

The background of the slide is a deep space scene filled with stars and nebulae. Two jellyfish are prominently featured: one in the upper center with a blue and cyan glow, and another in the lower right with a purple and magenta glow. Both jellyfish have long, thin tentacles trailing downwards.

# Sunny Days Tech Rainy Days Law

Trent McConaghy  
@trentmc0

BIGCHAIN 

iPDB | INTERPLANETARY  
DATABASE

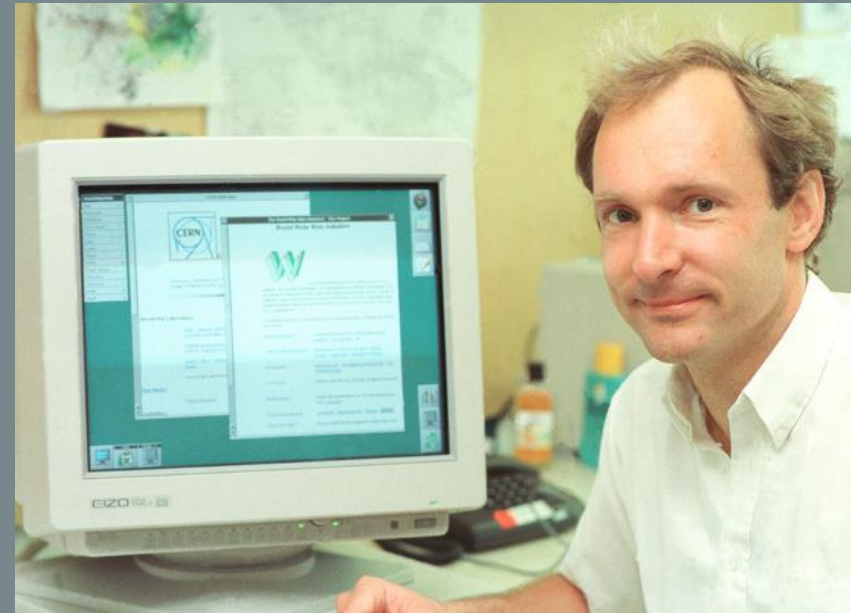


**Recent past  
& near future**





# Shared planetary network (Internet), document (Web)



# Shared planetary e-gold: Bitcoin



# Shared planetary database, file system, processing, and data







**Tokenize the enterprise, for benefit of community**



# Self-driving cars: fewer accidents, more mobility

AVDEX v0.1 - Chromium

AVDEX v0.1

localhost:3000

alberto

## AVDEX // Autonomous Vehicles Data Exchange

AVDEX stands for Autonomous Vehicle Data Exchange. It is the first decentralized data exchange platform that connects producers and consumers to exchange data-sets in a secure, privacy-oriented fashion.

### Secure. Decentralized. Open.

- **Secure:** Every transaction in the system is cryptographically signed.
- **Decentralized:** We run on [BigchainDB](#), a scalable decentralized database.
- **Open:** Everybody can join the exchange.

[Connect to your digital wallet.](#)





