Blockchain Movie Club

Decentralized Autonomous Platform for Digital Rights Management and Video Content Distribution

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Problem

Key issues in film or video content distribution:

Independent or small budget filmmakers face a difficulty in distributing the content through theaters or online platforms. These hurdles discourage artists to experiment and innovate with the film media even though there is a huge segment of audience that are receptive to these films.

Platforms like youtube seems to address the above issue to certain extent, but the business models of such organizations still creates a layer between audience and artists.

Advertisers play a key role in sponsoring and making video content freely available to the audience, but again the nature of the business models followed by the platforms may not be very effective as artists are not direct beneficiaries.

Problem Summary

Movie Audience: I like to watch movies but there are very few releases that I like

Filmmaker: I can make good movie but difficult to sell it.

Advertisers: It is very difficult to measure the effectiveness of Ad campaigns on video platforms

Solution Overview

BlockChain Movie Club is a decentralized autonomous entity that runs on a blockchain using the smart contract technology.

The platform provides direct interaction between movie content creators, audience and advertisers. The platform allows audience view movie content either freely when sponsored by advertisers or buy it directly from content creator. Content creators will have full control over the content distribution and content is protecting using DRM. The platform allows advertisers to monitor the effectiveness of their ad campaigns by accessing the statistics from the blockchain transparently.

The platform facilitates all the payment transactions between the parties, distribution of content access permissions and logs the usage statistics.

Benefits

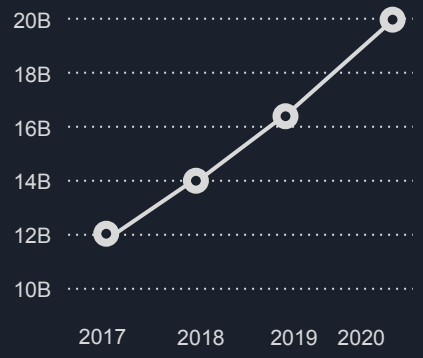
Increased Personalization: Increases production of films that caters for individual choices rather than following "One size fits all" model of film making.

Unleashes Artist's Creativity: Artists will find the audience that appreciate their work as well as advertisers that can sponsor the content.

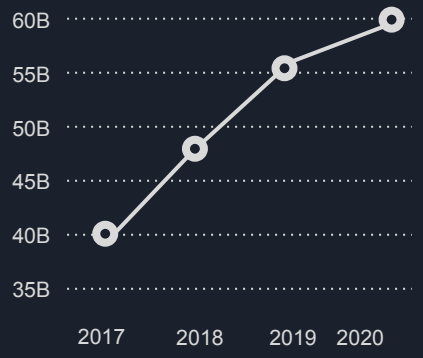
Effective Ad campaigns: Advertisers can measure and monitor the contextuality and consumption of the ads directly.

Market

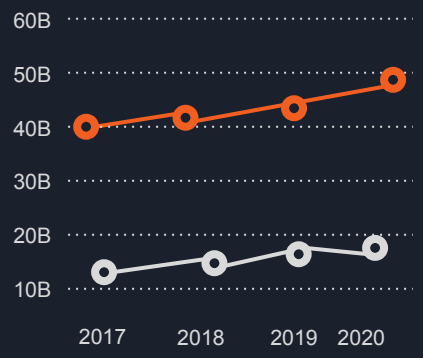
Size of the related market segments in USA



US Digital Video Ad Spending



US Online Ad Spending



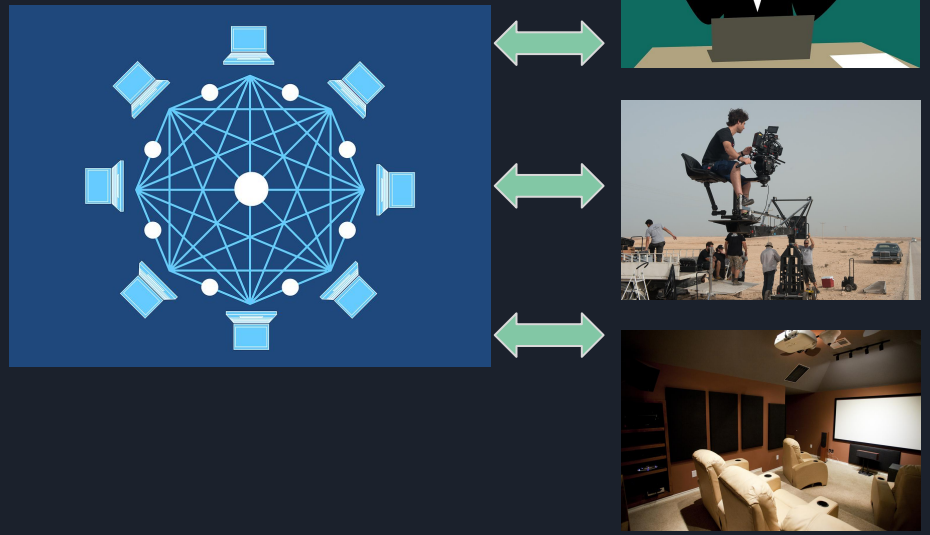
US Film Revenues US/Global

Technical Overview

Blockchain Movie Club: A decentralized autonomous entity (Ethereum Smart Contract)

