Susan Korgen Susan.Korgen@gmail.com

Summary

- Hands-on lead engineer, full-stack software developer, architect, innovator, new product producer.
- Dedicated to flexible, extensible software design: producing code that is easy to explain, test, fix, ship.
- Passionate about data integrity; reliability; contracts that promote interoperability; product lifecycle.
- Past work experience in UX, training, documentation. Strong empathy with quality, product, support.

Technology

- JSON, FHIR, C-CDA, OMOP, XML, XSL, XPath, XSL-FO, HTML, CSS, REST, APIs, SQL, JavaScript, ObjectScript.
- Independent code portfolio (ongoing updates): https://susankorgen.github.io/cygnet-software/

Education

- Harvard University – 2013 – MLA in IT, Information Management Systems. While working full-time.
- Smith College – BA Mathematics, magna cum laude, Phi Beta Kappa, music composition awards.

PRINCIPAL SOFTWARE DEVELOPER – **2009 to present** – InterSystems Corporation, Cambridge, MA

InterSystems: HealthShare Unified Care Record – 2019 to present

- Remove risk in intake of new patient data, invent tools to safely repair millions of archived records.
- Enhance patient data transformation framework (see 2017): it now also produces OHDSI OMOP CDM.
- Enhance, modernize health information exchange and patient data store. Worldwide install base.
- Find, leverage existing, unused knowledge and skills on the team. Guide tasking, develop new talent.
- Engage with other teams to ensure patient safety and data quality for products in the HealthShare suite.
- HealthShare supports large-scale healthcare data exchange by hospitals and other health organizations.

InterSystems: Care Community - 2018-2019

- Primary architect and implementer of new code base. Author of data model, back end, and API code.
- Designed, built new Care Plan management software for national health organizations (UK NHS).
- Handled care plan authoring, multiple local languages, auditing, document lifecycle management.
- Clinicians, patient, health proxy can share access care plans via the HealthShare patient data record.
- Coached agile scrum, demonstrating a measurable advance in deliverable product every 2 weeks.
- Helped shape roadmap: FHIR interoperability, care team management, event notification, data bindings.

InterSystems: FHIR (Fast Healthcare Interoperability Resource) Transformations – 2017-2018

- Led team to provide FHIR STU3 patient data transformations to/from InterSystems SDA data format.
- Invented code generation framework to map patient data between any major schemas (HL7, more).
- Tool allows domain experts such as clinicians to express mappings between patient data fields simply.
- Based on these mappings, tool generates executable transformation code and online documentation.
- Tool use cut project time and resource needs in half while doubling the output of code to deliver a full set of transformations to and from FHIR STU3, compared with the previous project for FHIR DSTU2.
- InterSystems products that use this FHIR STU3 code: IRIS for Health, Health Connect, HealthShare.

InterSystems: Coordinate My Care – 2015-2017

- Built UI and API for a collaborative tool for clinicians and patients in the UK National Health Service.
- Co-built a data-driven UI code generation framework that enabled full browser compatibility for the same UI code, from mobile phones, to current browsers, to the NHS-required Internet Explorer 6-9.
- Clinicians, patients, and other staff develop detailed compassionate care plans for severely ill patients.
- System accurately delivers patient data in seconds to London EMTs responding to urgent home calls.

PRINCIPAL SOFTWARE DEVELOPER – **2009 to present** – InterSystems Corporation (continued)

InterSystems: 2009-2015

IRIS, Caché (database and development platform)
Ensemble, HealthShare (application integration, healthcare interoperability)
Patient Index, Provider Directory (identity matching and management)

- Designed UX, coded UI to manage data quality for identity products Patient Index, Provider Directory.
- Wrote UIs (JavaScript, HTML, SCSS, CSS, AngularJS, angular), contributing to Ensemble, HealthShare, IRIS.
- Wrote APIs (REST endpoints, swagger doc, wrote the back-end service code in ObjectScript and SQL).
- Wrote ObjectScript class code (O-O proprietary language, like Java, gives object view of platform data).
- Wrote SQL queries (using an embedded SQL projection for manipulating the same data and logic).
- Worked directly with the underlying multidimensional data storage (globals) for ease and speed.
- Wrote and generated transformations (XSLT for XML, DocBook, Java) and scripts (Python, UNIX shell).
- Contributed components to the InterSystems core platform products IRIS, Health Connect, Ensemble.
- Found and examined the deeper InterSystems platform code in C, C++ (when needed).

PRINCIPAL TECHNICAL WRITER – **2002-2008** – InterSystems Corporation, Cambridge, MA

InterSystems: 2002-2008

Caché (database and development platform)
Ensemble (application integration, healthcare interoperability)
Zen (data-driven UI code generator)

- Wrote XSLT transformation that still generates all documentation for all InterSystems products, as PDF.
- Source is DocBook XML: 1000+ pages, arbitrarily complex content, running error-free daily for 15 years.
- Designed page layout UX for all 3 supported book types and for their supported sets of DocBook tags.
- Originated all documentation, code examples, demos for the (then-new) products Ensemble and Zen.
- Originated project to document for customers, all performance tuning and option settings for Caché.

CONSULTING TECHNICAL WRITER – **Highlights before 2002** – Software Developer and User audiences

- **Funk Software**, Cambridge, Mass: Steel-Belted RADIUS, an implementation of the RADIUS network security standard for authentication, authorization, and accounting – RFC 2865 and others.
- **Funk Software**: Proxy, a PC remote access tool providing an individual virtual private network (VPN).
- **Midnight Networks**, Waltham, Mass – Anvil and other products. Network validation tools. This successful tiny startup simulated high network loads. Now a Harvard Business Review case study.
- **ACM SIGDOC Paper:** "Object-oriented, single-source, on-line documents that update themselves."
- **Boston Technology**, Wakefield, Mass: Telephony switching hardware, voice recognition software.
- **Cullinet**, Westwood, Mass: DECVoice. One of the earliest voice simulation products to speak from text.

HOBBIES AND INTERESTS
Argentine tango (participant). Opera, classical, ballet, theatre (audience). Travel, reading, nature, DIY.

ORIGINS AND PLACES
Longtime resident of Newton and Boston area. Raised in college towns: US Great Lakes, Northwest, Southeast. Favorite life places: Boston, Berkshires, Cape Ann, Venice and Veneto, New Orleans, British Columbia, Corvallis.