**Self-driving, self-owning cars**



Fleets of self-owning cars = car swarms



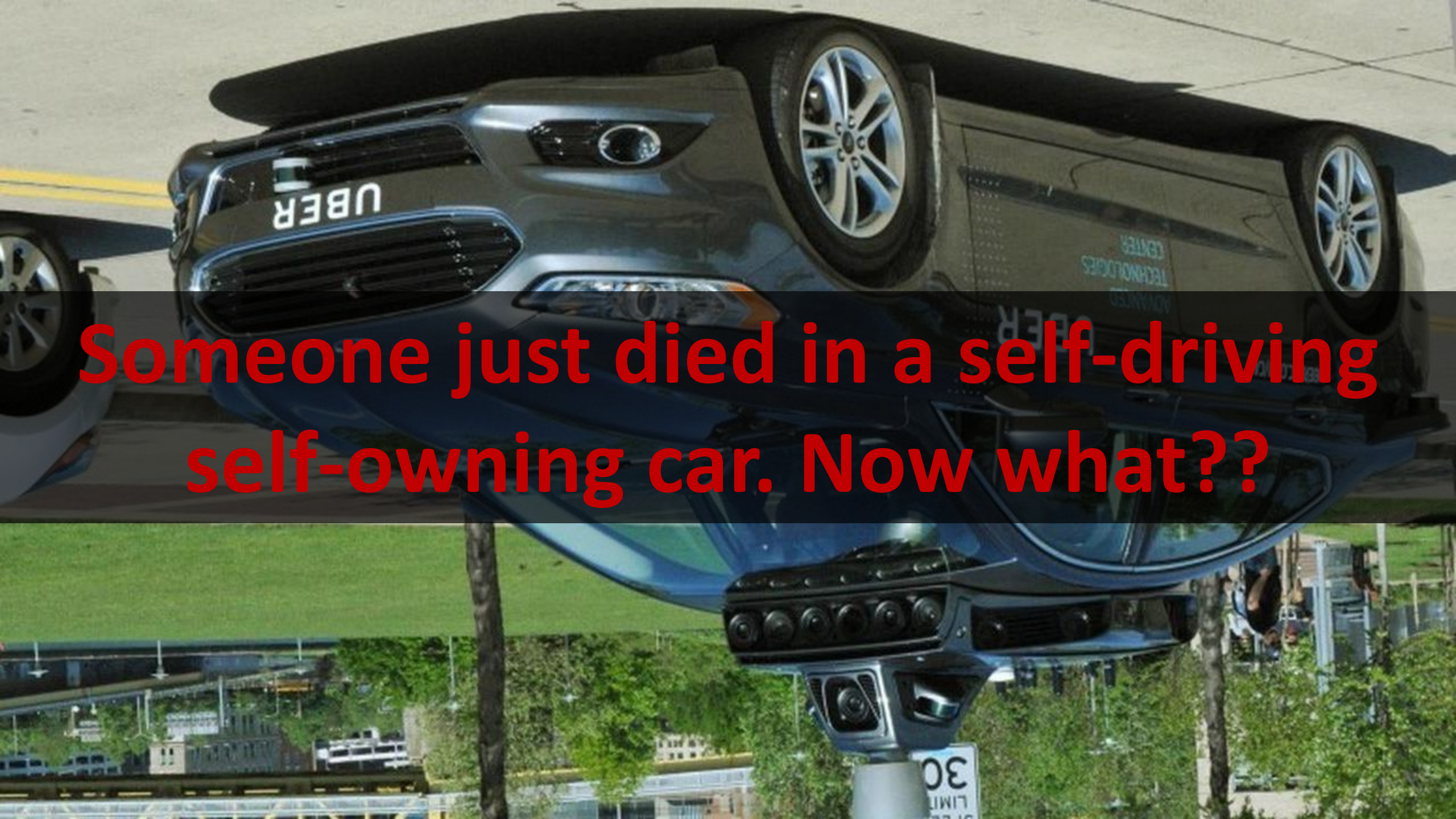




**Self-owning power grid**



**BUT...**



Someone just died in a self-driving  
self-owning car. Now what??



**What happens when things go wrong?**



**Glorious new  
tech**



**Messy humans  
“Things going  
wrong”**



A diagram consisting of two large circles, one blue on the left and one orange on the right, connected by a horizontal white bar. The word "Law" is written in black text on the white bar between the two circles. The blue circle contains the text "Glorious new tech" in white. The orange circle contains the text "Messy humans" and "Things going wrong" in white, with the latter in quotes.

**Glorious new  
tech**

**Law**

**Messy humans**  
**"Things going  
wrong"**

A diagram consisting of two large circles, one blue on the left and one orange on the right, connected by a horizontal line. The word "Law" is written in the center of this line. The blue circle contains the text "Glorious new tech" and the orange circle contains the text "Messy humans 'Things going wrong'".

**Glorious new  
tech**

**Law**

**Messy humans  
“Things going  
wrong”**

**Problem: Legals get heavy quickly**



**A guideline for designing decentralized &  
tokenized ecosystems:**

**Sunny days tech**

**rainy days law**

**A guideline for designing decentralized & tokenized  
ecosystems:**

**Sunny days tech**  
**rainy days law**

**That is:**

**Constrain & bias to good behavior by default,  
via tech: ux, incentives/crypto, ai**  
**Use legal recourse as last resort**



**Example:  
decentralized IP  
(ascribe)**



ascribe is a fundamentally new way to lock in attribution, securely share and trace where your digital work spreads.







