

Data Changes Everything



Ayrshire
Bytes

Ayrshire
College



On 21 March 2017, Ayrshire College held its first ever digital conference, **Data Changes Everything**, which was an official fringe event of DataFest17.

DataFest17 was organised by The Data Lab and was a celebration of innovation that showcased Scotland's data science capabilities and attracted international experts in data science to Scotland.

The conference was organised to help realise the potential of digital in Ayrshire and the west of Scotland. Central to achieving this are our computing students who are Ayrshire's future talent. Some of them had the opportunity to network with employers at the conference to understand the digital needs of their businesses.

Digital is disrupting how we do business.

To be successful in this information age we need to embrace the changes arising from developments in digital technology and our conference was a timely opportunity to consider how to ensure these changes convert into opportunities.

Data Changes Everything offered a range of perspectives on data innovation and best practice.

Leading data experts from health, tourism, engineering, retail and computing shared their vision and insights with 150 delegates. The presentations were followed by a digital exhibition showcasing the latest innovations in technology, a CoderDojo Ayrshire session offering an introduction to coding, and data doctor clinics for 1-1 consultancy.

The keynote speaker at our **Data Changes Everything** conference was Gillian Docherty, Chief Executive of The Data Lab. Gillian said: "We are at the beginning of the data revolution. Data innovation is disrupting all areas of our lives from business to public services and beyond.

"Scotland is a world leader in data science. The potential benefit of data to Scotland is colossal and by awakening business and the public to the possibilities of data, we can create significant social and economic impact.

"I was delighted that there were Ayrshire College students at the conference. We need to create the skills and talents of young people in Scotland so that we can fill the thousands of data literate jobs that will be created.

"It was also an opportunity to talk to employers so they can better understand the challenges they are facing."



GILLIAN DOCHERTY

“Scotland’s leading the way”

“Become the disrupter or be disrupted!”

“We will realise the full potential of Scotland by investing in data”

**ONE OF THE SCOTSMAN'S
5 MOST INFLUENTIAL WOMEN
IN SCOTTISH TECH**

Gillian Docherty, named CEO of the Year at the ScotlandIS Digital Tech Awards 2017, said:

Scotland boasts a unique ecosystem to become a global centre for data science, but industry and colleges and universities must work together to ensure that a shortage of skills does not stifle growth. Big data is worth £216 million to the UK and could be responsible for 58,000 jobs by next year. Scotland is home to 11 of the UK’s 24 postgraduate data science courses as well as a very healthy tech sector, meaning that we are in an ideal position to become a global hub, in turn seeing considerable economic benefit. This is a one-off opportunity and there is a risk that others could take the lead if we do not join forces as a community to ensure we have a healthy and consistent talent pipeline.

DATA CHANGES EVERYTHING BUT COLLABORATION IS KEY
[Click HERE to view Gillian’s presentation](#)

“We are in the next data driven revolution”

“Our biggest asset is data - the more we know about you, the more valuable that information becomes”

Click [HERE](#) to read Caroline's guest blog



**CAROLINE
STUART**

Ayrshire Bytes Conference Chair was Caroline Stuart. Caroline was Scotland Director for Oracle Corporation Ltd from 2009 until 2016. She is the current Chair of the Tech Partnership Scotland and sits on various boards including Skills Development Scotland, the Scottish Funding Council, the Scottish Government Digital Scotland Business Excellence Board and The Data Lab.

Health Data Matters

“We are living longer. Technology has a huge role to play helping us self-manage our health at home”

“People who have grown up with technology will expect it in their lives”

“We need a customer-centred service”



