

## Goal

- Meet new tech and market challenges with the best tools available today. Contribute deeply, learn deeply.

## Summary

- Hands-on lead engineer, full-stack software developer, mentor, solution innovator, new product producer.
- Dedicated to sustained cycles of innovation: new, solid code that is easy to test, deliver, extend, and support.
- Experienced in design, UX, training, doc. Strong empathy with other disciplines: quality, product, timelines.

## Tech Skills

- **ObjectScript, JavaScript, SQL, REST, APIs, FHIR, C-CDA, JSON, XML, XSL, XPath, XSL-FO, HTML, CSS, OMOP.**
- Courses now: **Python** - #100DaysOfCode Pro (Yu), **Cloud** - AWS Certification Series (Maarek) - Udemy.com
- Individual portfolio: <https://susankorgen.github.io/cygnnet-software/> - ongoing updates

## Education

- Harvard University – **MLA in IT, Information Management Systems**. Earned degree 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 Patient Care Record (UCR) – 2019 to present

- Meet emerging payer market needs by adding FHIR R4, R3 intake ability to main data/ETL pipeline into UCR.
- Remove risk factors in C-CDA data intake, build performant, reusable tool to safely repair millions of records.
- Update data transformation mapping tool/code generator (see 2017): it now supports OHDSI OMOP CDM6.
- Enhance, modernize a healthcare data interoperability engine and data store with a worldwide install base.
- Guide epics and tasking. Develop new talent. Find, leverage existing, unused knowledge or skills on the team.
- Engage with teams across InterSystems to ensure architectural uniformity and data integrity across products.

### InterSystems: Care Community - 2018-2019

- Primary architect and implementer of new code base. Author of data model, REST API, and back end 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 proprietary 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 mappings, tool generates executable transformation code and online documentation of mappings.
- Cut project staff/time load by 50% and produced 400% as much code (all FHIR resources) for STU3 vs. DSTU2.
- InterSystems products that use this FHIR STU3 code: IRIS for Health, Health Connect, HealthShare.

### InterSystems: Coordinate My Care – UK National Health Service – 2015-2017

- Built UI and API for a document authoring, updating, and approval workflow for clinicians and patients.
- NHS required Internet Explorer 6-9, current browsers, and mobile phones. Under severe time constraints, I co-built a data-type-driven UI code generation framework that managed the workflow, and delivered with it.
- System accurately delivers detailed patient care plans in seconds to London EMTs responding to urgent 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.

---

**PERSONAL INTERESTS**

Family and friends. Argentine tango. Opera, classical, ballet, theatre. 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.