



KRIS VETTE

VETTE SOLUTIONS LTD

Analysis
&
development
of
Blockchain Solutions



DISTRUBUTED LEDGER TECHNOLOGY AND HEALTHCARE

REAL WORLD USE-CASE
OR
HYPE?

ANDREAS ANTONOPOULOS

“Putting your medical records on a blockchain is a terrible idea”.

...No characteristic (censorship resistance, trust, transparency, decentralisation) of blockchain that could be of advantage.

....central databases are far more effective.

HEALTHCARE SYSTEMS SINCE TODAY

A TALE OF TWO CITIES

1. Modern, rapidly advancing

2. But basic care failure. At worst Mid-Staffordshire Enquiry UK...care, data and transparency failure... but everyday practice too, 17 year lag

Can never solve 1 without 2

LET'S LOOK AT BASIC CARE

- Know what the 'Standard' is.
- Real-time patient data to all interconnected players in the health 'ecosystem'.
- Track care and patient parameters dynamically – things change everyday.

EXAMPLE PATIENT

- Cancer patient
- Multi Disciplinary Team inputs
- Complex care
- Regional Centres – but distributed patients

PATIENT CENTRED CARE?



INTEGRATED HEALTH AND SOCIAL SERVICES

YOUR HEALTH

FAST TRACK

PUBLIC TRANSPORT

LAB SERVICES

PHARMACY

COMMUNITY REFERRED RADIOLOGY

GENERAL PRACTICE

COMMUNITY NURSING

SUPPORTED SELF MANAGEMENT

PATIENT PARTNERSHIP

HOME BASED SUPPORT

PEER-LED SERVICES

SCHOOL BASED SERVICES

CHILDREN'S SERVICES

WHARAU ORA

VOLUNTEER SERVICES

DIRECT ACCESS

DENTAL

MENTAL HEALTH

REHAB AND RESTORATIVE SUPPORT

ACTIVITY

URGENT GP SERVICES

URGENT CARE CENTRE

WELL BEING

PEOPLE CENTRED

TECHNOLOGY

LIBRARY

CLEAN AIR & WATER

CONSULTANT

MATERNITY SERVICES

SPECIALIST HOSPITALS

RURAL HOSPITALS & COMMUNITY HUBS

LOCAL AMBULANCE SERVICES

QUICK ACCESS ACUTE SERVICES

MORE LOCAL SERVICES

SPECIALIST CARE TREATMENT

OUT

IN

24/7

WHAT SHOULD I DO?

WHAT ARE MY OPTIONS?

EYE BOOTH BY A&A

EAT HEALTHY, LIVE LONGER

I CAN DO MORE THOUGHT

I CAN HAVE MORE THOUGHT

YOUR PLAN & DAY WORK DOCTOR AWAY

WHERE ARE YOU HAVING YOUR BABY?

I CHOOSE THEM DONE IN THE EVENING

OUR health system

BASED ON THE KING'S FUND VISUALISATION.