# Register your work

Your Work

Drag file here  
or  

choose a file to upload

Artist Name

(e.g. Andy Warhol)

Title

(e.g. 32 Campbell's Soup Cans)

Year Created

(e.g. 1962)

☐ Specify editions

Register work

Sunny day tech:  
Simple UX



.zip



Share



Tweet

Download .zip

## Event Listeners

CREATED BY Harm van den Dorpel

DATE 2015

EDITION 24 of 100

ID 1CbB2YEnBQUkHjWZvqfNNfjK8wh2cg69zQ

OWNER Masha McConaghy

ACTIONS

EMAIL

TRANSFER

CONSIGN

LOAN

DELETE



+ Certificate of Authenticity

- Provenance/Ownership History

Apr. 17, 2015, 16:15:21

Registered by mail@harmvandendorpel.com

Apr. 20, 2015, 20:54:16

Transferred to Masha McConaghy

+ Consignment History

+ Notes

Sunny day tech:  
Simple UX

# Rainy day law: Terms of service in Ricardian contract

contract unless you object to the inclusion *vis-a-vis* ascribe in writing with amendment. In case of such objection, ascribe has the right to extraordinary

## 3. ASCRIBE DEFINITIONS

You can access the ascribe service through our website [www.ascribe.io](http://www.ascribe.io).

### 3.1 WORK

"**Works**" are all physical, digital, or intellectual items, objects, or other properties or services that can be traded digitally (e.g. 3D-STL files, photos, stocks, physical property, texts, music, videos, licenses).

### 3.2 EDITION

"**Edition**" is a digital copy of a Work that can be bought and sold on ascribe. Editions can be thought of as digital property, and can be used in the same way a physical Work could be used (e.g. displayed in private or in public, with or without admission being charged, rented for a fee, loaned, sold, etc.).

### 3.3 OWNERSHIP TRANSACTIONS

"**Ownership transactions**" are all actions pertaining to the ownership of, rights in, or license to a Work or Edition of a Work. These include, but are not exclusive to, registering the Work, assigning and un-assigning representation, and transferring editions of the Work.

### 3.4 THE SPOOL

The "**SPOOL**" is a **Secure, Public, Online Ownership Ledger**, which is used to record ownership transactions. When a Work is registered with ascribe, pseudonymous information pertaining to the user and the Work are recorded on the SPOOL, as well as other data related to the user and the Work, and transactions related to the Work. More information about the SPOOL can be found in the Registration of Works section and the Technical Overview page.

### 3.5 SELLER AND BUYER

These Terms use the terms Seller and Buyer as a generalization referring to the two parties needed as a minimum to close a contract (e.g. to rent or to transfer an Edition).

### 3.6 WALLET



# Certificate Of Authenticity

As of 30 November 2015, 17:36:00 GMT, Masha (Maria) McConaghy is the owner.  
To verify current owner, please visit <http://ascr.be/1luAOpo>



DOLLAR  
EURO  
SWISS FRANCS  
JEFF KOONS  
BITCOIN

## Currency

Date: 2014

Edition: 3 of 100

Created by: Dan Perjovschi

Owner: maria.mcconaghy@yahoo.com

## ARTWORK DETAILS

Artwork ID: 17uZBwSbLGfXy3vRRMWzF5PMjFVNc1tkQ2

File: currency-2014.jpg (499 KB)

