

**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, XML, XSL, XPath, XSL-FO, XML, 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.

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

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**InterSystems: HealthShare Unified Care Record – 2019 to present**

- Enhance, modernize health information exchange and patient data store. Worldwide install base.
- Remove risk in intake of new patient data, invent tools to safely repair millions of archived records.
- 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.

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

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**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).

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

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**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.

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

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- **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.

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**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.