CLASS TITLE: ETL DEVELOPER

BASIC FUNCTION:

Under the direction of the Manager - Data Systems, designs, develops, implements and maintains extract, transform, load (ETL) processes to support data warehousing applications and data integration initiatives for the Santa Clara County Office of Education (SCCOE); identifies and recommends software solutions for the integration of both internal and external data sources into the existing data warehouse systems; performs installation and upgrades of data integration related products; guides, trains, and supports the Data Systems technical team on ETL related processes.

REPRESENTATIVE DUTIES:

The following duties are examples of assignments performed by incumbents in this classification. It is not a comprehensive list of duties, nor is it restrictive regarding job assignments.

ESSENTIAL DUTIES:
Designs, develops and builds new data models and associated ETL processes that populate the data warehouse systems using a variety of source data including but not limited to student information systems, assessment systems, file-based data sources and a variety of other education and public agency data systems.

Leads the collection and analysis of data requirements in the program development cycle and assists in the creation of Entity Relationships (ER) and Data Flow Diagrams (DFD).

Maintains and troubleshoots existing data models and associated ETL processes.

Performs analysis and profiling on source data to determine the feasibility of using this data to solve business needs.

Ensures the accuracy, privacy, reliability, security, and accessibility of data in the data warehouse; participates in and facilitates the data governance process by enforcing data integrity and data security guidelines and recommending process improvements.

Implements data conversions, imports, and exports of data within and between internal and external software systems, including data to and from multiple student information systems, agencies, assessments, and vendors.

Supports the Data Systems technical team in providing reporting and analysis friendly data schema for the development of metrics and dashboards.

Performs detailed data validation and audits for data residing in the data warehouse; performs root cause analysis and troubleshooting for data issues when required; creates and documents criteria for assessing data issues and opportunities.

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Anticipates potential problems and develops solutions needed to resolve them; systematically analyzes relationships between apparently independent problems and identifies trends as well as isolated events.

Assists in developing and establishing standard procedures and best practices for the Data Systems technical team; researches and implements new technologies; provides technical direction and assistance to the Data Systems technical team.

Develops and maintains effective working relationships with school districts and vendors; educates and trains district users and others to use data as an analytical tool, displaying the information in new form and content for analysis and exploring options.

Participates in continuous learning, professional development, training, and ongoing education as needed to stay current with emerging technologies, industry best practices, and data security standards.

Operates a computer, a variety of software, and other office equipment as assigned.

OTHER DUTIES:
Performs related duties as assigned.

KNOWLEDGE AND ABILITIES:

KNOWLEDGE OF:
SQL coding/querying skills in SQL Server and other leading database management systems (DBMS).
Database performance tuning and optimization.
Object-oriented design and one or more object-oriented programming languages like Java.
Systems analysis and design.
ETL development using tools such as Informatica PowerCenter, IBM Infosphere, Talend, SSIS.
Server-side scripting languages like Python and JavaScript.
Project management concepts, terminology, and tools.
Incident, process, and project management applications like Cherwell, Jira, and Microsoft Project.
Agile software development and building high quality testable and maintainable software.
Product and software development lifecycles.
Team software development roles and practices.
Data governance concepts.
Proper English usage including grammar, spelling, punctuation and sentence structure.

ABILITY TO:
Effectively use data processing technologies such as SQL, ETL tools (such as Informatica, Talend, IBM Infosphere, SSIS) to build and maintain data warehouse systems that are efficient, reliable, maintainable, extensible and scalable.
Program in scripting languages such as Python and JavaScript to support the import and export of data sets.
Design, structure, and organize large-scale data sets into data warehouse friendly data models.
Design, create and maintain data warehouses.
Analyze source systems for data transformation to a data warehouse.
Plan, organize, and document project timelines and deliverables.
Assess new initiatives to determine the work effort and estimate the necessary time to completion.
Coordinate and perform responsible data engineering related to development and programming activities.

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Interpret technical procedures and documentation, and explain technical concepts in non-technical terms to team members, clients, and users.
Conduct small group and individual client training.
Prioritize, organize, and schedule work assignments and projects.
Work under limited supervision with only occasional instruction and assistance.
Establish and maintain cooperative and effective working relationships with others.
Perform complex problem solving as well as critical thinking, using logic and reasoning to identify strengths and weaknesses to solutions and approaches.
Work with management, administrators, and other team members to solve complex development challenges.
Communicate effectively in both oral and written form.

EDUCATION AND EXPERIENCE:

Any combination equivalent to: Bachelor's degree in computer science or a related field and five years of increasingly responsible experience programming in databases and developing ETL processes supporting data warehouses or related data visualization environments.

WORKING CONDITIONS:

ENVIRONMENT:
Office environment.
Evening or variable hours.

PHYSICAL DEMANDS:
Dexterity of hands and fingers to operate a computer keyboard.
Seeing to read a variety of materials.
Sitting for extended periods of time.
Hearing and speaking to exchange information.

Approved by Personnel Commission: August 21, 2019

Jonathan Muñoz   Date: 08/21/2019
Director - HR/Classified Personnel Services

Santa Clara County Office of Education