The participants hold accounts on the blockchain and register with the Smart Contract as one of the following:

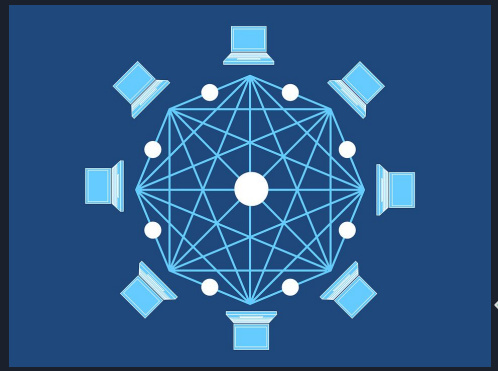
- Media Player
- Movie Provider
- Advertiser



Technical Overview

Movie Provider

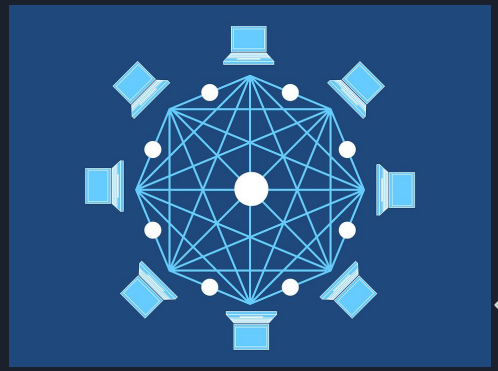
- Stores a Movie on a storage server with DRM protection
- Register a movie with the BCMC
  - Price
  - Duration

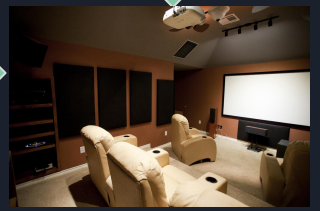


Technical Overview

Movie Player

- Registers with the BCMC
  - Capabilities
  - Preferences
- Buys a movie or selects a sponsored movie
- Retrieves movie (and Ad URLs) and plays

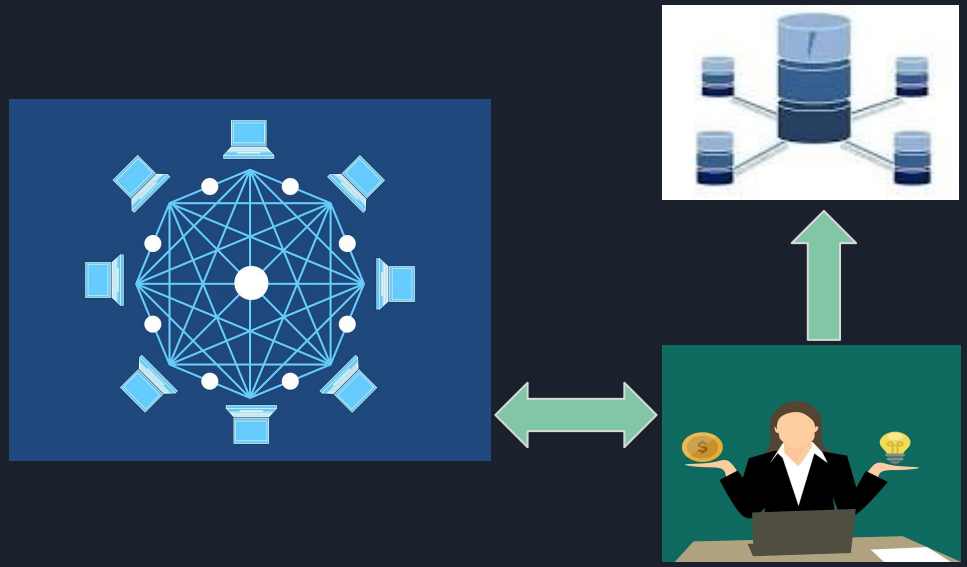




Technical Overview

Advertiser

- Sponsors a movie solely or jointly
- Uploads Ad to a Storage server
- Specifies preferences for targeted audience