## PROVENANCE/OWNERSHIP HISTORY

Apr. 30, 2015, 12:36:19 - Registered by mail@cointemporary.com

May. 01, 2015, 09:46:08 - Transferred to admin

May. 08, 2015, 13:04:59 - Transferred to trent

Nov. 27, 2015, 19:35:14 - Transferred to maria.mcconaghy@yahoo.com

## CRYPTOGRAPHIC STAMP

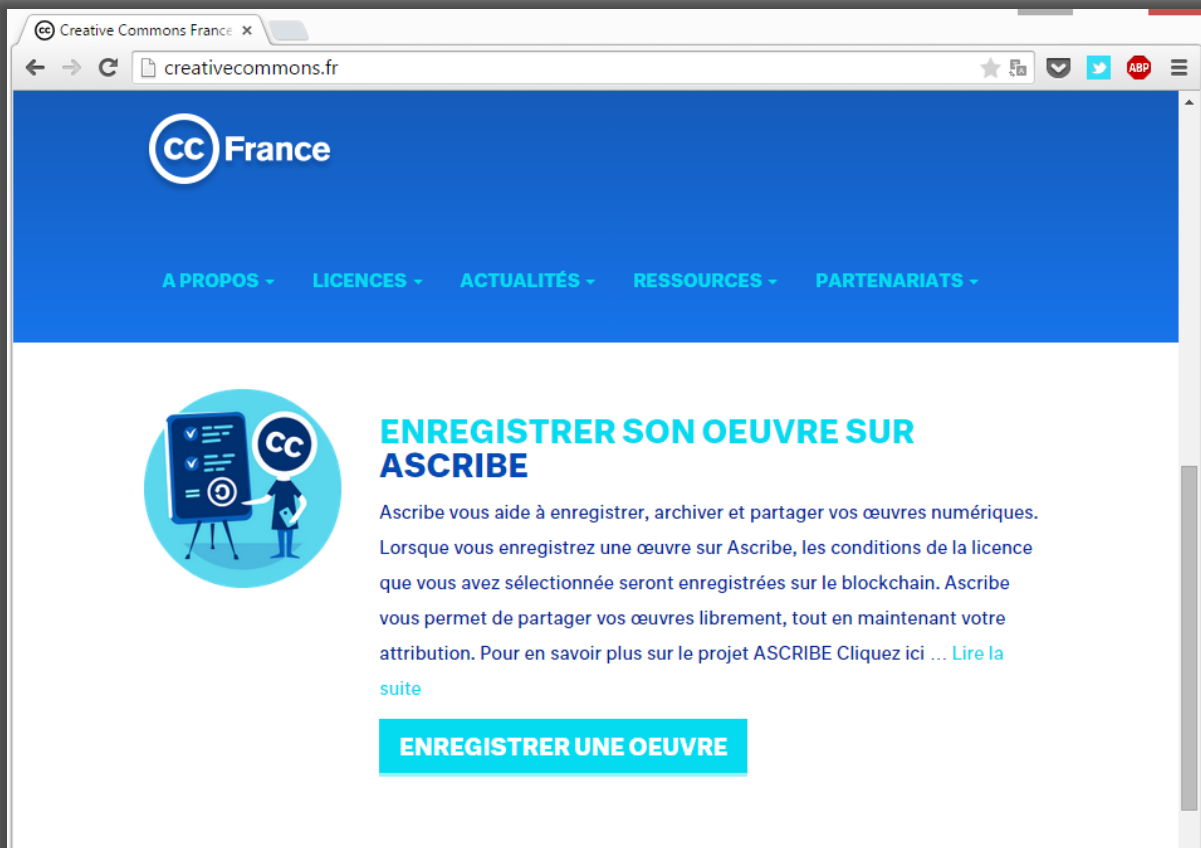
Use the [summary and signature below](http://ascr.be/1Sr45Q) to authenticate this certificate:  
<http://ascr.be/1Sr45Q>

Summary: Dan Perjovschi\*Currency\*3/100\*2014\*2015Apr30-12:36:19

Signature: 438B24CE06182FA3AA82BC285F867D03FB73F3BCC0F73FDBA6  
EC2BFF7088E011E60355B7DC75D5745A9D5CA2A8115512FF835  
C4ABEF6869BF6A991668A820F3FB03A48C6A9E05834716F6500  
68E8E07E5266620BA815948DC265605D23FAF016CB46ACD4BC  
BE75F08D0DEBD7AF55E4CB085B9A0A14583F135DBB399121B24  
ED1L

