

UW HEALTH JOB DESCRIPTION

Software Engineer Principal

Job Code: 340047	FLSA Status: Exempt	Mgt. Approval: B. Larkworthy	Date: May 2023
Department: Information Services		HR Approval: M. Grayson	Date: May 2023

JOB SUMMARY

The Software Engineer Principal demonstrates an elevated level of expertise, leveraging extensive software design knowledge to analyze, develop, and integrate, cutting-edge web, server, cloud, platform, and client-based applications that provide clinical and business capabilities to the organization. They serve as the technical lead of the software engineering team throughout the entire software development life cycle (SDLC), undertaking responsibilities that encompass designing and constructing new software, modifying existing systems to introduce new features, rectifying errors, and optimizing performance.

The Software Engineer Principal drives the development and refinement of organizational processes that ensure software is designed to meet the rigorous operational standards essential for healthcare delivery. They diligently adhere to regulatory requirements and devise solutions and systems that prioritize application security, reliability, usability, accessibility, and maintainability.

Working closely with front-line clinical staff, information systems professionals, and business stakeholders, the Software Engineer Principal collaborates to construct robust software systems designed to improve clinical and business outcomes. The Software Engineer Principal embodies and leads the team to take a UW Health enterprise perspective and approach in their work to successfully design and deliver highly valuable software solutions.

As a technical leader, the Software Engineer Principal assumes accountability for the technical processes necessary to create and implement differentiated software solutions. They spearhead initiatives that execute the technical architecture roadmap for software engineering, ensuring alignment across the entire UW Health system.

MAJOR RESPONSIBILITIES

- Write production-level code consistent with software engineering principles, methodologies, and best practices, including version control, code reviews, software design, and software testing, performance optimization, demonstrating an advanced understanding of coding concepts and techniques.
- Provide technical leadership by setting coding standards, promoting software engineering best practices, and ensuring adherence to software engineering principles and methodologies.
- Lead the design and development of complex, scalable, and secure applications, ensuring alignment with software architecture and development standards.
- Evaluate and improve software architecture and development standards; simplifying and reducing unnecessary technical complexity to enhance maintainability and testability.
- Design and implement robust quality control measures, including comprehensive code reviews, automated and manual testing frameworks, and effective debugging procedures.
- Continuously monitor and improve overall software quality, identifying areas for improvement and implementing appropriate solutions.
- Implement secure software engineering practices, ensuring that applications adhere to modern development and software security standards, such as secure coding principles, encryption, access controls, input validation, and vulnerability management.
- Collaborate with cybersecurity teams to conduct security assessments, threat modeling, and risk analysis to identify and mitigate potential security vulnerabilities in software systems.
- Collaborate closely with business users and stakeholders to understand their requirements and translate them into functional and non-functional technical requirements.
- Facilitate clear and accurate acceptance criteria, enabling seamless transition from requirements gathering to development.
- Plan and lead cross-functional teams to successfully execute key, large-scale deliverables according to technical roadmap, priorities, and established architecture.
- Conduct user training sessions to ensure effective adoption and utilization of existing software functionality.
- Provide timely technical support to users, promptly addressing and resolving issues to minimize disruptions to patient care and operations.
- Actively contribute to advancing software engineering capabilities with cross-functional teams, sharing insights, and proposing innovative solutions.
- Act as the department role model for software engineering. Mentor and develop other software engineers, sharing knowledge, conducting technical training sessions, and fostering a culture of continuous learning.
- Troubleshoot technical issues in existing applications, identify the root causes, determining appropriate resolutions to remediate issues promptly, and preventing the issues from recurring.
- Participate in a 24x7x365 on-call rotation to support applications, promptly responding to incident notifications, escalating them when necessary, and ensuring system availability and stability.

ALL DUTIES AND REQUIREMENTS MUST BE PERFORMED CONSISTENT WITH THE UW HEALTH PERFORMANCE STANDARDS.

