Blockchain Summerschool 2019

Current State

- In the current era of music production, everything is digitized and released on digital platforms.
- Yet in Greenland the majority of sales still remain physical

- ≈ $45.000 Sales of CD’s per month
- ≈ $4.000 Sales of Digital services per month

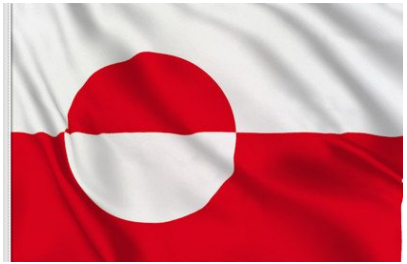
Image sources available on last slide

Why did it turn out this way?

iTunes enforces a price of $0.69-$1.29 per track

Spotify pays artist $0.006 per Minute listened

Population of Greenland ≈ 56000



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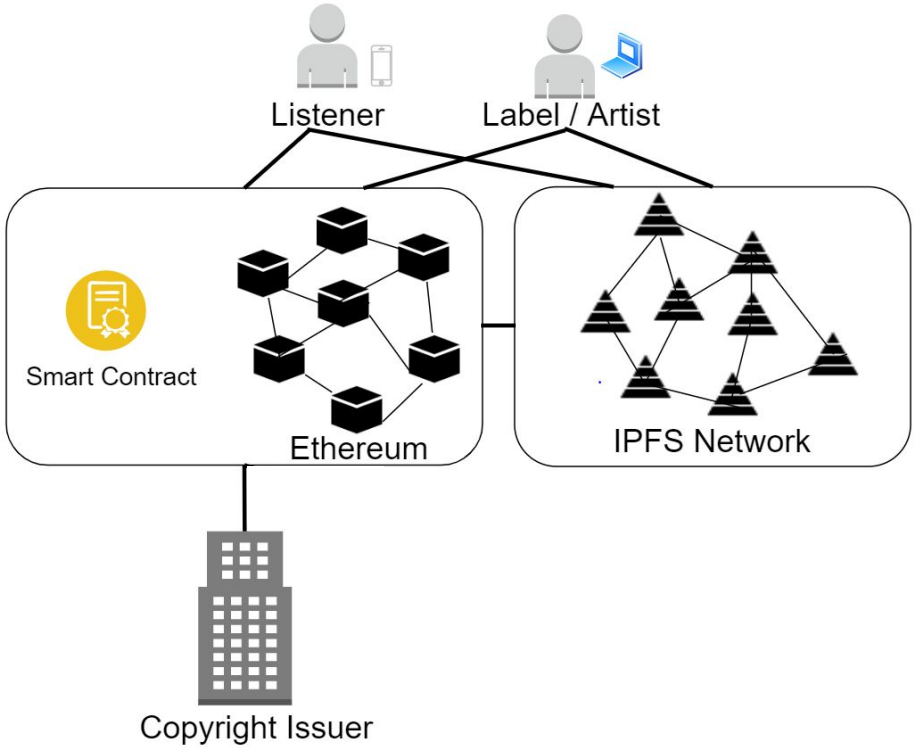
Equaling the artist on Avg. earn $130, which is unsustainable

How can this situation be changed by Distributed Ledger Technology?

Results
Entities and their relations



Copyright Issuer:
Trusted party responsible for copyright management approving authenticity of media files

Ethereum:
Blockchain

IPFS Network:
Distributed network for file storage based on an Interplanetary File Systems (IPFS)