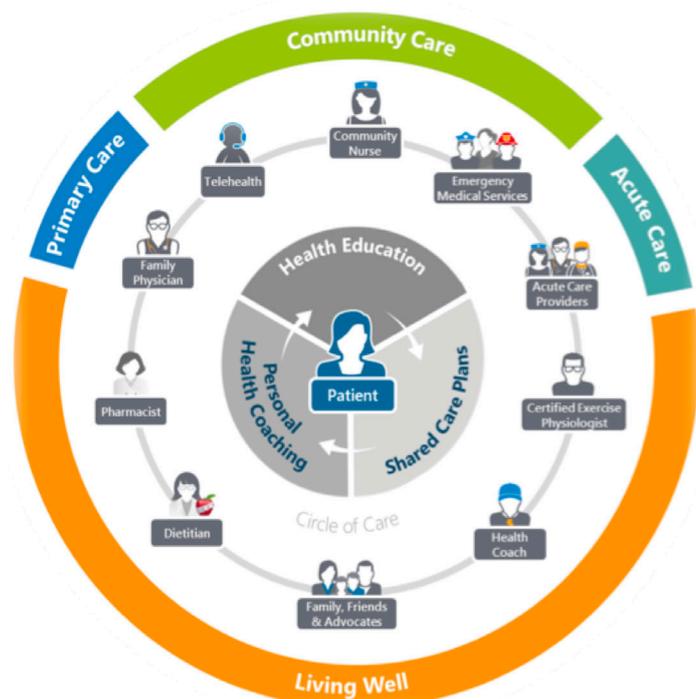
BRENDAN FAULDS

Click [HERE](#) to view Brendan’s presentation

Data That Will Allow



- Citizen centred health & care – right care, right time, right place!
 - Predictive diagnosis and intervention
 - Transformational service development
 - Better journeys and outcomes
-with YOU in charge or YOUR data!



Playing for Keeps, Using Data to Influence Shopper Behaviour



VICKY BROCK

“The cost of refunds is £450 billion per year”

“I can predict with 96% accuracy what the returns for your company will be. By exploring data and understanding the patterns, I learn the reason for returns. We can then work out what you must do differently. The most important thing is to take action.”

Many of the retailers Clear Returns indexes have just had their highest returning season ever. This doesn't just damage profits, it hits customer experience and future revenue too.

**ONE OF THE SCOTSMAN'S
5 MOST INFLUENTIAL WOMEN
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The problem has become too big for retailers to ignore – which is why there has been a recent flurry of changes to overly generous returns policies. John Lewis, for example, recently reduced its policy from 90 days to 35 days – a commercial necessity in an environment where a product cycle may be as short as 8-12 weeks. Other retailers e.g. Nordstrom and LL Bean, are rightly asking the question around whether it is sustainable to continue their free shipping and, “return anything you want, when you want to” policies, in an environment where returns rates are 30%+.

Returns have a disproportionate impact on the bottom line, so reducing a return rate by just 1 percentage point can boost gross profits by 1.6% and operating profits by a massive 15%.

At Clear Returns, our ground-breaking returns technology has helped retailers understand that returns are a fundamental, but overlooked component of online shopping, and that different customers respond to returns in different ways.

Some shoppers happily buy first, choose later – their high returning behaviour is costly, but it doesn't impact loyalty. A very small minority abuse returns policies by returning worn, fake or stolen stock, or by deliberately damaging product – the retailer and the rest of their customers pay a very high price for this. Then there are the customers who hate to return and only do so if the retailer messes up – if they are not identified and treated differently to the ambivalent returner, they will likely take their business elsewhere.

A one size fits all approach to returns policy and customer service isn't helping customers or the retailer, and is the area where there will inevitably be seismic shifts in thinking in the coming year.

Retail

The biggest challenge is knowing where to start. Clear Returns offers ecommerce and multichannel retailers a standalone Returns Insight package as a roadmap.

- Uncover the real drivers behind your returns so you focus spend and effort.
- Learn how your business compares against the industry so you can judge urgency.
- Get robust data on the costs of returns to your business, and their impact on profits and customer experience, so you can measure the cost of inaction and identify priorities.
- Understand your core groups of customers in terms of their attitudes and sensitivity to returns, so you can plan a more targeted service and policy approach.
- See the areas of returns improvement and keep optimisation that your competitors are already addressing.

Returns are not inevitable or unavoidable - if measured and understood correctly they can be managed and reduced, resulting in increased profit and increased customer satisfaction and loyalty.

