

Software from university research - valuation & licensing

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About me

Dr Gavin Smith RTTP
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**Undergrad, postgrad, postdoc at Cambridge Uni.
20 years in small software companies.
12 years in Tech Transfer (Lancaster Uni, UK).**

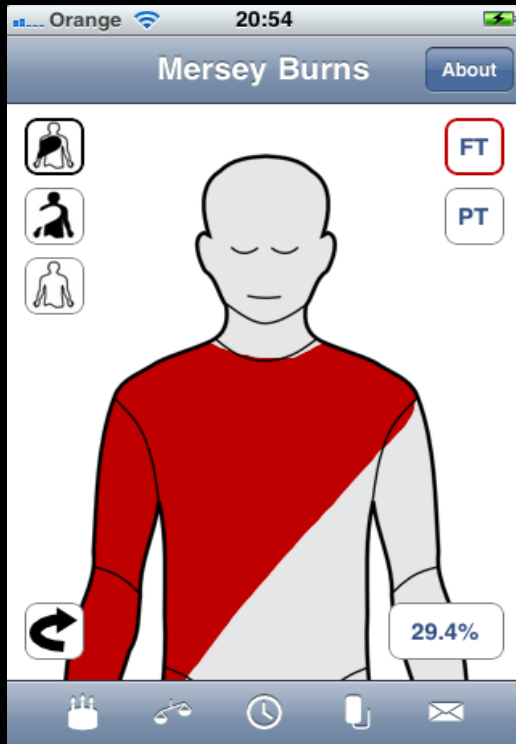
Retired – teaching for PraxisAuril and ASTP

Valuing software

b2c and apps

Consumers expect almost everything to be free

Make money via extra features



A former soldier has created an app to ensure accuracy in the provision of fluids for treatment of skin burns.

Chris Seaton came up with the idea while studying for a PhD at the University of Manchester. He was an army medic and witnessed the treatment of burns victims first-hand in Afghanistan.

Mersey Burns is regulated in the UK by the MHRA and is CE marked for conformance as a medical device.

<http://merseyburns.com/> (Link OK Nov 2019)

<http://www.bbc.co.uk/news/uk-england-merseyside-15718570> (Link OK Nov 2019)

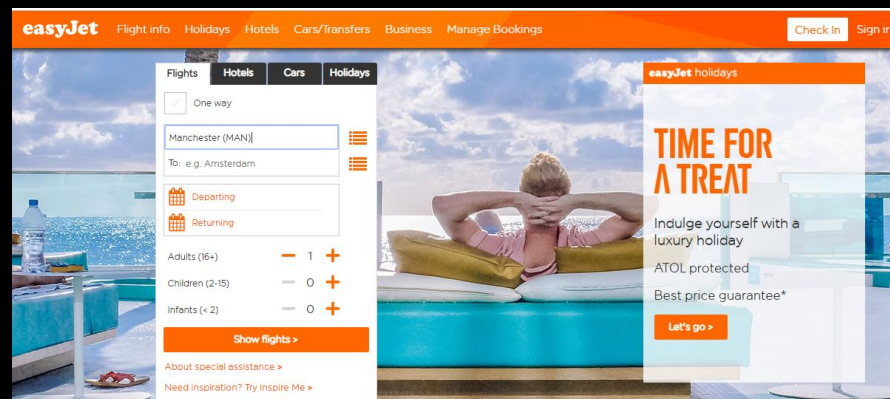
Software is easy to re-engineer



The source code is protected by copyright ©

The idea is not protected

Easyjet versus Navitaire (UK, 2004)



