

Phil Archer

phil@philarcher.org

Profile

Web technologist with substantial experience of leading the development of globally-recognised standards. Best known at GS1 for leading the development of the GS1 Digital Link standard that Web-enables its system of identifiers and barcodes used in retail and healthcare supply chains around the world. It means that a single barcode can perform multiple functions for both B2B and B2C for retail, and for both patients and clinicians in healthcare.

This represents a continuation of my work at W3C where, for the last 4 of my 8 years, I coordinated, supported and promoted the creation of consensus-based Web standards in areas such as open data and the Semantic Web. A frequent organiser and speaker at workshops, conferences and seminars worldwide but particularly in Europe, I am passionate about the integration of data within the Web rather than seeing it as merely a means of transferring data from one silo to another. Agnostic about people's choice of technology, I have particular interests the areas of vocabularies and identifier persistence.

On behalf of W3C I participated in various activities with the European Commission, such as the ISA Programme, and a number of research projects. I represented W3C at the Research Data Alliance and the UK Open Data Research Forum (convened by the Royal Society). Previously I taught mobile Web creation techniques, based on best practices for mobile Web development to which I was a contributor.

Well connected to a wide variety of online industry and public sector players and with an extensive network of contacts. Hard working, experienced, loyal, innovative.

Unusual History

Early careers include radio presentation, advertising copy writing and voice work, countryside conservation and teaching. The common theme throughout is an ability to communicate sometimes complex issues with clarity, both verbally and in writing.

General Areas of Expertise

- Consensus building
- Standards and their creation
- Vocabularies/data modelling
- Semantic Web (a.k.a. 'web of data' or 'Linked Data')
- eGov & open data
- Delivering education & training
- Online Safety & Trust, rating systems (movies, games, trustmarks etc.)

Skills

- Consensus building
- Range of Web Technologies (HTTP, RDF/Linked Data, Decentralized Identifiers and Verifiable Credentials, HTML5, CSS, etc.)
- Public Speaking and front man, standards champion
- Writing, Editing and Proof Reading
- Basic programming in JavaScript, PHP & Perl
- Known internationally in the fields of the mobile & Semantic Web, online safety and broader Web standards
- Voice Over, Audio & Video Production

Career History

In my early career, I had a habit of working part time for a variety of companies at once, hence the various overlaps but, broadly speaking, the chronology is as set out below.

GS1: Director, Web Solutions

July 2017 - present

A shift in environment from the academic to the commercial, but still focused on standards for embedded data on the Web, including GS1 Digital Link, Mobile Ready Hero Images, GS1's extension to schema.org, and more. The dominant interests at GS1 are the supermarket sector and its supply chains on the one hand, and healthcare on the other. Companies like Proctor & Gamble, Walmart, Coca-Cola and Tesco hold the kind of power I was used to Google and Apple having at W3C. On the healthcare side it's the likes of Pfizer, Johnson & Johnson etc. I needed to build relationships in a new area quickly and effectively in order to bring relevant stakeholders together to work towards common standards. Although open standards certainly play a role, ideas about openness, transparency and data sharing as a means to lower costs are largely alien in this community and need to be spelled out repeatedly.

Achievements

- Leading the development of [GS1 Digital Link](#) that provides a persistent online identifier for every item identified using GS1 keys, and the means to connect it to an unlimited number of related resources, discoverable by humans and computers. GS1 Digital Link now in a growing number of live production systems around the world, in retail and healthcare.
- Establishment of the GS1 Mobile Ready Hero Images working group, and delivery of its [guideline](#) that helps GS1 members agree on standards for product images on small devices. This WG trod a fine line between standardising semiotics and allowing creativity. This was the first GS1 standard to be published as an [HTML document rather than PDF](#).

- Expanding the use of the [GS1 Web vocabulary](#) from its original, single role in 'GS1 SmartSearch' to become the online expression of the GS1 Data Model and its related taxonomies.
- Greater transparency in standardisation process (Digital Link was the first [draft GS1 standard](#) ever to be opened to public review before it was completed).
- Establishment of GS1's [GitHub account](#) and, through that, the provision of free, open source software for the first time in the organisation's history.

Data Strategist/Activity Lead W3C (previously eGov Consultant)

September 2011 – June 2017

After a short break I re-joined the W3C, primarily to develop core vocabularies and carry out research in the European Commission's ISA Programme. I also represented the consortium in the Crossover Project which looked at the uses of ICT for policy modelling and governance. These areas, and participation in the broader government-related efforts, meant that I frequently represented the W3C in the field of eGovernment. I supported work in the Government Linked Data Working Group and the eGov Interest Group. I represented W3C in the UK government's consultation to define the term 'open standard.'

During this period, I contributed to discussions that lead to a minor internal reorganisation. The Semantic Web and eGovernment 'Activities' were merged into a new Data Activity and I was asked to become its Lead; that is, to coordinate and expand standardisation efforts in those areas. The focus was on integrating the Semantic Web with other data formats and supporting a diverse ecosystem. Early manifestations of this were the [CSV on the Web](#), [Data on the Web Best Practices](#) (for which I was team contact) and the [RDF Data Shapes Working Groups](#). Later groups include the [Spatial Data on the Web](#) working group in which W3C and the Open Geospatial Consortium collaborated to create joint standards and the [Permissions & Obligations Expression WG](#) which created a framework for machine readable licences.