Click [HERE](#) to view Vicky's presentation



Over 73,000

people in Scotland work in
digital or ICT jobs

Over 84,000

people expected to be employed in
digital or ICT jobs by 2020

The Art of the Possible



DANIEL MACINTYRE
SENIOR MANAGER,
GLASGOW TOURISM
STRATEGY

“Data and analytics is the game changer in tourism”

“Using predictive analytics I can predict how hotels are going to be ahead of time.”

Click [HERE](#) to view Daniel’s presentation

Technology is the most important trend affecting the travel industry

Key trends in travel

1. Mobile
2. Metasearch
3. Peer-to-Peer businesses (the “sharing economy”)



The Factory of the Future



RICHARD MILLER
SENIOR MANUFACTURING
SYSTEMS ENGINEER,
SPIRIT AEROSYSTEMS

“The challenges faced in the current, and future, aerospace market are driving change to conventional manufacturing strategies with automation, digital technology and data being at the forefront of new concepts”

“There is an increase in demand for air traffic - it is predicted 33,000 new aircraft are needed. This level of demand means an increase in productivity so we need to do things differently. The answer is automation, digital technology and analytics.”

Click [HERE](#) to view Richard's presentation

Industry 4.0 Concept

- Industry 4.0 Concept is to achieve a Smart Factory

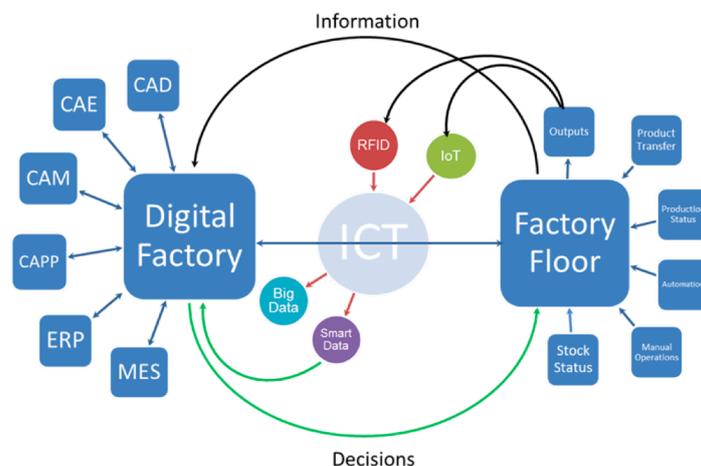


Figure 10. Smart Factory Concept.