Copying “look-and-feel” = **OK**

Copying commands & business logic = **OK**

Copying GUI = **OK, except where artistic**

Copying source code = **NEVER OK**

Barriers to re-engineering



“How do they do that?” algorithm

Competition stats — Premier

1,064

Goals

2.80

Goals per game

9,734

Shots

3,288

Shots on target

335,042

Passes

8,650

Fouls

1,392

Yellow cards

41

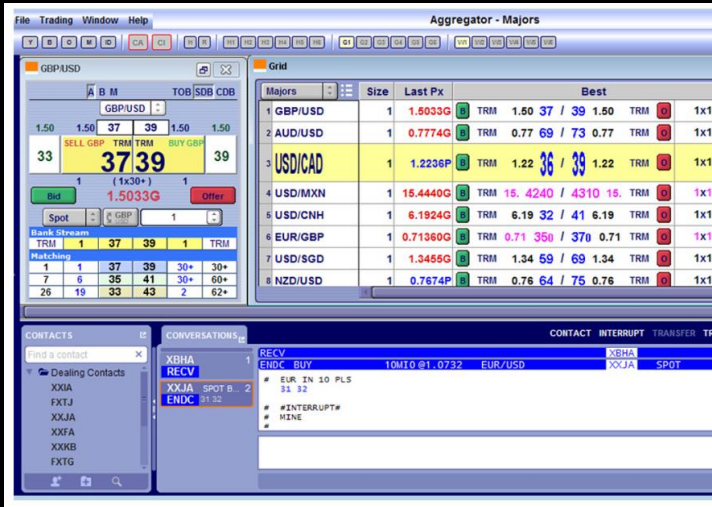
Red cards





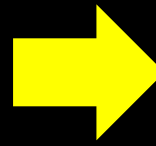
the answer company
THOMSON REUTERS

FX dealing – expert system



```
## TO HSBC 2019NOV06 10:30

## HIHI CBL PLS 10
20 25
## MY RISK
21 26
## URS TKS DETS L8R
TA BIBI
```



**WE SELL
10,000,000 GBP AT 1.3021
WE RECEIVE 13,021,000 USD
PAYMENTS ON 08 NOV 2019**

Software uniqueness

Example software barriers:

Unique database

Sector knowledge

“How do they do that?” algorithm

Be first/biggest/best

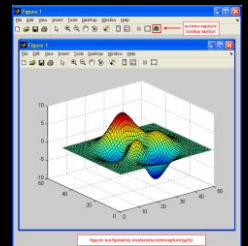


Software prices b2b



Bloomberg terminal ~USD 20,000 per year

MATLAB ~ USD 800 per year



Software prices b2b

SAP small business ~USD 500 per year



MS Office 365 Business ~USD 175






Office 365 Business Premium

£9.40 user/month
(annual commitment)
Price does not include VAT.





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Deciding the price

Find similar software to compare

Estimate your own sales

Then think about:

Cost of development ÷ number of sales

Is your price competitive?

Example

During her PhD, an engineering student uses her research in a collaboration with a chemical factory. She spends **8 weeks** writing software, saving the company **~200,000 EUR per year**

The software is owned by the university

- ▶ What price should the university ask?
 - ▶ What model: Sale or annual fee?

Positive value factors for university software

Barriers

Patents

Innovation – new markets



Questions affecting value for university software

Is it wanted?

Patents

User data GDPR

Fit for purpose?

Medical device?



English man spends 11 hours trying to make cup of tea with Wi-Fi kettle

Data specialist Mark Rittman spent an entire day attempting to set up his new appliance so that it would boil on command



📷 Mark Rittman set about trying to make a cup of tea at 9am but night had fallen by the time his new Wi-Fi enabled kettle could complete the task. Photograph: Alamy

All [Mark Rittman](#) wanted was a cup of tea. Little did he know he would have to spend 11 hours waiting for his new [hi-tech kettle](#) to boil the water.

ideation

industry ► customers/marketing

▼
product management

▼
technical design

▼
university ► prototype ► build

software patents

technical ✓

(computer, database, sensor etc)

novelty ✓

enabled ✓

inventive step ?

venture investors like patents

GDPR Regulation (EU) 2016/679

Requirements include:

- + Consent
 - + Right of access
 - + Right of erasure
 - + **Data Protection Officer (named person)**
 - + Records of processing activities
 - + Notification of data breaches
- (and more)

databases (server/cloud/saas)
cookies (user machine)

