

Position #008575

Division of Technology, Security & Data Services

Bureau of Information Technology Services / Development & Quality Management Section

IS Systems Development Services Specialist

Quality Assurance Developer

POSITION SUMMARY

Under the general supervision of the Development and Quality Management supervisor, this position performs advanced-level work in test automation strategy, test framework implementation and management, automated testing services, and systems analysis for software, data, and IT systems at ETF. This position coordinates quality assurance services in collaboration with the Quality Assurance Lead.

This position is expected to take a lead role in the development of automated test solutions, ensuring that essential IT systems work and perform consistently. This includes developing and managing the test suites for purchased software, cloud-based software, custom software, databases, and all integration points between them. Quality assurance includes all types of testing (e.g. unit testing, integration testing, system testing, load testing, volume testing, user-acceptance testing, regression testing, accessibility testing, usability testing etc.), across multiple local and cloud platforms, and at all stages of software delivery (initial deployment, upgrades, and ongoing maintenance).

This position acts as a subject matter expert on test automation. This position provides direct technical support, including scripting and configuration, for automated and manual test case development. This position must be able to use SQL and other tools for data analysis and reporting. Furthermore, this position coordinates the work of other IT and business staff to create and execute test plans that ensure the highest quality, completeness, and conformity to general industry standards and software application requirements.

This position functions as a business analyst and works with business area and IT staff to elicit and document requirements for new applications and changes to existing ones. This position helps deliver high-quality end-products that cost-effectively meet the business areas' requirements and timelines. This position works closely with many stakeholders, including developers, system administrators, DBAs, DevOps staff, vendors, project managers, business analysts, and supervisors from across the agency to help ensure end-to-end quality of systems from conceptualization to delivery. This position collaborates with agile development teams and serves in roles that vary from providing direct, hands-on testing to coordinating the test efforts of larger teams.

This position is expected to create, promote, make full use of, and follow all applicable ETF and state standards, policies, and best practices. This includes but is not limited to change management, problem tracking, Software Development Life Cycle (SDLC), reports/forms/correspondence standards, business requirements elicitation, and project management.

ETF is a medium sized, non-shared services agency administering the Wisconsin Retirement System and related benefit programs to over 630,000 members receiving \$5.6 billion in retirement benefits and \$1.6 billion in health benefits annually. This position directly supports the agency strategic goal focused on building a talented and agile workforce necessary for achieving the department's mission to develop and deliver quality benefits and services to our members while safeguarding the integrity of the Trust. As an employee of ETF, the incumbent will support and create a diverse and inclusive work force.

GOALS AND ACTIVITIES

50% GOAL A: Development of automated test solutions

- A1. Develop automated tests suites for all phases of system and application testing. This includes, but is not limited to, acceptance, system, integration, load, volume, regression, accessibility, usability, etc.
- A2. Create and execute automated tests using multiple programming languages, platforms, and other tools to ensure requirements/specifications have been met.
- A3. Actively participate in discussions with supervisors and managers, project leads, developers, technical staff, business staff, and end users throughout all phases of the Software Development Life Cycle to determine the range of features the software is intended to support and develop a plan to test the application software.
- A4. Use scripting languages and test development tools to implement automated test suites.
- A5. Use SQL and other data-related tools and technologies to extract data to create test scenarios.
- A6. Debug and troubleshoot errors in test suite execution to determine root cause of problems and resolve them.
- A7. Analyze application and data quality issues that occur during the development, testing, and production phases of application development and propose new means to prevent them.
- A8. Assist in the coordination and scheduling of test efforts of business staff and developers.
- A9. Report, document, track, and help determine the priority of defects in delivered software.
- A10. Assist business area experts and program liaisons with the analysis of test results.
- A11. Collaborate with team leaders, developers, and vendors to improve the quality of software by reducing defects discovered during acceptance testing and after release to production.

25% GOAL B: Development and coordination of agency test automation practices

- B1. Research, propose, document, and promote best practices in test automation.
- B2. Provide expertise, information, direction, mentoring, and training to developers, technical staff, and business staff on test automation tools, practices, procedures, and guidelines.
- B3. Design, develop, and maintain processes for the creation and future reuse of automated test scripts by business analysts, developers, and testers.

- B4. Research, propose, and implement automated test practices and frameworks wherever possible.
- B5. Research, propose, document, and train other staff on techniques, tools, guidelines, and policies for the creation and use of business data needed for application testing, while ensuring personal and HIPAA information is kept confidential. This includes the obfuscation of member personal data as possible.
- B6. Document techniques for safeguarding business data required for automated testing purposes and train technical staff on adhering to these guidelines.
- B7. Coordinate the support and upkeep of ETF's application development test environments.
- B8. Develop and implement test automation best practices in support of both commercial off-the-shelf (COTS) and custom systems and applications.
- B9. Define test automation strategy for both individual applications and larger projects.
- B10. Research and evaluate new and emerging automated testing tools, technologies, and solutions to determine if they meet ETF needs.
- B11. Provide time and cost estimates for developing automated test solutions.