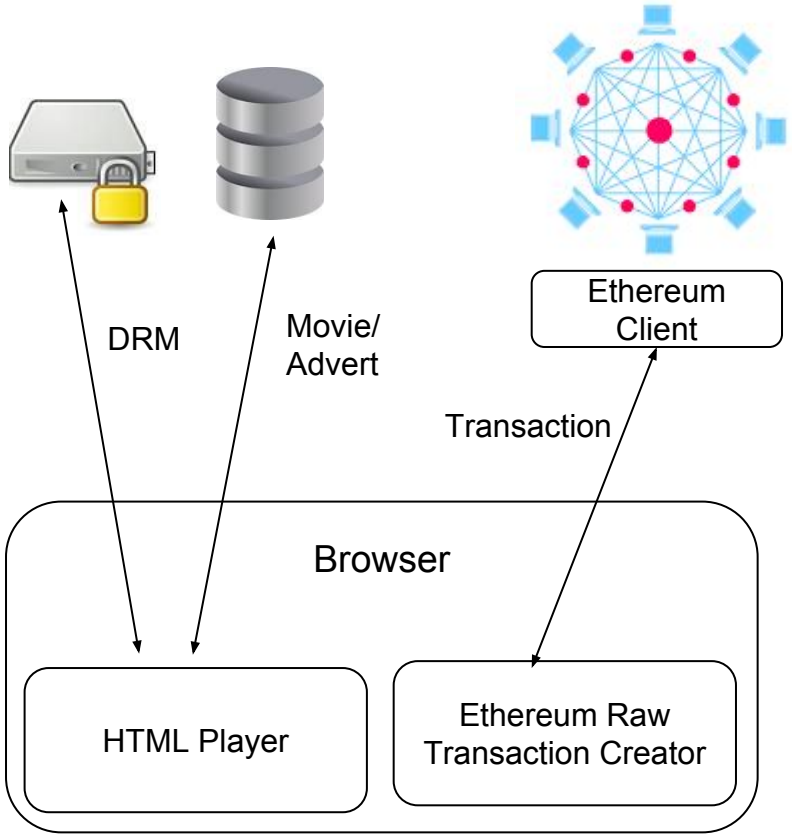
Movie Player

Supports wide number of platforms:

- HTML5 Players running in Chrome, Mozilla and Internet Explorer, Safari
- Android TVs
- iPhone, Android Phones

The media player connects to the blockchain using a remote Ethereum node.

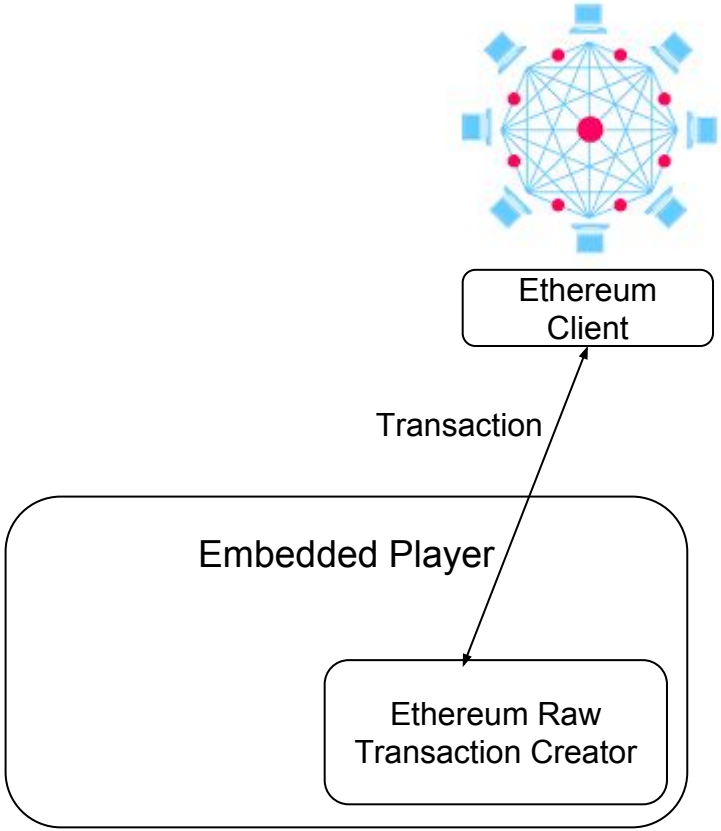
- Obtains Movie and Ad URLs from Blockchain
- Sends Player statistics to Blockchain



Challenges: Devices interacting directly with Blockchain

Playback Devices need to interact with blockchain with little or no intervention from the user. This includes obtaining digital rights and reporting usage data.