A lot of my work at W3C was funded by EU projects including SmartOpenData (using Linked Data to underpin new services in rural areas) and the [Share-PSI 2.0](#) Thematic Network. As leader of the latter project, I was responsible for bringing together 40 partners across 25 countries to organise a series of workshops and develop a set of policy-related Best Practices around the implementation of the EC's revised PSI Directive.

A reorganisation in September 2016 saw my role change slightly, taking a more strategic view of W3C's work in the general area of data. This again was largely funded by EU projects. For [Big Data Europe](#) I acted as dissemination lead. The project overall, led by Fraunhofer, built a powerful and flexible integrated platform for handling large amounts of static and real time data, tackling the problem of variety through semantics. This laid the groundwork

for future work around data analytics, AI and machine learning based on RDF data. The [VRE4EIC](#) project was all about data from multiple research infrastructures and supported the [SDSVoc workshop](#) that in turn led to the [Dataset Exchange WG](#). This was chartered to update [DCAT](#) (in which I played a small role initially) and standardise the notion of content negotiation by profile.

Achievements

- Establishment of W3C Data Activity/data as a first class citizen in W3C strategy.
- Organisation of the Open Data on the Web workshop (London, April 2013) which led to:
 - Data on the Web Best Practices, including the best practice document itself and two supporting vocabularies covering quality and usage of data.
 - Establishment of the CSV on the Web WG (not a direct participant but part of 'my' activity at W3C).
- Share-PSI Thematic Network, including the organisation of 5 workshops across Europe (2014-2015) and the development of a set of best practices that offer policy-centric advice to complement the W3C Data on the Web Best Practices.
- Linking Geospatial Data Workshop (London, March 2014) organised jointly with the UK Government, OGC and Ordnance Survey, which led to:
 - Spatial Data on the Web: negotiating with W3C and OGC management to agree to joint work, as requested by the April 2014 workshop.
- Smart Descriptions & Smarter Vocabularies workshop (Amsterdam, December 2016) which led to:
 - Dataset Exchange WG
- Successful delivery of various outputs of the European Commission ISA Programme including studies and Core Vocabularies (Core Organisation, Public Service etc.)
- Organising and running the Crossover Project's Uses of Open Data workshop in Brussels, June 2012.
- Representing W3C in consultations such as the UK government's on Open Standards and the European Commission's on the revised PSI Directive.
- Opening keynote speaker at SemTechBiz 2014, San José, California; SEMANTiCS, Leipzig etc. Regular keynote speaker at the annual SemWebPro meeting in Paris. Numerous other talks.
- Building the relationship with the scientific research community, particularly via the Research Data Alliance, CODATA, and the UK Open Research Data Forum.

My final blog post at W3C [Possible future directions for data on the Web](#) provides a good summary of where I left off and what I considered needed to be done next.

Project Manager, i-sieve Technologies

November 2008 – July 2012

i-sieve Technologies offers state-of-the-art solutions to an old problem: measuring public sentiment about given topics. Clients in Athens and London are primarily advertising agencies for which i-sieve measures the impact of advertising campaigns by identifying and classifying comments made in blogs, forums and commercial media. My role was to develop new business opportunities in Britain and to lead the company's interest in European Union-funded projects. It is through this role that I was able to maintain and complete the work developing the Protocol for Web Description Resources (POWDER) standards and participate wider in the Semantic Web/Linked Data world which I began in my previous job at ICRA/FOSI.

I represented i-sieve in the early stages of the PATHS project that developed methods of offering personalised methods of navigating through cultural heritage collections (Europeana and Alinari are the test beds). i-sieve technology was used to enhance the data about users (by assessing their interests based on their choice of cultural heritage objects) and resources on the Web at large that are related to specific items in the collections.

Achievements

- Completion of the W3C Protocol for Web Description Resources (POWDER) standards, part of the Semantic Web technology stack.
- Completion of the EU-funded Quatro Plus project.
- Development of relationship with new clients.
- Development of the PATHS project that was approved for EU funding for commencement in January 2011.

Consultant, Talis

September 2010 – February 2011

It was my job to help others to make their data available as linked data. I worked with the data.gov.uk team, the British Geological Survey and the UK Parliament. I learned a great deal during this short period and it was a real pleasure to put into practice a lot of the theory I'd worked on at W3C.

Training Programme Lead, W3C Mobile Web Initiative

February 2009 – December 2010

Mobile Web Best Practices course tutor February 2009 - July 2012

I further developed an existing online training course on behalf of the World Wide Web Consortium (W3C): the industry standards body lead by Web-inventor Sir Tim Berners-Lee. My focus was on the mobile Web – helping

those with experience of desktop website design apply their skills to mobile. I continue to act as tutor on this course. I also helped to develop and deliver a course on SVG. Alongside that I lead the consortium's initial work with Augmented Reality, running a workshop and establishing the Points of Interest Working Group. I joined W3C as a team member after many years of association through my previous role at FOSI under whose aegis I was a member of the Mobile Web Best Practices Working Group from its inception in June 2005 and chair of the POWDER WG (see below).