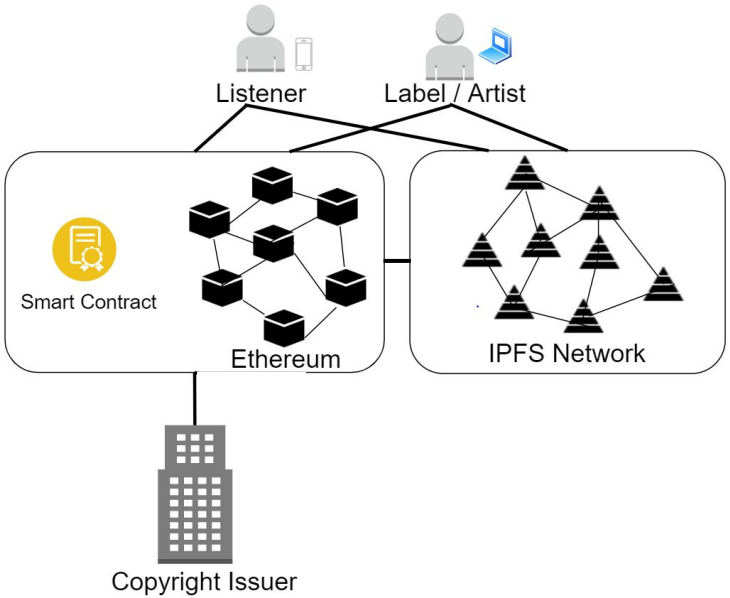
Label/Artist:
Content provider for media files running IPFS nodes

Listener:
Consumer using a smartphone, Desktop, or browser application

Discussion

Principle Findings

- The internal stakeholders (e.g., artists, labels,...) are highly incentivized to run a MDP based on DLT
- µRaiden and IPFS are still in their infancy and should be further investigated (e.g., in terms of customization and integration)
- DLT to decrease the power of intermediaries (e.g., Deezer or Spotify) allowing for self-defined payment strategies for artists and labels
- The presented system could be applicable to other media files



Contributions

- Initial investigation of the motivators and demotivators of the stakeholders for the use of such DPM
- Start of a first iteration of a Design Science Research[4, 5] project

[4] Hevner, March, Park, and Ram, “Design Science in Information Systems Research,” MIS Quarterly, vol. 28, no. 1, p. 75, 2004.
[5] V. Vaishnavi and B. Kuechler, Design Science Research in Information Systems. 2004.

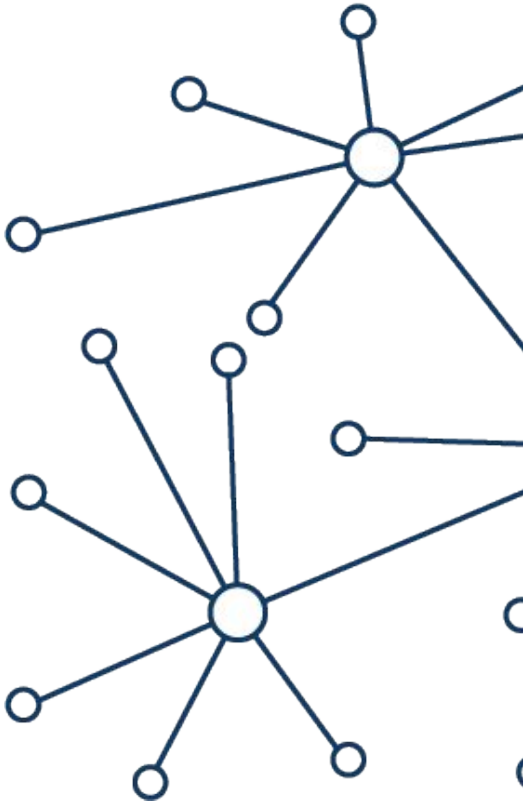
Limitation and Future Work

Limitation

- Partial implementation of the conceptualized architecture (e.g., IPFS is not included)
- Brief and unstructured literature search for the requirements analysis

Future Work

- Full implementation of the proposed DMP architecture in order to finalize the feasibility study and to present a proof of concept
- Further iterations concerning the proposed DMP architecture in the course of a design science research project in order to to derive design patterns for the design of general DMPs [4, 5]



[4] Hevner, March, Park, and Ram, “Design Science in Information Systems Research,” MIS Quarterly, vol. 28, no. 1, p. 75, 2004.
[5] V. Vaishnavi and B. Kuechler, Design Science Research in Information Systems. 2004.