- Implementation of thin blockchain nodes
- Security of such implementations is a challenge



Challenges: Scalability

If the platform is reached to a user base comparable to some of existing video platforms, Playback Devices will generate massive number of transactions.

The good news is that the recent advancements in the blockchain technologies making such a scalability a reality. Blockchains such as EOS support high TPS

Platform Y

Number users	1,300,000,000
Number clips	>1,000,000,000
Number of views/Day	>1,000,000,000

Platform N

Number users	65,000,000
Number of Movies	15,400
Number of views/Day	>100,000,000

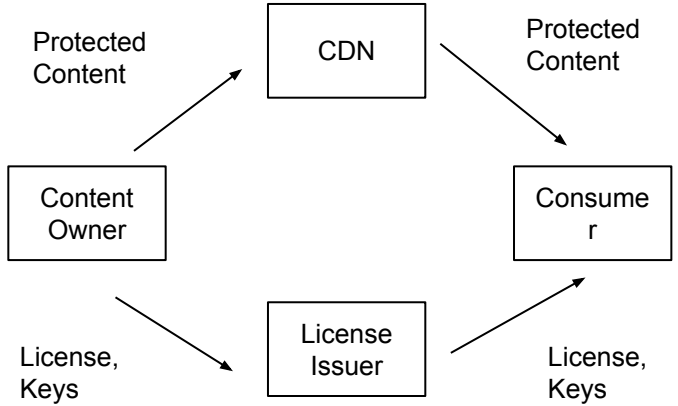
Ethereum

Number of Accounts	40,000,000
Number Transaction/Day	1,500,000 Peak

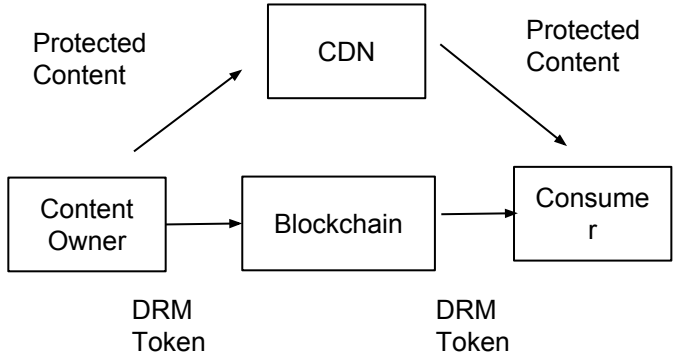
Challenges: DRM

The traditional Digital Rights Management techniques require dedicated DRM servers and involves communications paths for user authentication and exchange of encryption keys. This can be replaced with a blockchain based authentication. This transition may bring certain challenges, but it has several advantages.