15% GOAL C: Elicitation and documentation of detailed business requirements

- C1. Participate on teams representing the business needs to technical staff and technology system capabilities to business staff.
- C2. Provide direction for business staff on automated testing capabilities and how these can be used to validate key business scenarios.
- C3. Review and evaluate existing IT solutions and applications to determine, recommend, and implement needed changes and identify problems and initiate corrective action.
- C4. Participate in discussions among all appropriate technical and business staff to clarify business rules, define system output, facilitate the design of business and technology system processes, and negotiate project timeline changes.
- C5. Analyze and document business rules, business and technical requirements, and system operations and procedures.
- C6. Create and maintain documentation of process and system development changes.
- C7. Track system problems and their resolution using ETF's IT request system. Investigate and analyze system problems and design solutions. Make recommendations to prioritize programming change requests.
- C8. Provide status reports timely and regularly as designated by project charters and when requested. Indicate threats, opportunities, risk factors,

and impact of change according to business, technical, and operational requirements.

- C9. Serve as a project liaison for managers, project teams, and business users through walkthroughs, presentations, and other appropriate communications regarding new or changed applications.

10% GOAL D: Performance of special assignments and other duties as assigned

- D1. Carry out special assignments and miscellaneous duties to respond to the needs of the Department.
- D2. Prepare special reports, reviews, and recommendations as requested.
- D3. Represent management on statewide task forces and committees to respond to state and agency needs.
- D4. Orient new employees to IT standards, programming languages, utilities, procedures, standards, policies, practices, and major application areas.
- D5. Stay current on IT and data processing and modern technologies utilizing web resources, online training, books, internal documents, training sessions, and workshops to improve skills and knowledge.
- D6. Research and evaluate new tools and technologies and make recommendations on potential benefits for IT and/or business user staff.

KNOWLEDGE, SKILLS, AND ABILITIES

1. Knowledge of quality management best practices, methodologies, and key performance indicators (KPI's).
2. Expert skill and knowledge in at least one common testing tool (e.g., Selenium, Cucumber, Postman, TestNG, Appium).
3. Knowledge and proficiency in complex test plan development and test case management systems such as Zephyr, TestRail, Ranorex, ALM, or similar.
4. Expert skill, knowledge, and proficiency in at least one scripting language used for automated testing such as Python, Perl, JavaScript, Ruby, PHP, or similar. Knowledge of complex languages (Java, C#, etc.) is beneficial.
5. Knowledge and proficiency in the uses and applications of the SQL programming language.
6. Expert skill and knowledge of end to end automated testing and it's applicability to multiple test types (e.g. regression, unit, performance/scalability, accessibility, etc.).
7. Expert skill and knowledge in implementing automated testing frameworks or solutions.
8. Knowledge of CI/CD pipelines and how automated tests can be incorporated into them.
9. Knowledge of Behavior-Driven Development (BDD) and Test-Driven Development (TDD).
10. Knowledge of both GUI and non-GUI automated testing tools.
11. Knowledge of Agile development and testing methodologies.
12. Knowledge of IT system and application test methodologies, tools, and procedures.
13. Knowledge of problem tracking software use and support.
14. Knowledge of object-oriented application development and design methods.
15. Knowledge of relation database concepts and technologies such as DB2, SQL Server, or similar.
16. Knowledge of web and other software application development methods and techniques.
17. Knowledge of business analysis and application design techniques and prototyping.
18. Knowledge of application documentation methods.
19. Knowledge of good security practices for all phases of application development.
20. Knowledge of project management methodologies and deliverables.
21. Effective written and verbal communication skills in small and large group settings, including public speaking.
22. Ability to work effectively both independently and as a member of a team.
23. Ability to develop and maintain effective working relationships with a variety of persons internal and external to the work section.
24. Advanced ability to work, learn, and acquire information independently.
25. Advanced ability to understand business and technology requirements.
26. Advanced ability to analyze and transform business requirements into system specifications to develop workflow and test procedures and manage testing processes.
27. Ability to identify, manage, troubleshoot, and resolve problems.
28. Ability to coordinate people, projects, and methodologies.
29. Ability to take initiative to assertively represent business needs, to stand firm when necessary and to compromise when possible, to diplomatically challenge assumptions, and to make recommendations to business and technical staff at all levels of responsibility and authority throughout the department.
30. Ability to adapt and adjust to changes in technology, processes, and priorities.
31. Ability to develop and maintain a work climate that encourages cooperation and teamwork.
32. Effective time management, organization, and prioritization skills.
33. Ability to understand and comply with all ETF and enterprise security standards, policies, processes, and procedures.
34. Ability to maintain confidential information in accordance with policies, guidelines and directions from manager.