Rainy day law:  
Blockchain-backed,  
digitally signed COA

Authenticated by ascribe®

A screenshot of the Ascribe registration form. The header includes the 'Creative Commons France' logo, the 'ascribe' brand name, and links for '+ NEW WORK' and 'COLLECTION'. The main heading is 'Register under a Creative Commons license'. The form is divided into sections: 'Your Work' with a dashed box for a file upload and a 'choose a file to upload' button; 'Artist Name' with an example '(e.g. Andy Warhol)'; 'Title' with an example '(e.g. 32 Campbell's Soup Cans)'; 'Year Created' with an example '(e.g. 1962)'; 'Copyright license...' with a dropdown menu showing 'CC-BY-NC-ND-4.0: Attribution-NonCommercial-NoDerivs 4.0 International' and a link to 'Learn more about cc-by-nc-nd-4.0 (ascribe faq)'; and a checkbox for 'Specify editions'. A 'Submit' button is at the bottom.

Rainy day law:  
Creative commons  
licenses too!



**Example:  
decentralized &  
tokenized IP  
(Ocean)**



# Status quo



*Silo* Mo' Data  
(and mo' compute)



Mo' accuracy



Mo' \$



# Change the status quo?



~~Site~~ *Pool* Mo' Data  
(and mo' compute)



Mo' accuracy



Mo' \$



# Change the status quo?

Have lotsa data  
(1000 enterprises)

Have lotsa AI  
(1000 AI startups)

Data marketplace	DM	DM	DM
DM	DM	DM	DM

~~Site~~ *Pool* Mo' Data  
(and mo' compute)



Mo' accuracy

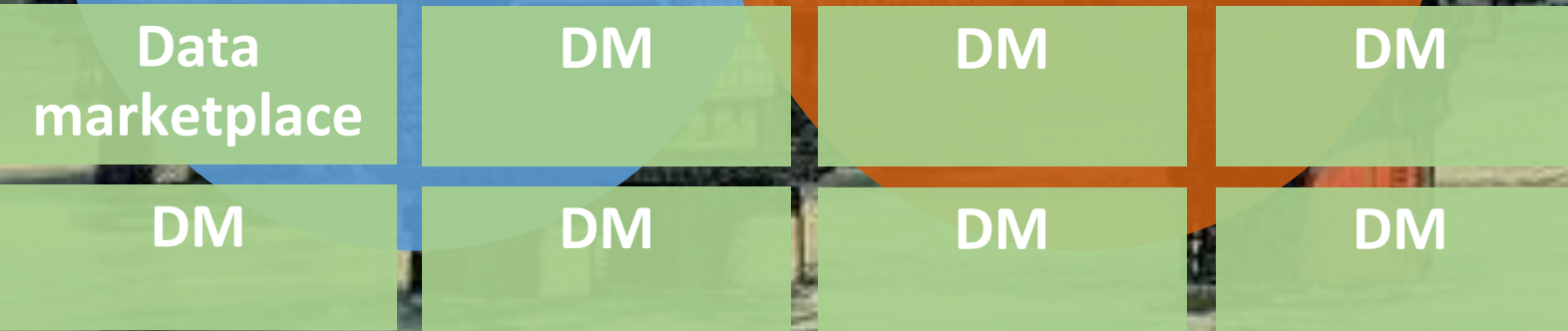


Mo' \$

# Change the status quo?

Have lotsa data  
(1000 enterprises)

Have lotsa AI  
(1000 AI startups)



Pooled data & licensing substrate:  
*Ocean*

~~Site~~ *Pool* Mo' Data  
(and mo' compute)