Traditional DRM

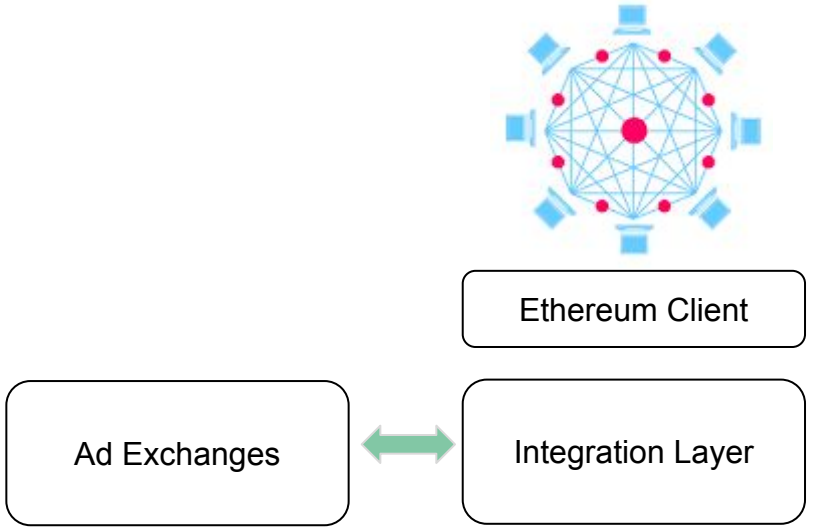


Blockchain based DRM



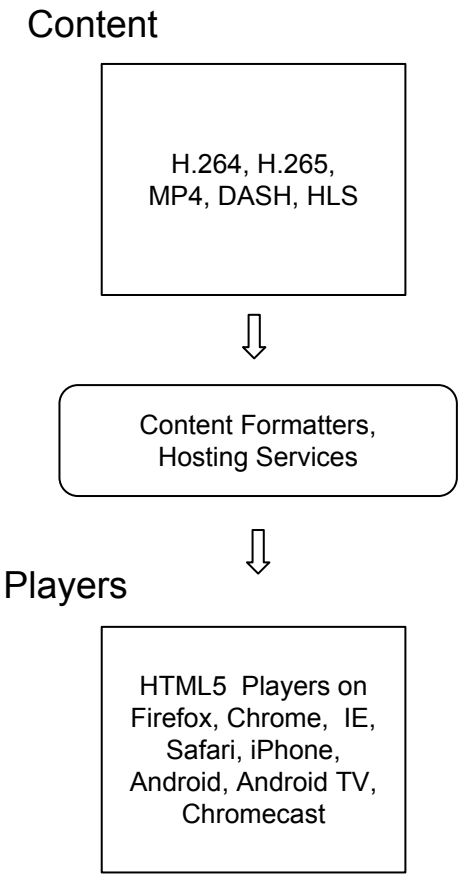
Ecosystem: Integration with Ad Exchanges

The platform needs to provide infrastructure to integrate current frameworks and workflows that advertisers use to run their Ad campaigns.



Ecosystem: Developing interoperable content creation and consumption guidelines

The platform provides an open framework that allows content providers to use formats of their choice and also allow users to use wide range of playback devices. It is crucial to develop interoperability guidelines and participate in the committees working on the standardization of the content formats.



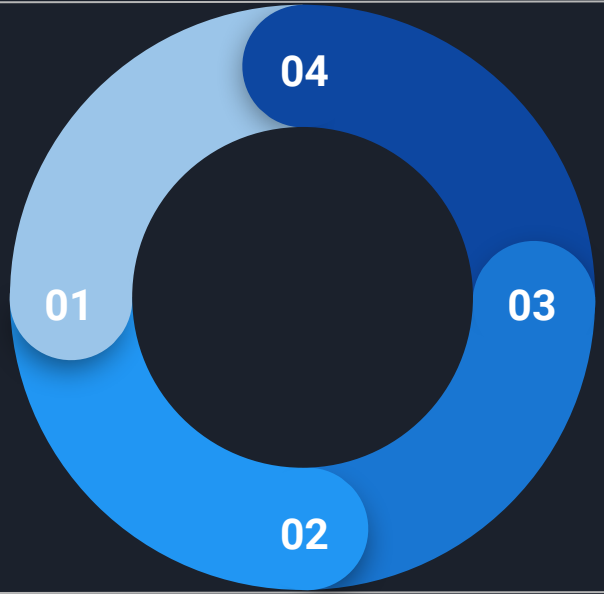
Development Overview

Prototype

Implement and test on Ethereum Private Network.

Share

Migrate to a testnet, invite blockchain community and do field testing



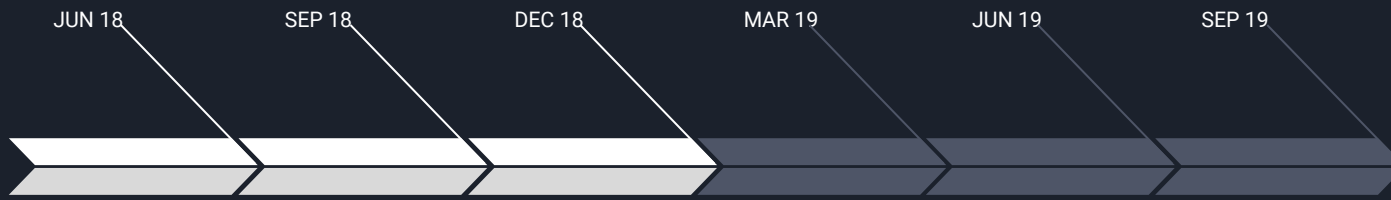
Production

Migrate to Mainnet of selected Blockchain.

Development

Blockchain selection (Rootstock, Ethereum Sharding, Nebulas...) and development

Project timeline



Concept

White Paper published and reviewed.

Prototype

Proof-of-concept Demo

Development

Design and implementation.

Alpha

Testing on Testnet

Beta

Migration to Mainnet.

Production

Open Platform : Opportunities for Innovation and experimentation

AI : Additional applications can be developed to analyze the data and give feedback to filmmakers, advertisers and , give recommendations to audience.

VR : As the platform provides direct connection to audience, it allows filmmakers to experiment with new technologies such as VR/AR.

UHD, 11.1 channel Immersive Audio : HQ video and audio Content may be generated and consumed.

This application provides environment for studying scalability of a Blockchain for massive microchannel payments.

Thank you!

Github Repo: https://github.com/mcntech/BlockchainMovieClub.git