fitness for purpose

scale of risk

processing lab results

academic sharing

commercial release = paying customers

money at risk

property at risk

human life or health at risk

CMMI capability levels

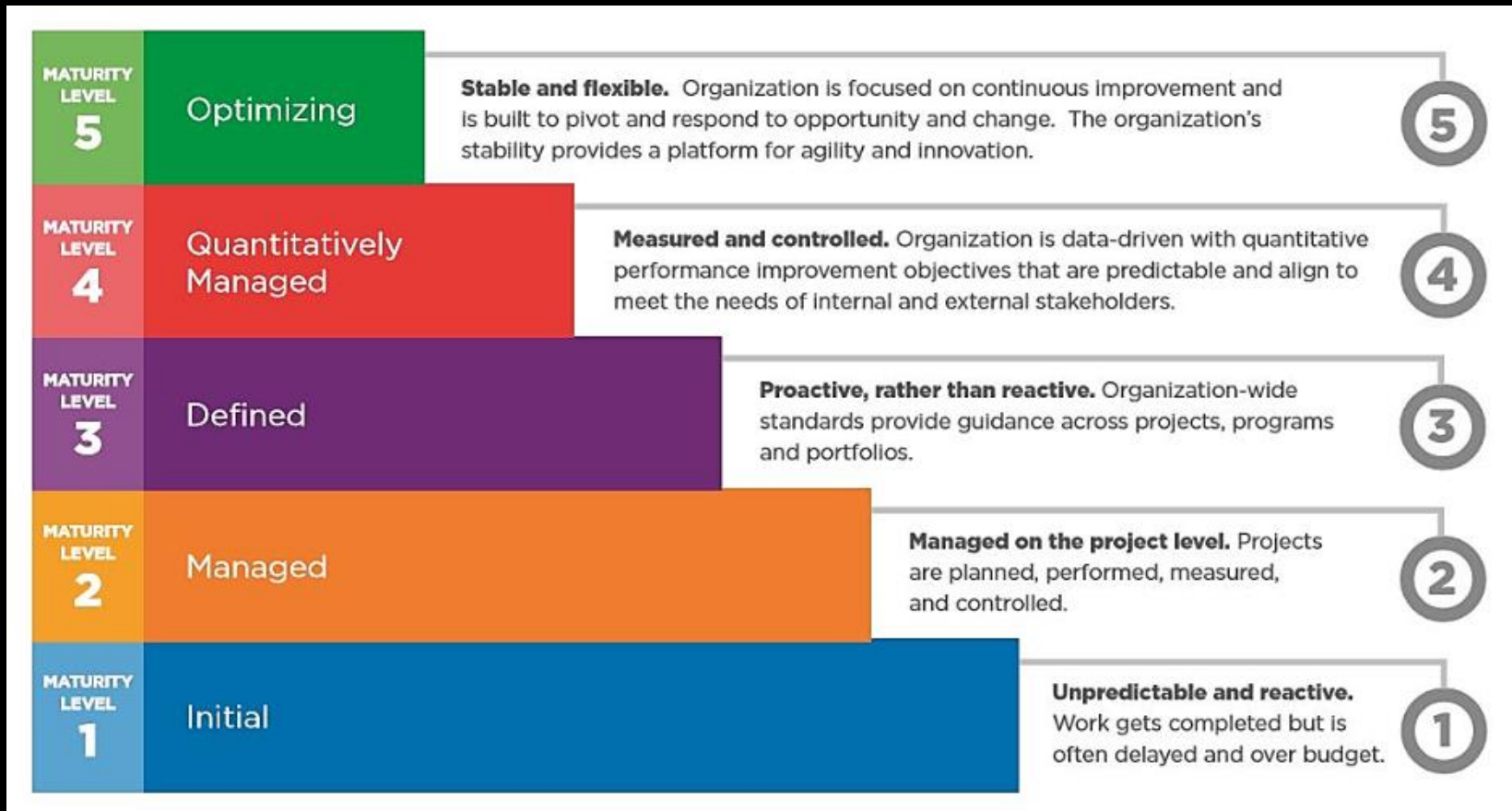


Diagram source = <http://cmmiinstitute.com/capability-maturity-model-integration> (Link OK Jan 2019)

The **Medical Device Directive** (Council Directive 93/42/EEC of 14 June 1993 concerning medical devices, OJ No L 169/1 of 1993-07-12)

Article 1(2) (a) MDD defines a medical device as:

"Any instrument, apparatus, appliance, software, material or other article, whether used alone or in combination, including the software intended by its manufacturer to be used specifically for diagnostic and/or therapeutic purposes and necessary for its proper application, intended by the manufacturer to be used for human beings for the purpose of:

diagnosis, prevention, monitoring, treatment or alleviation of disease,
diagnosis, monitoring, treatment, alleviation of or compensation for an injury or handicap,

investigation, replacement or modification of the anatomy or of a physiological process,

control of conception,

and which does not achieve its principal intended action [...] by pharmacological, immunological or metabolic means, but which may be assisted [...] by such means;"

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control of conception,

and which does not achieve its principal intended action [...] by pharmacological, immunological or metabolic means, but which may be assisted [...] by such means;"

Value factors - review

similar software indicates value

what is inside?

user data?

is it any good?

fitness for purpose (code quality)?

barriers?

medical device

VCs investing in a spinout will ask all this & more

Licensing

Open source licence

End User Licence Agreement (EULA)

IP Licence

Ask your university's lawyers to advise

<https://choosealicense.com/licenses/>

OS - copyleft to permissive

GNU AGPLv3

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<http://oss-watch.ac.uk/>

EULA

(Click to accept)

...

13. The University accepts no warranties whatsoever

14 Any matters relating to this Agreement are subject to the laws of England and Wales

By clicking on the “next” button you accept this agreement in full.

Next >

IP Licence

Software Licence

This Agreement dated _____ is between:

Example University, a university incorporated by Royal Charter, whose principal place of business is at 39 Example Street, Exampleton, UK (the “University); and

Big Company Ltd, a company incorporated in England and Wales whose registered office is at 18 London Road, Exampleton (“Company).

Background:

The University has developed certain software and owns certain intellectual property rights relating to this software

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Questions?