Mo' accuracy



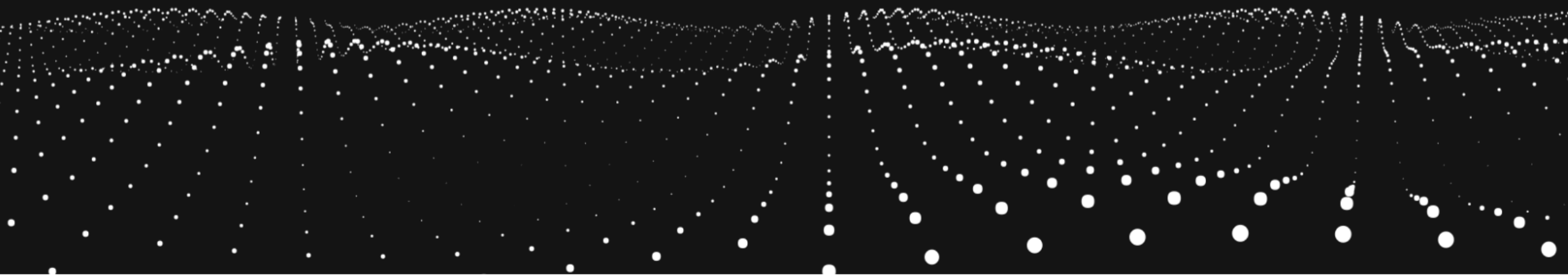
Mo' \$



# A Decentralized Data Exchange Protocol to Unlock Data for AI

POWERED BY

BIGCHAIN  DEX





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AVDEX stands for Autonomous Vehicle Data Exchange. It is a platform for producers and consumers to exchange data-sets in a secure, decentralized, and open manner.

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- **Decentralized:** We run on [BigchainDB](#), a scalable decentralized database.
- **Open:** Everybody can join the exchange.

Connect to your digital wallet.

Welcome back, BigchainDB

[Home](#)

[Create offer](#)

[My Offers \(2\)](#)

[Search Offers](#)

[Logout](#)

## BigchainDB

7KaKEt27hS5wDfPMZmdzQo28BSGJCJK3djR8kLUManKE

<https://www.bigchaindb.com/>



### CH2\_002

\$1500 4.4 GB [transaction](#) ★ ★ ★ ★ ★

Date	Lighting Conditions	Duration	Compressed Size	Direct Download	Torrent	MD5
11/18/2016	Daytime/Shadows	--	4.4GB	None	None	

- HMB\_1: 221 seconds, direct sunlight, many lighting changes. Good turns in beginning, discontinuous shoulder lines, ends in lane merge, divided highway
- HMB\_2: 791 seconds, two lane road, shadows are prevalent, traffic signal (green), very tight turns where center camera can't see much of the road, direct sunlight, fast elevation changes leading to steep gains/losses over summit. Turns into divided highway around 350s, quickly returns to 2 lanes
- HMB\_4: 99 seconds, divided highway segment of return trip over the summit
- HMB\_5: 212 seconds, guardrail and two lane road, shadows in beginning may make training difficult, mostly normalizes towards the end
- HMB\_6: 371 seconds, divided multi-lane highway with a fair amount of traffic

[View >](#)

# Inside Ocean Core Software

**Rainy days law:  
IP & contract**

**Sunny days tech:  
Crypto incentives**

## Ocean core software

API. TX model is COALA IP for data.