Do you have questions?

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BackUp

Background
Interplanetary File Systems (IPFS)

- Open source framework for providing highly configurable and reliable decentralized storage [6]
- No reliance on centralized infrastructure
- Can tailor potential music storage to location and listeners comparable to Content Delivery Networks (CDN) [5]
  - Beneficial for emerging or remote area market such as Greenland
  - Potential for future user support of storage and distribution through incentives similar to Filecoin, Siacoin, or Storj

[5] IEEE Standard for Content Delivery Protocols of Next Generation Service Overlay Network," in IEEE Std 1903.1-2017 , vol., no., pp.1-71, 25 May 2018
[6] Q. Zheng, Y. Li, P. Chen and X. Dong, "An Innovative IPFS-Based Storage Model for Blockchain," *2018 IEEE/WIC/ACM International Conference on Web Intelligence (WI)*, Santiago, 2018, pp. 704-708.

Lean Canvas Model

Problems
- Subscription service challenges
- Pricing and fees
- Knowledge of market

Solution
- SMFs
- Market analysis
- Smart Contracts
- User application

Unique Advantage
- Monopoly

Customer Segments
- Greenlandians
  - 15-69
- Early adopters

Key Metrics
- User application
- SMFs
- Proofer
- Smart Contract

Unique Value Proposition

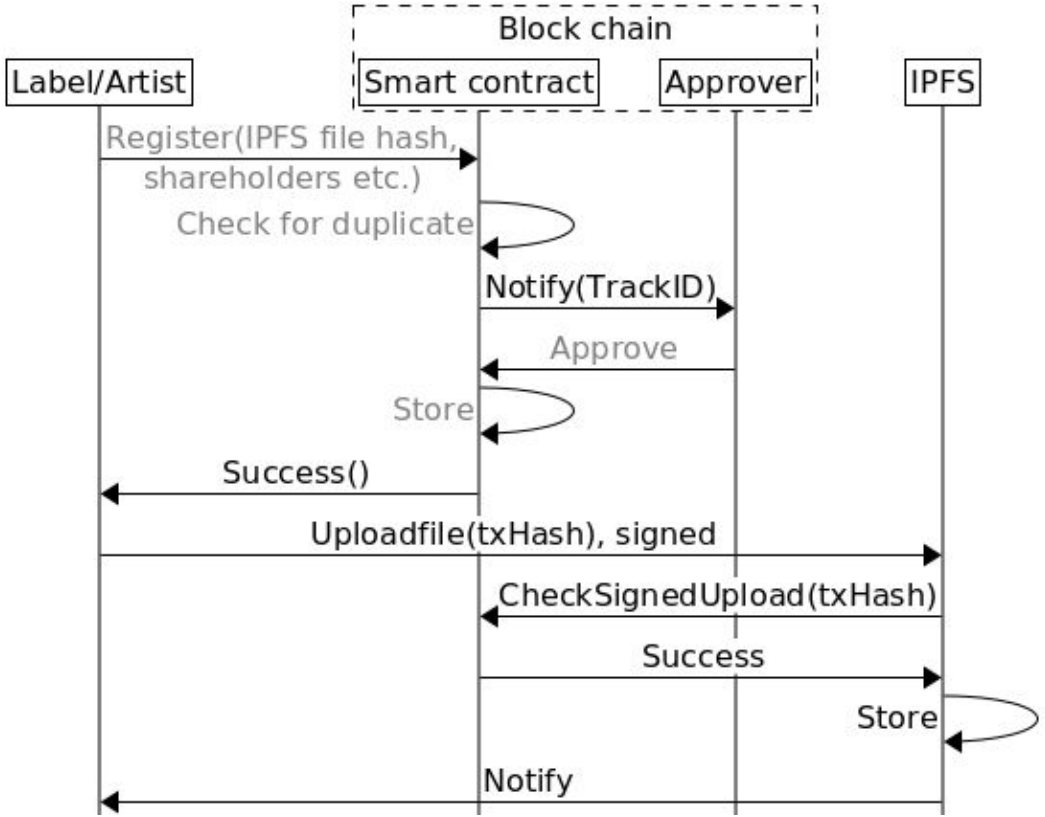
Tribalism
+
Self-righteousness

Channels
- Influencers
- User Application

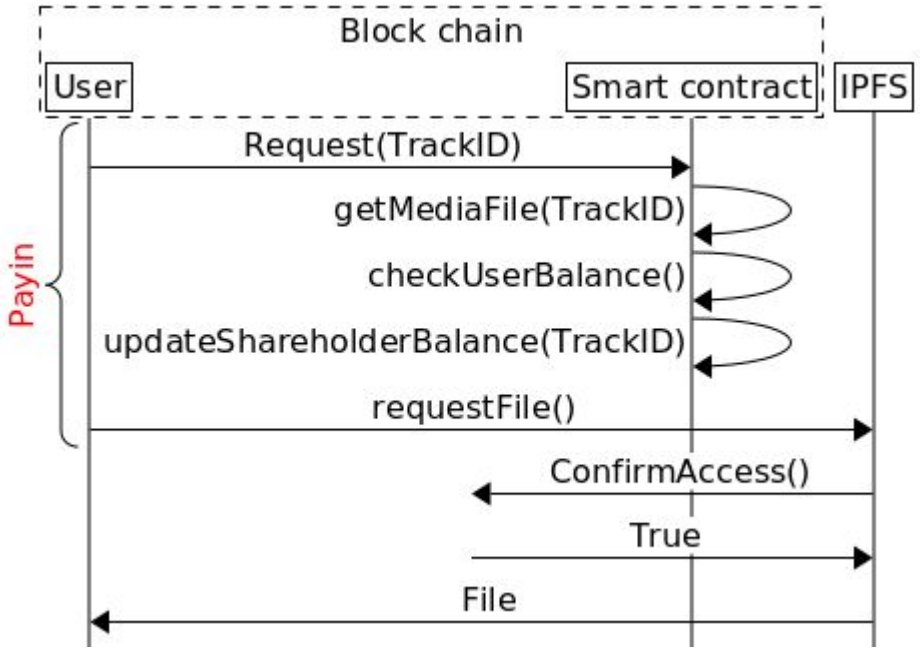
Cost Structure
- Customer acquisition costs
- Startup costs
- Operation costs

Revenue Stream
- Smart contracts

Exemplary process: registration of a new song



Exemplary process: retrieve media file



Stakeholder payout

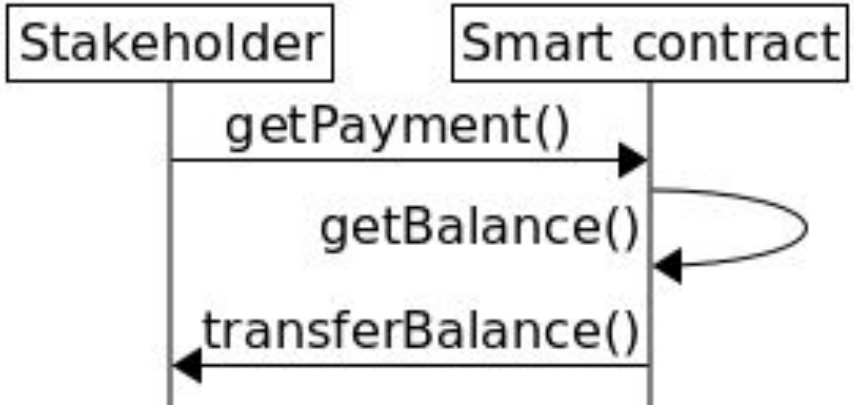


Image sources

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