

POSITION SUMMARY

Under the general supervision of a Bureau of Information Technology Services manager, this position provides advanced-level Quality Assurance strategy, test framework implementation and management, manual and automated testing services, and systems analysis for software, data, and IT systems at ETF. This position coordinates quality assurance activities in collaboration with the Development Section Leadworker.

This position is expected to take a lead role in the development and practice of quality management and quality assurance, ensuring essential IT systems work and perform consistently. This includes quality management plan development and implementation 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 and within multiple local and cloud platforms, and at all stages of software delivery (initial deployment, upgrades, and ongoing maintenance).

This position will lead the development and implementation of test automation, testing practices, policies, and procedures. This position will provide direct technical support to include scripting and configuration needed for automated or manual test case development, as well as be able to use SQL and other tools for data analysis and reporting. Further, this position will coordinate the work of other IT and business staff to create and execute test plans to help ensure the highest quality, completeness and conformity to both general industry standards and specific software application requirements.

This position may also function as a business analyst working with business area and other IT staff to elicit and document requirements for new applications and changes to existing ones, helping to deliver high-quality end-products that cost-effectively meet the business areas' requirements and timelines. This position will work closely with many stakeholders, including developers, system administrators, DBAs, DevOps staff, vendors, project managers, and business analysts to help ensure end-to-end quality of systems from conceptualization to delivery. This position should work well as a member of agile development teams and be able to serve roles that may vary from tester to project lead, depending on specific project requirements.

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, SDLC, reports/forms/correspondence standards, business requirements elicitation, and project management.

GOALS AND ACTIVITIES

- 40% GOAL A: Management of quality assurance and systems testing program
Worker
Activity
- A1. Research, propose, document, and promote IT system and application quality metrics, testing practices, procedures, and guidelines.
 - A2. Provide information, direction, mentoring, and training to developers, other technical staff, and business staff on quality and testing tools, practices, procedures, and guidelines.

- A3. Develop and maintain processes for creation and future reuse of both manual and automated test scripts by business analysts, developers, and testers.
- A4. Research, propose, and implement automated test practices and frameworks wherever possible.
- A5. 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 will include the obfuscation of member personal data as possible.
- A6. Review others' test plans for completeness, effectiveness, and adherence to ETF practices. Recommend improvements to ensure delivery of expected functionality.
- A7. Provide leadership and coordination of the support and upkeep of ETF's application development test environments.
- A8. Create or review documentation for multiple audiences that may include systems and operations documentation for developers, production services staff, data administrators, network coordinators, application business users, and application trainers.
- A9. Development and implementation of quality management and testing best practices in support of COTS and custom IT systems and applications.

35% GOAL B: Performance and management of systems testing and improvement efforts

Worker
Activity

- B1. Work with business staff and developers, perform all phases of IT system and application testing, including but not limited to acceptance, system, integration, load, volume, regression, accessibility, usability, etc.
- B2. Create and execute test plans. This entails meeting with project leads, developers, other technical staff, and end users to determine the range of features the software is intended to support, and compiling a plan according to established guidelines to test the application software.
- B3. Use scripting languages and other configuration and test development tools to implement automated test suites.
- B4. Use SQL and other data-related tools and technologies to extract data to create test scenarios.
- B5. 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.
- B6. Assist business staff in preparation and execution of acceptance testing.
- B7. Coordinate and schedule the testing efforts of business staff and developers.
- B8. Report, track, and help determine the priority of reported bugs.

- B9. Assist business area experts and program liaisons with analysis of test results.
- B10. Work with team leaders, developers, and vendors to improve the quality of software by reducing bugs detected during acceptance testing and after release to production.

20% GOAL C: Elicitation and documentation of detailed business requirements for requested changes.

Worker
Activity

- C1. Lead and participate on teams representing the business needs to technical staff and technology system capabilities to business staff.
- C2. Review and evaluate existing IT solutions and applications to determine, recommend, and implement needed changes and to identify problems and initiate corrective action.
- C3. Facilitate 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.
- C4. Analyze and document business rules, business and technical requirements, and system operations and procedures.
- C5. Create and maintain documentation of process and system development changes.
- C6. 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.
- C7. Assess and report status for the parts of the projects coordinated. Indicate threats, opportunities, risk factors, and impact of change according to business, technical, and operational requirements, timely and regularly as designated by project charters and when requested.
- C8. Provide project interface for managers, project teams, and business users through walkthroughs, presentations, and other appropriate communications regarding new or changed applications

- 5% GOAL D: Performance of special assignments, consultation, training, and/or support of IT policy and participation in employee development programs.
- 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 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 up-to-date on IT and data processing and modern technologies utilizing web resources, online training, books, internal documents, training sessions and workshops 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

- Knowledge of quality management best practices, methodologies and key performance indicators (KPI's).
- Knowledge and proficiency in test case and test plan development
- Knowledge and proficiency in at least one scripting language used for automated testing
- Knowledge and proficiency in the uses and applications of the SQL programming language.
- Expert skill and knowledge of automated testing
- Knowledge implementing automated testing frameworks or solutions
- Knowledge of Behavior-Driven Development (BDD) and Test-Driven Development (TDD).
- Knowledge of both GUI and non-GUI automated testing tools
- Knowledge of Agile development and testing methodologies
- Knowledge of IT system and application test methodologies, tools, and procedures.
- Knowledge of problem tracking software use and support.
- Knowledge of object-oriented application development and design methods.
- Knowledge of relation database concepts and technologies such as DB2 or similar.
- Knowledge of web and other software application development methods and techniques.
- Knowledge of business analysis and application design techniques and prototyping.
- Knowledge of application documentation methods.
- Knowledge of good security practices for all phases of application development.
- Knowledge of project management methodologies and deliverables.
- Effective written and verbal communication skills in small and large group settings, including public speaking.
- Leadership skills.
- Ability to work effectively both independently and as a member of a team.
- Ability to develop and maintain effective working relationships with a variety of persons internal and external to the work section.
- Advanced ability to work, learn, and acquire information independently.
- Advanced ability to understand business and technology requirements.
- Advanced ability to analyze and transform business requirements into system specifications to develop workflow and test procedures and manage testing processes.
- Ability to identify, manage, troubleshoot, and resolve problems.
- Ability to coordinate people, projects, and methodologies.
- Ability to build consensus, mentor, and guide.