THE ANSWER – CENTRALISED DATABASES



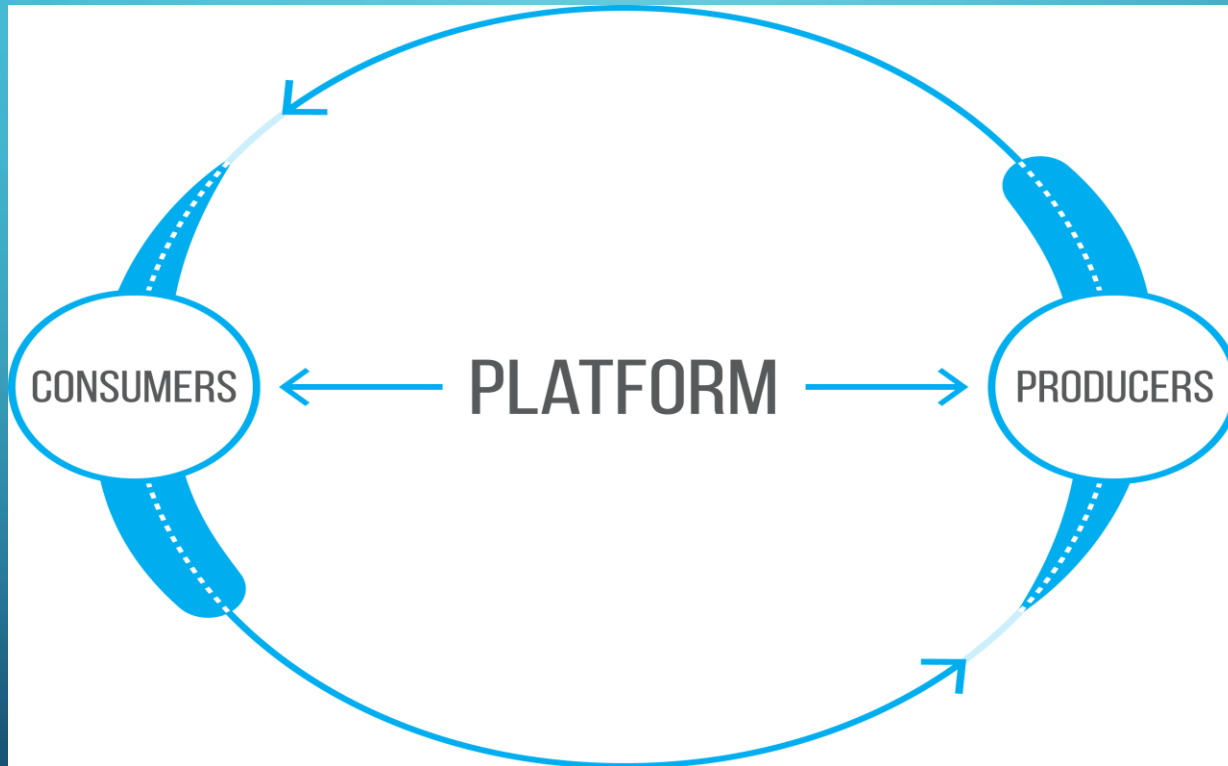
'CENTRALISED' DATABASES ARE FAST BUT
DON'T GIVE SYSTEM WIDE ACCESS (IN
PRACTICE)

NHS 'Connecting for Health Project 13B GBP cost

Limited outcomes

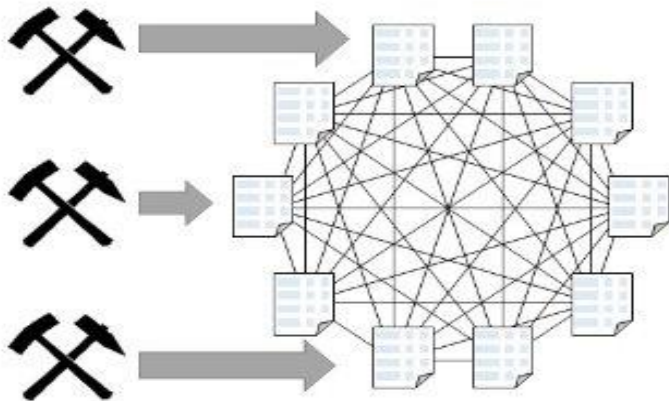
Patient Experience better? Outcomes better?