Data pricing: registry of bids & asks, etc

Data curation: tokenized curation market

Data access registry: tokenized read permissions

User registry: tokenized registry

# Sunny days tech: Tokenized write permissions

## Via role based access control (RBAC)

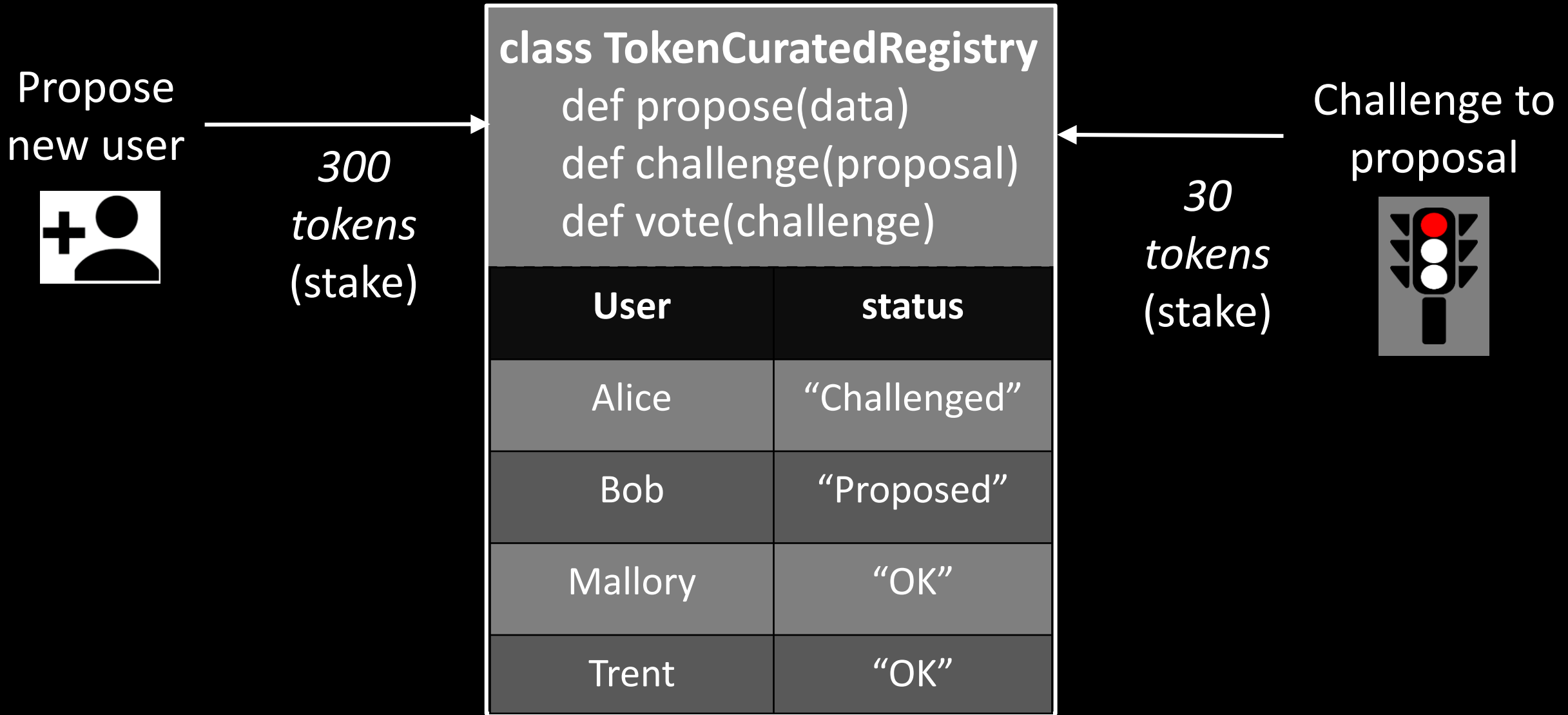


```
{  
  "asset": {  
    "ns": "ipdb.testapp.vehicle",  
    "link": "<hash>"  
  },  
  "id": "<hash>"  
}
```



# Sunny days tech: tokenized actors registry

A whitelist of good actors, incentivized to grow the list



# Rainy Days Law: COALA IP

- A licensing framework for digital assets that:
  - Is easily approachable by all participants (*devs, rights holders, copyright societies, ...*)
  - Is easily extensible and future-proof
  - Guarantees immutability and tamper-resistance
  - Is blockchain-agnostic
  - Is free (free as in FOSS) for everyone to participate and use

# Rainy Days Law: COALA IP Building blocks

- **LCC framework - concise and applicable**
  - Generalizes DDEX (music), PLUS (photos), more
  - By Copyright Hub with 90 partner orgs
- **Linked Data, it's easily extensible**
  - JSON-LD: URI-linking of JSON objects
- **IPLD, for cryptographically verifiable integrity**
  - Via Merkle-linking of JSON objects
- **Interledger Protocol, allows IP to live on many ledgers**
  - Linking of ordered transactions on blockchains



# COALA IP: Creation (a *digital* Manifestation)

```
{
"@type": { "/" : "<hash pointing to RDF-Schema of Manifestn>" },
"name": "The Fellowship of the Ring",
"creation": { "/" : "<hash pointing to the Creation>" },
"digital_work": { "/" : "<hash pointing to file on eg IPFS>" },
"fingerprints": [
    "Qmbs2DxMBraF3U8F7vLAarGmZaSFry3vVY5zytuN3BxwaY",
    "<multihash/multifingerprint value>"
],
"locationCreated": "<URI pointing to a Place object>"
}
```



**Conclusion**

**New tokenized ecosystems might change much of society.  
But humans are messy.**

**A guide:**

**Sunny days tech** – tech bias to good behavior

**Rainy days law** – legal recourse if needed