Achievements

- Completion and delivery of four successful instances of the Introduction to W3C Mobile Web Best Practice Course.
- Development, with a domain expert, of a course on SVG.
- Running a standards workshop leading to the establishment of a new working group in a new area.
- Of the 7 documents and standards created by the Mobile Web Best Practices Working Group, I was an editor or acknowledged contributor to 5 of them.
- Representing W3C at events like the WWW 2009 conference in Madrid and Mobile World Congress, Barcelona, 2010.

CTO ICRA/FOSI

April 2000 to November 2008

The Family Online Safety Institute is a membership-driven, non-profit organisation based in the USA. Its membership is drawn from the online industry serving companies such as BT, Microsoft, Google, AT&T, Verizon, Telefónica/O2 and more. Through this job I became used to dealing with such companies at a high level and know many of the people who represent them in the online safety and public policy arena. The organisation grew out of the ICRA labelling system designed in the mid 1990s to aid parental choice. It is this aspect that I worked to modernise, improve and make more relevant. My redundancy followed the decision by FOSI to concentrate entirely on public policy work and events organising, losing its technical arm.

It is this job that first gave me a wide range of technical skills and contacts across the industry and around the world.

Achievements

- Leading role in the development of new techniques for the application of metadata to enhance trust and safety (POWDER).
- Conceived and devised EU-funded project to increase trust in, and use of, labels by making trustmarks machine readable and interoperable using Semantic Web technologies (Quatro Project).
- Instrumental in developing the organisation's strategy in changing environment, maintaining its relevance and credibility.
- Regular contributor to the international debate on internet safety.

- Represented FOSI in a variety of fora including the BSG Audiovisual Content Information Group and British Board of Film Classification's Consultative Council.

Freelance copywriter

2000 to 2010

Major clients and key work

- Arqiva (former Inmedia Communications, formerly Kingston Inmedia)
 - Web site copy and coding
 - White Papers, briefing documents etc.
- Ward Design (Mice Group)
 - Bang & Olufsen (store design guide and more)
 - Ford Rapid Fit
- For Agencies
 - Rutherford Appleton Laboratory
 - The Orange Group
 - Period Home Centre (DM letters etc.)
 - Town & Country (conservatories) brochure
 - In-store TV commercials/training videos

Achievements

Although my background was entirely in radio commercial production with some video work, I was quickly able to establish a substantial client list well outside those fields. Work included educational material, brochures, website and CD ROM copy, information points and Bang & Olufsen's How to design your store guide, subsequently used around the world.

Copywriting is a core skill that I developed early in my working life and that I expect to continue to exploit for as long as I work.

Copy writer, John Mountford Studios

September 1995 - April 2001

I worked as a senior copywriter at Britain's largest independent radio commercial production company whilst simultaneously pursuing other activities.

Lecturer in media Studies at West Suffolk College

September 1995 - December 1999

Achievements

- Gained Cert. Ed. Qualification.

- Delivered lectures at - and lead student trips to - China Central Television, Beijing Broadcasting Institute and China Radio International
- Speaker at International media education conference in Beijing
- Redesigned media facilities
- Developed curriculum
- Devised new syllabus unit

Wildlife Warden, Suffolk Wildlife Trust

1992 - 1995 Assistant Warden & Education Officer, Bradfield Woods National Nature Reserve

Achievements

- Developed educational activities for groups from primary school to post graduate level
- Organised and publicised the Trust's most successful public event
- Developed and produced a range of fact sheets, information leaflets and booklets
- Delivered course on Ancient Woodland for Cambridge Board of Continuing Education
- Designed and re-furbished visitor centre

Freelance Broadcaster

1983 - 1990 (approx.)

Major contracts

- 1983 to 1984 Signal Radio, Stoke on Trent
- 1985 County Sound Guildford
- 1985 to 1990 Suffolk Group Radio, Ipswich

Achievements

- Assisted in establishing successful series of outside broadcasts (Signal)
- Short-listed for 3 national radio awards (SGR)
- Produced successful imaging package for station re-launch in 1987 (SGR)
- Produced three-part documentary covering musical developments during the 1980s (SGR)
- Presented feature for BBC Radio 4's Natural History Programme

Formal Education

1975 to 1981	Queens Park High School, Chester	O levels	10
		A Levels	Physics (A), Chemistry (A), Maths (B), General (B)
1990 to 1992	Otley College, Ipswich	C&G II Countryside Conservation (Distinction). Adv.Nat.Cert Conservation Management (Credit)	
1992 to 1995	Open University	S102 Science Foundation	Grade 1
		S236 Geology	Grade 1
		S267 How the Earth Works	Grade 1
		S203 Biology	Grade 1
1996 to 1998	Anglia Polytechnic University	Certificate in Education (Post Compulsory Education)	

Basics

Born 19/2/63. Married, 2 adult children. Ipswich, UK.

References

On request