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| Position: | Software Engineer | FLSA: | Exempt |
| Department/Site: | Information Technology Services | Salary Grade: | 40 |
| Reports to/Evaluated by: | Manager, Application Development & Support Services | Salary Schedule: | Classified |

SUMMARY

Analyzes, evaluates, designs, and maintains computer database systems and reports to support user requests. Identifies data sources, constructs, and documents data flow diagrams. Acts as business analyst in developing reports and views to streamline processes or provide essential data to all other CUSD departments. Maintains a functional level of perspective of users’ current and future needs.

DISTINGUISHING CAREER FEATURES

This is the third level in a broad-based technical and professional, systems analysis and applications programming career track. Advancement along this track can occur through mastery of multiple applications, software packages, programming languages as well as the ability to work on all platforms used by the District. The Systems and Applications Analyst, Senior, is expected to have specialized training and education in a field of study, typically resulting in a BS degree. The incumbent should demonstrate competency in the design of relational databases that are multidisciplinary as well as development of complex programs and procedures or applications to integrate all combinations of instructional and administrative information. The incumbent will have the ability to create and disseminate complex applications and reports.

ESSENTIAL DUTIES AND RESPONSIBILITIES

The incumbent will be capable of performing all the following, however, may concentrate on specific duties as needed.

- Designs, develops, programs and tests computer business applications and systems for accessing relational databases using the organization preferred programming language. Provide the ability for users to generate reports of business and educational data. Prepares system design specifications and documentation for all data input, output, and structures.
- Create numerous simple to complex queries involving self joins, correlated sub-queries, functions, cursors, dynamic T-SQL for data analysis.
- Utilize the District’s Project Management software for maintaining the status of projects assigned, ensuring accuracy of the project timeline, storing project documentation including statement of work (SOW), Requirement document and communicating with project team.
- Acts as project team lead or as a team member on projects by coordinating and otherwise involving staff members from multiple organizational units.
- Defines the scope and objectives for applications, along with constraints and system requirements. Analyzes and defines current organizational functions, processes, sources and uses of information, and other data to determine application needs and requirements.

- Documents workflow using organization and data flow charts and other related materials. Produces application design specifications and documentation on inputs, outputs, and data structures.
- Identifies and documents business processes and workflow that contribute to enhanced information flow by interviewing users, generating process maps, and proposing process solutions. Identifies information, hardware, and software to support processes.
- Coordinates and implements data conversions and transitions from old to new systems.
- Designs inputs, including data entry screens, scanner forms, and files. Designs outputs, including reports, files, and display screens. Designs, develops, and implements logical and physical database structures and relationships.
- Analyzes problems with database applications through consultation with users. Determines and implements appropriate corrective action.
- Develops modifications or enhancements to existing database structures and programs to meet user needs or system design changes. Assists in developing and modifying internal data processing standards and procedures.
- Prepares documentation for new programs and changes to existing systems in accordance with established standards and procedures. Conducts feasibility studies and prepares system proposals.
- Troubleshoots application errors. In conjunction with users, isolates problems from symptoms, determines alternatives and develops and implements solutions. If the problem is user error, works with staff to improve user instructions or train for better understanding.
- Works with external agencies, independent contractors, vendors, and organizations on technology services, applications, and/or data requirements. Possible travel to attend vendor conferences.
- Maintains up-to-date knowledge of evolving computer technologies, including hardware, software releases, languages, problem solving techniques, project management methodologies and development tools.
- Performs other duties as assigned that support the overall objective of the position.

QUALIFICATIONS

Knowledge and Skills: The position requires specialized knowledge of computer applications, operating systems, hardware, telecommunications, and networked systems. The position requires in-depth knowledge of program/application development techniques, procedures, tools, and documentation requirements as well as software systems development life cycles. Requires specialized knowledge of relational database concepts, design techniques, and tools. Requires in-depth knowledge of computer file methods, structured testing techniques, and programming languages used by the District such as Visual Basic, T-SQL, ASP.net, C#, Javascript, MVC or others currently in industry use. Requires knowledge and experience with MS Visual Studio, MS SQL Server Management System, SSRS and SSIS. Requires in-depth knowledge of object-oriented software development techniques and tools. Requires advanced problem solving and analytical skills to develop solutions to user needs and troubleshoot application errors. Requires well-developed human relation skills to facilitate small group processes, conduct training, provide technical support, and apply understandable lines of questioning when interviewing users to understand department needs.

Abilities: Must be able to perform all the relevant duties of the position with limited supervision. Can work

effectively in a team environment. Requires the ability to analyze technical problems and to develop and apply appropriate solutions. Requires the ability to conduct information interviews through individual conferences and group processes, then translate user requirements into applications. Requires the ability to develop clear and precise documentation of technology procedures as it pertains to the systems and applications supported. Must be able to coordinate applications development projects. Must be able to design, program, install, and maintain programs for original and purchased applications and systems, including databases. Requires the ability to design logical and physical database structure and relationships, including those for microcomputer and network systems. Requires the ability to write basic to complex programs using various programming languages, as required, and using SQL extensions to access a relational database and library and lexical functions. Requires the ability to discuss technical information with users, discern their needs and develop programs, systems, screens, etc., which meet those needs. Must be able to prioritize work in order to meet deadlines and maintain schedules.

Physical Abilities: Incumbent must be able to function effectively indoors engaged in work of primarily a sedentary nature. Requires the ability to sit for extended periods of time to accomplish data entry and desk work. Requires sufficient arm, hand, and finger dexterity to use a personal computer keyboard, multi-media presentation, and other office equipment. Requires normal hearing and speaking skills to communicate with staff in one-on-one and small group settings and distinguish sound prompts from equipment. Requires visual acuity to read printed materials and computer screens.

Education and Experience: The position requires a Bachelor's Degree in computer sciences, information services, or a related field and five years related experience in applications development and database technical design. Additional in-depth experience and certificates may substitute for some higher education.

Licenses and Certificates: May require a valid driver's license.

Working Conditions: Work is performed indoors where minimal safety considerations exist.