21ST CENTURY CONTROL THE DATABASE = CONTROL THE MARKET

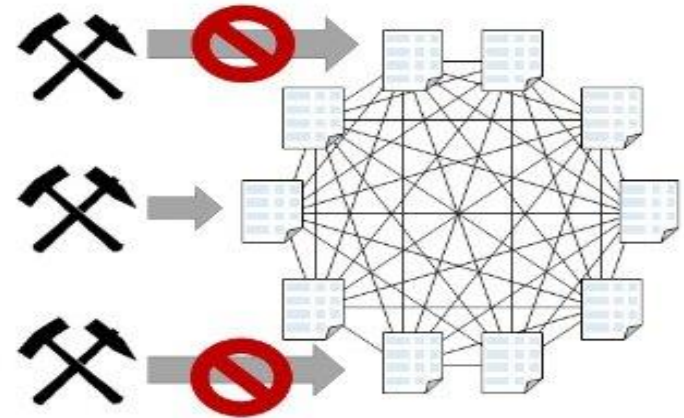


PUBLIC VS PERMISSIONED SOLUTIONS

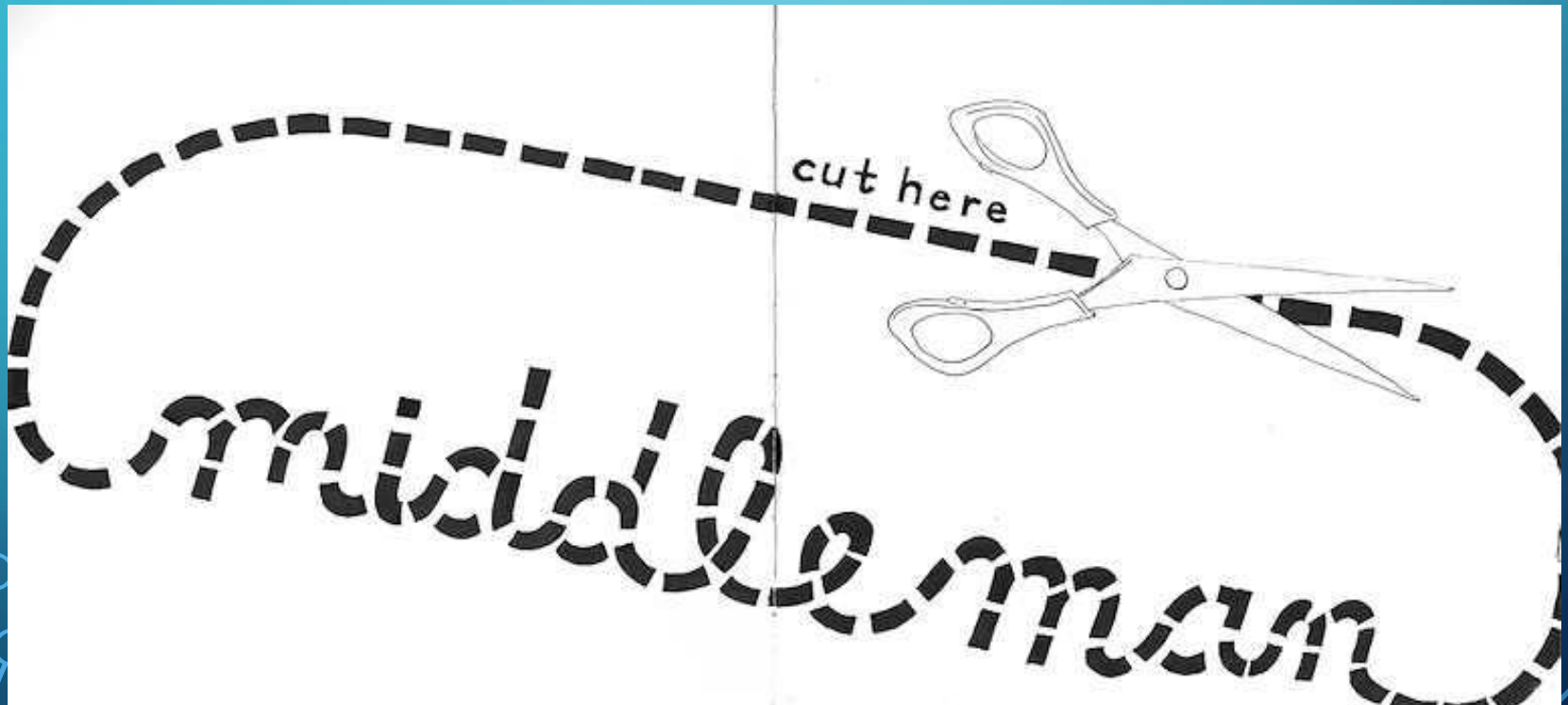
Permissionless Blockchain



Permissioned Blockchain



BLOCKCHAINS CHANGE 'OWNERSHIP OF DATA' – INCENTIVISE 'CO-OPERTITION'



THREE STAGES OF ECOSYSTEM THINKING'

1. Access to Records – Distributed Interoperability (Permissioned)
2. Patient Control of Data – Decentralised Private Key (Public)
3. Transparent Outcomes – Immutable Data Integrity & Traceability.

IN SUMMARY

Blockchain has a place in healthcare because it solves a significant generalised problem.

It provides the 'rails' for real-time access to a current clinical picture across multiple parties in a complex 'ecosystem' of care.

The 'Antonopoulos thesis' is wrong.



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