolutionary approach that compensates viewers while protecting privacy through client-side ad matching
- 2. **Multi-Media Unified Platform**: Single ecosystem supporting video, music, podcasts, and cross-media content creation
- 3. Advanced DAO Features: From simple governance to complex digital studios and crowdfunding mechanisms
- 4. **Transparent Revenue Sharing**: Automated, blockchain-based compensation for all contributors
- 5. Performer Authenticity: Cryptographic protection against AI impersonation

The hybrid approach to storage, EVM-based smart contracts, and focus on user experience positions Jeskei to capture significant market share in the evolving digital content landscape. The phased implementation strategy allows for iterative development and community feedback integration, ensuring the platform meets real-world needs.

The addition of music industry support, advanced DAO features, and privacy-preserving advertising creates multiple competitive advantages over existing platforms. Success will depend on achieving network effects through quality content, creator incentives, superior user experience, and the unique value proposition of compensated, privacy-respecting advertising.

The technical foundation provides the flexibility to adapt to changing requirements while maintaining the core principles of decentralization, transparency, and fair compensation across all media types.-based smart contracts, and focus on user experience positions Jeskei to capture significant market share in the evolving digital content landscape. The phased implementation strategy allows for iterative development and community feedback integration, ensuring the platform meets real-world needs.

Success will depend on achieving network effects through quality content, creator incentives, and superior user experience compared to existing platforms. The technical foundation provides the flexibility to adapt to changing requirements while maintaining the core principles of decentralization, transparency, and fair compensation.



15 Technical Appendices

Appendix A: Smart Contract Interfaces [Detailed contract specifications and APIs] Appendix B: IPFS Configuration [Network setup and optimization parameters] Appendix C: Security Audit Results [Third-party security assessment findings] Appendix D: Performance Benchmarks [Streaming performance and scalability metrics]

This technical whitepaper is a living document that will be updated as the platform develops and new technical challenges are identified and resolved.