**CLASSIFIED**
**Job Classification Description**
Equal Employment Opportunity

MADERA UNIFIED SCHOOL DISTRICT
PERSONNEL COMMISSION
APPROVED MOTION NO. 37-2021/22
DOCUMENT NO. 12-2021/22
DATED 03/23/2022

## FULL STACK– DEVELOPER

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| **DEPARTMENT/SITE:** Information Technology Support Services | **SALARY SCHEDULE:** Classified Bargaining Unit<br>**SALARY RANGE:** 65 per 2020/2021 Schedule<br>**WORK YEAR:** 12 Months (261 Days) |
| **REPORTS TO:** Director of Information Technology and Support Services | **FLSA:** Non-Exempt |

**PURPOSE STATEMENT:**

The job of Full Stack Developer was established for the purpose/s of managing, supporting, and developing front and back end software for the district's Student Information System and connected systems; building, managing, and troubleshooting databases and/or operational data stores; creating process and establishing formal relations, authority, and ownership among connected database systems and web applications; developing software to integrate the District's systems with internal and external systems, and to implement process automation where appropriate; developing queries and reports ; and developing software that improves the experience and utilization of district databases to improve district processes.  The incumbents in this classification provide the school community with reliable, efficient, and safe database maintenance and utilization which directly supports student learning and achievement.

**DISTINGUISHING CHARACTERISTICS**

Positions in this class ensure the accuracy and integrity of District databases and that the database systems perform as they should so that Data Analysts, Technicians, and others can easily use the databases to find the information they need.  This class is distinguished from the lower class of Database Administrator which is not typically responsible for identifying and developing new databases and the front end and back-end software for the systems that improve the experience and utilization of District databases.

**ESSENTIAL FUNCTIONS, DUTIES, AND TASKS:**

*The following alphabetical list of functions, duties, and tasks is typical for this classification.  Incumbents may not perform all of the listed duties and/or may be required to perform other closely related or department-specific functions, duties, and tasks from those set forth below to address business needs and changing business practices.*

- Administers and maintains user permissions, group permissions, and passwords for the Student Information System.
- Analyzes potential Database Management System applications to determine their feasibility, hardware and other implementation requirements, and cost effectiveness in support of providing students and staff high quality and up-to-date technology services.
- Assists technology staff and operations personnel in solving programming problems in a reasonable, timely manner; makes effective use of computer hardware and software to support the effective operation of the school district.
- Collaborates with other departments throughout the school district as needed.

- Consults and provides recommendations in the development of proposals, designs, programming, and implementation phases of applications added to database systems to ensure that those systems adhere to MUSD data governance standards.
- Creates reports using complex SQL procedures to facilitate data-driven improvements to business and educational processes.
- Debugs, troubleshoots, and corrects problems in a reasonable, timely manner and provides solutions to resolve issues to meet the needs of users.
- Designs the overall structure of database systems at both the logical and physical levels, working with users and programming staff.
- Designs, develops, maintains, and controls the data governance standards for database information and its usage to ensure database security, integrity, reliability, and availability; monitors performance and capacity requirements.
- Develops and maintains API implementations in software to establish connections with external data providers in order to enable the data duties of this position on external connected systems.
- Develops and maintains back-end software to automate account management between the District's Student Information System, HR System, and connected database systems.
- Develops and maintains front-end software to augment the functionality of database applications as needed to improve district processes.
- Develops and maintains written procedures and documentation to support the effective and efficient operation of the department.
- Develops migration software as needed to consolidate duplicative record systems with the aim of single system authority, such as in cases where record system migrations are incomplete.
- Develops new and/or change existing database structures, application programs, and web designs in response to reports of bugs and/or management requests following a formal MUSD change management process.
- Develops SQL queries and associated scripts, software, or processes to facilitate integration between the district's Student Information Systems, or other critical systems, and other internal or external systems.
- Develops, designs, coordinates, and writes necessary programs, tasks, and documentation providing for backups, reloads, recovery, reorganization, timely updates, and restructuring of database systems.
- Documents problems and solutions in MUSD help desk system.
- Establishes and maintains data dictionary systems.
- Follows MUSD standards for source code control, software design, and data governance.
- Installs, tests, maintains, upgrades, reorganizes, and patches software related to database systems to ensure effective and reliable operation of various, related programs.
- Interacts with vendor support to obtain information for the efficient operations of system applications and other related equipment or programs.
- Maintains, and ensures data integrity in the District's Student Information System as well as other connected systems.
- Participates in and/or leads projects, teams, and meetings.
- Performs administration of multiple databases and/or data warehouses.
- Scopes and creates sources of authority, data ownership, and data security in database systems by establishing database and/or application-level security policies.
- Sets up, manages, and troubleshoots features within the Student Information System in support of critical educational processes such as registration, course scheduling, and grading.
- Supports the District with timely and accurate responses to technical questions and issues concerning database systems and structures.
- Trains and provides clear direction and guidance to others as required in support of professional learning.
- Performs other related duties as assigned for ensuring the efficient and effective functioning of the work unit and the District, including various mandatory District trainings.