UW HEALTH JOB DESCRIPTION

JOB REQUIREMENTS		
Education	Minimum	Bachelor's degree in Software Engineering, Computer Science, or related field Four (4) years of relevant experience and education may be considered in lieu of degree
	Preferred	Master's or Doctorate degree in Software Engineering, Computer Science, or related field
Work Experience	Minimum	<ul style="list-style-type: none"> • Demonstrated success using multiple high-level programming languages to design and write software, showing a deep understanding of their principles, paradigms, and best practices • Demonstrated success designing complex, scalable, and/or highly available software using modern application development technologies, methodologies, and frameworks • Demonstrated success designing and implementing modern API and integration technologies, effectively addressing challenges related to data consistency, authentication, security, and error handling • Demonstrated success establishing and implementing professional software engineering practices such as coding standards, code reviews, source control management • Demonstrated success designing and implementing DevOps capabilities such as automated build, testing, code quality and security, continuous integration, and continuous deployment processes • Demonstrated success leading and mentoring in the field of software engineering • Demonstrated success managing and executing large scale projects • Demonstrated commitment to continuous learning and staying current with the latest trends, technologies, and best practices in software engineering
	Preferred	<ul style="list-style-type: none"> • One (1) year of experience in a technical leadership role • Ten (10) years of progressively responsible professional software engineering experience, including design, development, testing, and release • Experience performing web application planning, development, implementation, and oversight in a complex environment • Experience designing and developing cloud-native applications using Microsoft Azure or other cloud platforms • Experience designing and implementing secure application architecture • Experience developing software within the healthcare industry • Experience developing, deploying, and supporting applications in a 24x7x365 environment • Experience designing, implementing, and performing web development workflows, implementation processes, and best practices for managing websites and other interactive media
Licenses & Certifications	Minimum	<ul style="list-style-type: none"> • None
	Preferred	<ul style="list-style-type: none"> • Professional Scrum Master, Developer, Product Owner, or related certifications • Microsoft Azure or AWS Administrator, Developer, Architect, or related certifications • ServiceNow Administrator, Developer, or related certifications • Epic certifications • ITIL Foundation or related certifications • PMP
Required Skills, Knowledge, and Abilities		<p><u>Information Services (IS) Core Competencies:</u></p> <p>Advanced competency in the following:</p> <ul style="list-style-type: none"> • Communication • Critical Thinking • Effective Team Member • Technical Leadership <p>Intermediate competency in the following:</p> <ul style="list-style-type: none"> • Agility • Leadership • Leading without Direct Authority • Leading Highly Empowered, Self-Directed Teams • Lean Management • Mentor and Teach

UW HEALTH JOB DESCRIPTION

	<ul style="list-style-type: none"> Organizational Awareness/Understanding Demonstrates Business & Financial Acumen Maintains Strategic Orientation <p><u>Position Specific Competencies:</u> Advanced competency in at least three (3) and intermediate competency in the remaining of the following:</p> <ul style="list-style-type: none"> Software Architecture Software Quality System Analysis & Design Continuous Improvement Software Test Development Technology Awareness & Strategic Planning Product Management <p><u>Other Knowledge, Skills, & Abilities:</u></p> <ul style="list-style-type: none"> Ability to lead as a member of an agile development team Ability to proactively engage others at all levels of the organization Ability to drive deliverables and priorities Ability to break down technical problems to root cause and first principles Ability to reduce complexity and define elegant solutions and guiding principles Exceptional ability to think abstractly and apply these concepts to concrete problems Demonstrated ability and desire to quickly learn and apply new technical knowledge and skills Demonstrated ability to adapt to new and changing technologies Strong logical thought process for design and analysis Outstanding analytical, critical thinking, problem-solving, and organizational abilities with attention to detail Ability to build solutions which include developing original and innovative approaches Ability to synthesize feedback ambiguous and inconsistent feedback and input
--	---

PHYSICAL REQUIREMENTS

Indicate the appropriate physical requirements of this job in the course of a shift. *Note: reasonable accommodations may be made available for individuals with disabilities to perform the essential functions of this position.*

Physical Demand Level		Occasional Up to 33% of the time	Frequent 34%-66% of the time	Constant 67%-100% of the time
X	Sedentary: Ability to lift up to 10 pounds maximum and occasionally lifting and/or carrying such articles as dockets, ledgers and small tools. Although a sedentary job is defined as one, which involves sitting, a certain amount of walking and standing is often necessary in carrying out job duties. Jobs are sedentary if walking and standing are required only occasionally and other sedentary criteria are met.	Up to 10#	Negligible	Negligible
	Light: Ability to lift up to 20 pounds maximum with frequent lifting and/or carrying of objects weighing up to 10 pounds. Even though the weight lifted may only be a negligible amount, a job is in this category when it requires walking or standing to a significant degree.	Up to 20#	Up to 10# or requires significant walking or standing, or requires pushing/pulling of arm/leg controls	Negligible or constant push/pull of items of negligible weight
	Medium: Ability to lift up to 50 pounds maximum with frequent lifting and/or carrying objects weighing up to 25 pounds.	20-50#	10-25#	Negligible-10#
	Heavy: Ability to lift up to 100 pounds maximum with frequent lifting and/or carrying objects weighing up to 50 pounds.	50-100#	25-50#	10-20#
	Very Heavy: Ability to lift over 100 pounds with frequent lifting and/or carrying objects weighing over 50 pounds.	Over 100#	Over 50#	Over 20#
Other - list any other physical requirements or bona fide occupational qualifications not indicated above:				

Note: The purpose of this document is to describe the general nature and level of work performed by personnel so classified; it is not intended to serve as an inclusive list of all responsibilities associated with this position.

UW HEALTH JOB DESCRIPTION