Education

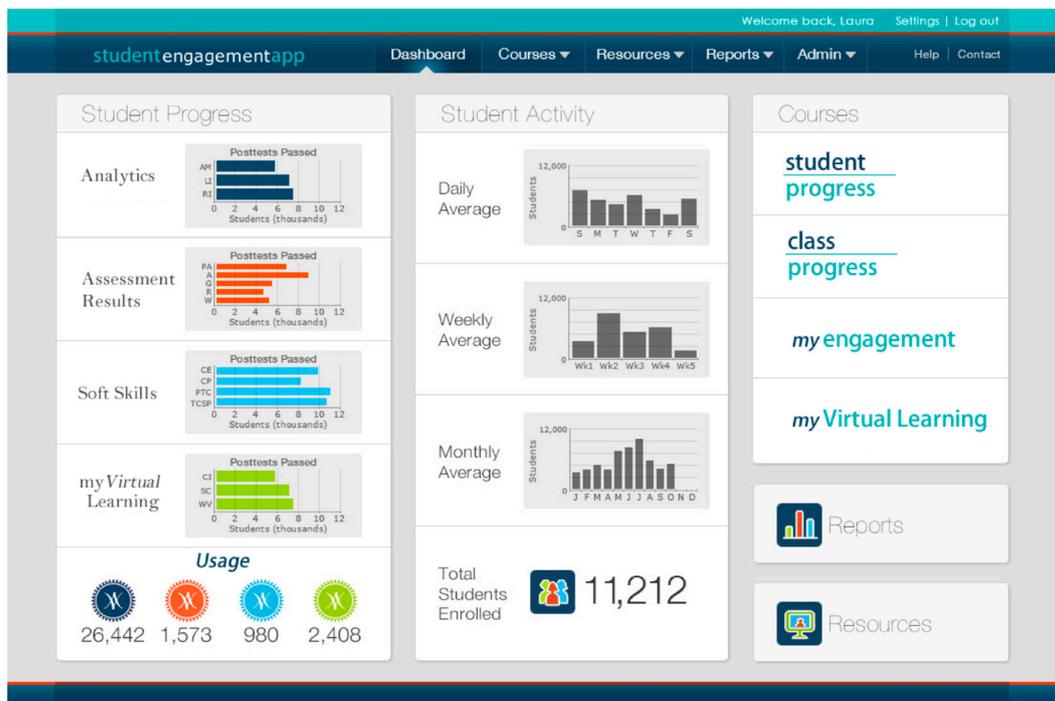


MARK SANGER
DATA ANALYST,
AYRSHIRE COLLEGE



BILL LENNOX
LEARNING RESOURCES &
TECHNOLOGY MANAGER,
AYRSHIRE COLLEGE

Click [HERE](#) to view Mark and Bill's presentation



13,000 new jobs in Scotland require digital skills each year

Set to increase by **2,000** every year as growth accelerates

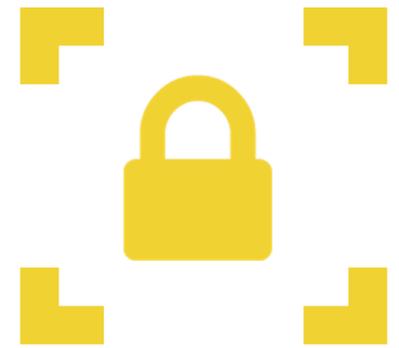


CRAIG HUME
MANAGING DIRECTOR,
UTOPIA COMPUTERS

The Data Security Delusion

Quick Tips for staying secure...

- Two step authentication
- Password Manager
- Separate passwords
- Install updates
- Employee training, training, training!



It's been an interesting few weeks, the WannaCry exploit has left around 200,000 users from over 150 countries locked out of their data. In the UK the NHS hit the headlines and while the press didn't quite fully understand exactly what was going on, often quoting that the NHS had been targeted, rather than simply falling foul of its own negligence, the world in general is now more aware than ever of the potential havoc cyber threats can bring.

Data released by Internet Security leader, Kaspersky indicates that the majority of devices affected by WannaCry were running older operating systems, with XP and Windows 7 devices particularly vulnerable. While many initially pointed at Windows XP systems, 45% of those affected were in fact Windows 7.

Going by these numbers an estimated 90,000 infected systems could have avoided the WannaCry exploit had they simply installed the update that Microsoft had released around two months ago.

The frustration for me, someone who is outspoken about the need for a more open approach to dealing with cyber security issues, was to find out that the technical knowledge that allowed the WannaCry worm to be produced was stolen from a data breach at the NSA. 7 vulnerabilities were unearthed during this breach, two of which were used to create WannaCry. Had the NSA shared the vulnerabilities with Microsoft, rather than use them for their own gain, WannaCry would never have been created.

As I finish this, I urge you to double check your operating system updates, as well as any other software you use. If you don't know how to do this find someone who does. Not updating your systems regularly is akin to not getting inoculations against viruses like rubella and mumps, worms like WannaCry can only spread through unprotected systems.

[Click HERE to view Craig's presentation](#)

Digital Discovery Expedition

Digital Expedition: visitors explored our digital exhibition and discovered how our local businesses have embraced digital to their benefit.



DR DATA CLINICS HELPED TO SOLVE YOUR PROBLEMS

Thanks to everyone who provided feedback on Ayrshire Bytes. Here is what delegates said...

