

# Introduction

**The emerging acquisition model for  
professional Free & Open Source software**

**Stuart J Mackintosh**

Free & Open Source Software – a practical choice

# My background

Professionally implementing Free & Open Source for 20 years

## Open Source Consortium

The UK Open Source Industry Association

- Chairman

## OpusVL

Open Source specialist systems integrator

- Owner

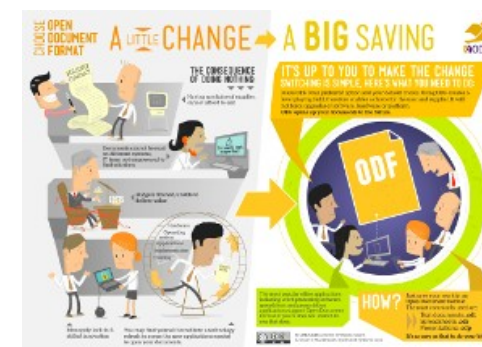
## Community support

COIS / OFE, ODF Plugfests, SFD/DFD

Code 4 Health / Apperta

## A customer

My family and I are users of the healthcare system



# Key principles

## **Software that is designed and funded by the Public Sector should remain available to the Public Sector**

Not controlled by a 3<sup>rd</sup> party

## **Software is just the tool**

Focus should be on the process it supports

## **Software does not wear out or degrade no matter how many times it is used or copied**

It only needs to be bought once

Invest future budgets on improving it, innovating and progressing

Pay for professional support and maintenance

# Challenges in healthcare technology

## Procurement

The procurement process does not know how to handle free software

## Conflict of purpose in the marketplace

The proprietary agenda is in conflict with what is best for the citizen

Their commercial interest is to sell software, not deliver your outcome

## Disparate systems

Information and systems are not joined-up

## Software

Although funded by the state, license may prevent reuse

## Accountability

License may deflect liabilities and obligations

## Intelligent customer

The customer does not feel that they have a choice

# Challenges with Free & Open Source

## An extract from the GPL - one of the most common Open Source licenses:

BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, **THERE IS NO WARRANTY FOR THE PROGRAM**, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" **WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED**, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

*Is that enough to put you off?*

# Professional Free & Open Source

- **Open Source licenses**

- do not prevent you from obtaining professional support
- are mature and well thought out
  - They have been tested by communities of millions of users and many lawyers over decades
- **The software underpins almost everything that is built now, most consumer devices including cars TV's, phones, routers, wireless devices etc etc**
  - *And most of the Internet...*

# A way forward for the UK healthcare sector?

## Introducing Apperta

Formed 2015

Operate Code 4 Health & Ripple programmes

Non-operational – focus on governance

Operates “Custodian model”

Custodian of various Open Source projects

## Not-for-profit Community Interest Company

Open Source Software Foundation For Health And Care

Controlled and lead by clinicians

NHS England is corporate director

<http://www.apperta.org/>

*Note: I do not represent Apperta, I am a supplier, supporter and observer*



# Code 4 Health

## Software prototyping & community engagement

- Nearly 30 specialist area communities
- 10+ regional communities
- Growing community engagement
- Open Source projects in live use at various establishments

## Some of the key UK projects and communities:

- Open Odonto - Dental services
- OpenEP - ePrescribing
- Open-eOBs - Nursing observations
- OpenEyes - Electronic ophthalmic records
- Open Maxims - Electronic Patient Records

**Details of these communities and others can be found here:**

**<https://code-4-health.org/communities>**

# Code4Health



# Apperta mission

## **Enable professional re-usable Open Source / Standards / Data**

Without compromise to reliability, security & privacy

## **To work independently of the NHS**

Disrupt the supply chain

## **Engage all parties in design and delivery**

Patient groups, clinicians, communities, professionals, students

## **Improve outcomes**

Deliver more appropriate care

Encourage progressive innovation for healthcare software

# Apperta operations

## Apperta:

- Manages the communities
- Subcontracts technical services
- Owns the roadmap and controls the “Gold” version
- Ensures availability of "Gold" and "Community" versions
  - Anyone can download the software and provide patches, feedback, features
- Provides information on approved suppliers:
  - Implementation, training, warranty, certification, professional services & advice
- Operates as the Custodian

# How this works - the roles

## The Custodian model has these roles:

- Consumer roles:
  - The customer (clinician, management, other users)
  - The healthcare service user (patient)
  - Procurement & commercial
- Supplier roles:
  - Software developer
  - Software implementer
  - Software support & maintenance

# The customer

- **Becomes a member of Apperta**
  - Subscription-based
  - Benefits from collective testing, assurance, professional network
- **Joins a community**
  - Directly interfaces with the software developers, users and patient groups
  - Gains understanding of design motivations and decisions
- **Engages professional support & maintenance**
- **Optionally engages with developer to build new features**
  - To be developed under an Open Source license
  - Contributions to “Gold” version submitted to the custodian

# Healthcare service user

- **Can join a patient group community**
  - Not related to any personal conditions
  - Present their perspective on the process
  - Consult with experts and influence the process
  - Gain understanding of issues and constraints
  - Provide valuable input to the process

# Procurement & commercial

- **Engages with the custodian to locate approved providers**
- **Directly contracts with**
  - Software developers, Implementers, Maintainers
- **Uses existing frameworks for services**
  - UK: G-Cloud, Digital services
- **The software is free – it can't be “bought”**

# Software developer

- **Works with:**

- Users & professionals
- Patient groups
- Procurement
- Approvals & testing agencies

- **Provides**

- Open Source & Open Standards based solutions
- Innovation
- Integration

# Software implementor

- **On-boarding of the application**
  - Selection of appropriate hosting & operations
    - Fully flexible - cloud, local, N3
  - Safety cases / medical device registration
  - Installation of software and systems
  - On-site testing
  - Training of users
- **Engage with the communities**



# Software support & maintenance

- **Service-level backed support**
  - Respond to day-to-day issues
  - Ensure the application continues to be available
  - Manages the underlying platform
- **Engage with the communities**

# A summary of the Custodian model

- **The Custodian Model**
  - Lowers the barrier to entry for suppliers and customers
  - Suppliers compete to provide **innovation** and **value**, not lock-in
- **These roles (should) already exist within the current supply chain**
  - The custodian model de-couples the roles
- **The supplier can have multiple roles**
  - But the roles **MUST** remain distinct and interchangeable
    - Open Source & Open Standards ensure this is maintained
- **The model is in an active prototype / development stage**
- **Similar models are evidenced in the Open Source marketplace**

# A quick case study

## OpenMaxims

- Released their code as Open Source
- Extended their service-based model
- Benefited from community engagement
- Renewed focus on delivery of value and innovation
- Set an example to other software vendors
- Received praise by NHS England

# Open Policy

## UK

Open Standards policy

Government Digital Services guidance

NHS Guidance

## Other countries

USA - State-funded software to be Open Source

Poland – Strategy recommendation

India – Policy to adopt OSS

# What next?

## Apperta & Code 4 Health

More communities & software applications

Greater engagement

Proving ground for software

Better procurement frameworks & policies

More suppliers

## The outcome

More quality healthcare software available for all to use and improve

A proven acquisition model for other departments and countries to adopt

***Improved healthcare and outcomes.***

# Thank you

**Thank you for listening**

**Your comments and feedback are welcome**

**Stuart J Mackintosh**

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