## KNOWLEDGE, SKILLS, AND ABILITIES
*(At time of application)*

**Knowledge of:**
- Methods and skills involved in establishing and maintaining an effective Relational Database Management System, including tuning, design, network communications, backup/recovery, security, and administration, and maintenance
- Computer hardware and peripherals
- Database management system technologies, including but not limited to Microsoft SQL Server
- Programming languages, included but not limited to Java Script, Node. js, Python and other Object-oriented programming languages
- Web development technologies such as but not limited to PHP, HTML5, CSS; experience with front-end frameworks such as Vue, Angular, and React is a plus
- Design and development of REST API
- K-12 student information systems and K-12 processes and functions including but not limited to registration, class schedules, attendance, discipline, and gradebooks
- Oral and written communication skills
- Ability to visualize a proposed system; design, build and implement the system
- Correct English usage, grammar, spelling, punctuation, and vocabulary

**Skills and Abilities to:**
- Utilize pertinent network, application, database monitoring, and troubleshooting software
- Adhere to safety practices
- Plan and manage projects
- Prepare and maintain accurate records
- Programming knowledge sufficient to learn new programming languages as needed
- Operate standard office equipment, including computers and related software
- Staying up to date with developments programming languages
- Perform a variety of specialized duties in programming, development, maintenance, and analysis of computer applications, databases, and systems in support of assigned systems, programs, and functions
- Prepare, organize, document, and control source code revisions to new and existing applications and features using standard source control systems
- Research, design, develop, and implement new system applications as appropriate
- Design applications to meet district needs, enhance job performance, and provide for system enhancements
- Develop and maintain source code for new and existing software applications
- Understand legacy code sufficiently to reengineer new applications
- Modify existing programs to enhance database operations and functions
- Design programming solutions for application defects
- Facilitate the computerized collection, management, manipulation, and distribution of data used for analysis
- Design programming solutions, troubleshoot, and resolve application defects
- Establish and maintain cooperative and effective working relationships with a diverse range of people
- Train and provide clear direction to others
- Plan, prioritize, and schedule work to meet the schedule and timelines
- Read, understand, explain, and implement technical material from manuals and journals
- Maintain accurate records
- Apply and explain rules, regulations, policies, and procedures
- Analyze and troubleshoot situations accurately and adopt effective courses of action

- Communicate using patience and courtesy in a manner that reflects positively on the organization
- Understand and follow both oral and written directions effectively
- Actively participate in meeting district goals and outcomes
- Have and demonstrate integrity and honesty in all situations
- Learn district operations, policies, objectives, and goals

## RESPONSIBILITY:
Responsibilities include working under limited supervision using standardized practices and/or methods; managing a team; and monitoring budget expenditures. Utilization of significant resources from other work units is sometimes required to perform the job functions. There is a continual opportunity to affect the organization's services.

## JOB QUALIFICATIONS / REQUIREMENTS:
(*At time of application and in addition to the Knowledge, Skills, and Abilities listed above*.)

## EDUCATION REQUIRED:
High School diploma or equivalency. Bachelor's degree in Information Systems, Computer Science, or related field from an accredited college or university is highly desirable.

## EXPERIENCE REQUIRED:
Any equivalent combination of education and work experience that sufficiently demonstrate proficiency in data analysis, database administration/management, or programming. Experience working with Student Information Systems and/or in a K-12 environment is preferred.

## LICENSE(S) REQUIRED:
- Valid current California Driver's License to drive personal vehicle to various sites in the District to provide technology user support services.

## CERTIFICATIONS AND TESTING REQUIRED:
- Pass the District's applicable proficiency exam for the job class with a satisfactory score
- After offer of employment, obtain:
  - Criminal Justice and FBI Fingerprint Clearance
  - Negative TB test result plus periodic post-employment retest as required (currently every four years)

## WORK ENVIRONMENT / PHYSICAL DEMANDS:
(*Must be performed with or without reasonable accommodations*)
- Work is primarily indoors and requires sitting for extended periods
- Lift and move equipment and other objects weighing up to 35 pounds
- Dexterity of hands and fingers to operate a computer keyboard and other office equipment and to maintain paper files and documents
- Use hands and fingers to grasp, hold, and manipulate objects
- Kneeling, bending at the waist, sitting, squatting
- Hearing and speaking to exchange information in person or on the telephone
- Visual acuity to see/read documents and computer screen
- Operation of a personal vehicle, and occasional operation of a District vehicle, to travel within and outside the district for meetings, training sessions, and assisting staff at school sites