- ◆ Really enjoyed the event, it was very thought provoking & informative. Range of speakers was excellent.
- ◆ Excellent event, very stimulating and it gave me lots of things to progress. Very good for networking and sharing ideas.
- ◆ Really interesting speakers and I enjoyed the social aspect of it too.
- ◆ The case studies provided were very informative.
- ◆ Great event with useful information.
- ◆ It was a very worthwhile event. The speakers were excellent.
- ◆ Excellent - very informative and entertaining.
- ◆ Enjoyable and informative event.
- ◆ Very informing and inspiring in equal measure.
- ◆ An extremely interesting event, all speakers were remarkable!
- ◆ Great speakers and a real eye-opener in terms of the potential of data.
- ◆ It was a really worthwhile event that provided insight into a highly topical subject, relevant to all sectors.
- ◆ A good programme with a good mix of presentations delivered in a timely manner.
- ◆ Really good - the event was extremely well run, covered fascinating topics and the speakers were first class.
- ◆ Great local event with good and relevant speakers.
- ◆ A fantastic event and interesting speakers.
- ◆ Excellent modern facilities with great interesting speakers.
- ◆ Fantastic venue, great organisation and food. Would have liked the event to last a little longer/ more speakers next time if possible.
- ◆ Overall, an excellent event, very inspirational and thought provoking presentations.
- ◆ There were some really interesting, engaging presentations that were short and snappy but also really informative.
- ◆ Good mix of presentations and mix of audience, unusual to have that ratio of students, staff and employers.
- ◆ The knowledge and information shared by the speakers was excellent. Good range of speakers too.
- ◆ The variety of interesting speakers at the event and the opportunity to network with different people from different sectors.

Jackie Galbraith

Ayrshire College's ambition is to enable people, businesses and communities to have the skills to take advantage of the huge potential of digital technologies.

Over 90,000 people are now employed in tech roles across all sectors in Scotland (up from 84,000 last year) - 40% in tech businesses and 60% in other sectors. Software and web development remain the most in demand skills.

The Digital Technologies Skills Group estimates that there are 12,800 digital technologies job opportunities available every year and that the average salary of tech roles has increased to £37,500. As well as in the digital industry, these jobs will be in sectors of the economy like finance, manufacturing, retail, health and tourism.

Some of our computing students took part in our **Data Changes Everything** conference along with employers from a range of sectors. Their skills will be vital to enabling companies in every sector of the economy to benefit from developments like Big Data, the Internet of Things and Industry 4.0.

However, the many thousands of high value digital jobs available can only be filled if more people choose to develop the skills required. We need to generate more interest in digital careers amongst young people. In particular, we need to tackle the gender gap that exists in what continues to be a very male-dominated sector (only 18% of tech roles are held by women).

We are working hard to inspire more young people at school to choose courses which develop digital skills. Our hugely successful award-winning **CoderDojo Ayrshire** computer coding clubs have introduced over 1,000 seven to seventeen-year-olds to programming since we started in November 2014, 500 in the past year alone!

In June, 250 first and second year female school pupils took part in our **#ThisAyrshireGirlCan Technology Workout** organised in partnership with SmartSTEMs. As well as hearing from inspirational female speakers, the girls enjoyed a wide range of interactive workshops led by employers and took part in our computer coding club. We plan to continue our partnership with SmartSTEMs and run these events regularly across our campuses.

Supported by funding from the Developing the Young Workforce Ayrshire regional group, Ayrshire College has teamed up with **Apps for Good**, an open source technology education movement to equip young people to research, design and make digital products, and take them to market. Aimed at pupils in third year at secondary school, this project will provide a digital pathway for young people prior to making their subject choices.

For fifth and sixth year secondary school pupils, we offer the **IT: Software Development Foundation Apprenticeship**.

Ayrshire College is investing considerable resources to work with schools so that we can help young people make choices. If you would like to work in partnership with us to put Ayrshire at the forefront of the digital revolution, please get in touch.



JACKIE GALBRAITH
VICE PRINCIPAL,
AYRSHIRE COLLEGE

Developing Ayrshire's Digital Potential



Ayrshire Bytes

Ayrshire Bytes is Ayrshire College's suite of solutions to help your organisation use digital technologies effectively to support your business needs, harness the potential of social media for communication and marketing, and analyse and visualise data.

If you would like to speak to us about your digital skills needs, or you would like to support the work we are doing to encourage young people to pursue digital careers, please contact **Moira Birtwistle** at moira.birtwistle@ayrshire.ac.uk or **Ged Freel** at ged.freel@ayrshire.ac.uk

Click [HERE](#) to view
the Ayrshire Bytes Video Summary



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