

PROPOSED

POSITION DUTY STATEMENT

PM-0924 (REV 7/2014)

CLASSIFICATION TITLE Senior Programmer Analyst (Specialist)	OFFICE/BRANCH/SECTION D20/Information Technology/Solutions Division/M&WA	
WORKING TITLE Senior Application Developer	POSITION NUMBER 900-170-1583-924	EFFECTIVE DATE

As a valued member of the Caltrans team, you make it possible for the Department to provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability. Caltrans is a performance-driven, transparent, and accountable organization that values its people, resources and partners, and meets new challenges through leadership, innovation and teamwork.

GENERAL STATEMENT:

Under the general supervision of the Data Processing Manager II, the incumbent will function as a technical specialist for the most complex work efforts, and act as the technical lead over staff and associate level programmer analysts within the Mobile and Web Applications Unit. The incumbent will independently, or as part of a team, provide support to all customers who rely upon the Information Technology (IT) Solutions Division for application maintenance, enhancements and new application development. The incumbent is responsible for leading and performing analysis, design, development, implementation and maintenance tasks for custom web based systems that are highly complex in nature. As necessary, the incumbent will instruct and mentor staff and associate programmer analysts on new and existing technologies, applications, and development methodologies used within the unit. The incumbent is involved with developing, maintaining and enhancing existing custom web based applications developed in, but not restricted to web 2.0 and open source technologies. The application development technologies utilized include the Hypertext Preprocessor (PHP) and python programmer languages, mobile development of Android and iOS apps, Javascript, SQL, CSS, Google Maps and other GIS technologies and development environment software tools such as Netbeans and Eclipse, Codeigniter or other frameworks, Subversion and the MySQL or Oracle database.

TYPICAL DUTIES:

Percentage	Job Description
50% E Essential (E)/Marginal (M) ¹	Technical Specialist - The incumbent will analyze, plan, design, code, debug, test, and document the highly complex custom web based systems in accordance with the California Department of Transportation (Caltrans) Software Development Life Cycle Best Practices. The incumbent leads and participates in efforts to review program requests, translates the request into the best solution for the existing or new system, develops a plan and writes program code for the requests. The incumbent leads and participates in efforts to troubleshoot highly complex problems in systems and debugs programs as needed. The incumbent leads and participates in estimation efforts required to implement complex systems and identifies the gap between the requirements and the technology implemented. The incumbent coordinates and works closely with customers, analysts, database administrators, system administrators, network support, and other areas within IT to ensure that the technical deliverables meet the specified customer requirements.
20% E	Technical Lead - Incumbent is lead programmer analyst over all aspects of the application development and support needs of Caltrans program area customers. The incumbent will act as a technical lead to the team members or consultants and is responsible for the efficient delivery, quality, and completeness of all technical deliverables. The Incumbent has the authority to direct subordinate team members and the responsibility to ensure application system availability and integrity. The incumbent is responsible for assigning project tasks to technical staff and for ensuring that all team members are adhering to application development standards, procedures and processes to provide quality services to customers. The incumbent will provide hands-on training, mentoring and coaching of Mobile and Web Applications Unit staff when needed.
10% E	Incumbent will lead efforts to research, recommend, establish, and maintain new software development tools, test automation software tools, web application frameworks, and development methodologies to increase technical efficiencies of staff, help speed project delivery, and improve software quality.

ADA Notice

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- 10% E The incumbent will perform application security scans on Caltrans web and mobile applications prior to deployment. The incumbent will scan applications, evaluate, and research application security vulnerabilities. The incumbent will provide consulting advice for remediation of all reported security vulnerabilities to team members and customers as needed. The incumbent will recommend security best practices to reduce web and mobile application security threats to Caltrans.
- 10% M Incumbent will provide technical input and direction on project deliverables to help the project team define project scope, objectives, requirements, activity definition, project schedule, resource plans, cost estimates, risk identification, procurement plans, roles and responsibilities. The incumbent will assist in developing required procurement documentation for hardware, software, reference material, and training solutions as needed. The incumbent will lead and assist with task coordination of technical activities and distribute performance information to the project manager, management, team members and stakeholders. The incumbent will perform administrative duties as required.

¹ESSENTIAL FUNCTIONS are the core duties of the position that cannot be reassigned.
MARGINAL FUNCTIONS are the minor tasks of the position that can be assigned to others.

SUPERVISION OR GUIDANCE EXERCISED OVER OTHERS

This is a technical lead position that is non-supervisory. The incumbent will provide leadership and guidance to less experienced staff assigned to the project under his/her span of control. The incumbent will also provide leadership and guidance to the Department's IT project managers regarding the processes, procedures, and methodologies associated with IT web application development.

KNOWLEDGE, ABILITIES, AND ANALYTICAL REQUIREMENTS

Knowledge of: generally accepted information technology concepts, practices, methods and principles; development of web server and client/server applications utilizing relational databases; application development technologies including (PHP) and python programmer languages, mobile development of Android and iOS apps, Javascript, SQL, CSS, Google Maps and other GIS technologies and development environment software tools such as Netbeans and Eclipse, Codeigniter or other frameworks, Subversion and the MySQL or Oracle database, test automation software tools; application security best practices for web and mobile application development.

The incumbent must also be fully knowledgeable of good practices of data processing system design, programming and documentation. The incumbent must have knowledge of principles of IT project management processes, procedures, and methodologies. The incumbent must have an understanding of, and currency with respect to evolving industry trends and standards. The incumbent must be capable of studying work processes for the design of new systems and the revision of existing data processing systems.

Ability to: Analyze information and situations, identify and resolve problems, reason logically, and draw valid conclusions; develop effective solutions; apply creative thinking in the design of methods of processing information with information technology systems; monitor and resolve problems with information technology systems hardware, software, and processes; take into account the larger business perspective in proposing and designing information technology solutions; establish and maintain effective working relationships with others; communicate effectively, both verbally and in writing with peers, clients, and customers at all levels; use standard office automation tools to develop reports, charts, and other documents; make oral presentations, adjusting style, method, and tools for the knowledge base of the audience; gain confidence and respect of customers and peers through sound, decision-making practices.

Analytical Skills: The incumbent must be able to determine appropriate techniques to satisfy work requirements; analyze methods to achieve greatest results with a minimum of effort and recognize proper usage of appropriate technology consistent with job requirements and cost effectiveness.

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RESPONSIBILITY FOR DECISIONS AND CONSEQUENCES OF ERROR

Technical accountability for work done and decisions taken is expected. The Department's project managers will depend on the Senior Programmer Analyst work products to effectively and successfully conduct their projects. Bad judgment and or decisions may prevent the incumbent from effectively supporting the Department's IT projects. This may contribute to the cancellation of projects, schedule delays, cost overruns, technical issues, and products that do not fulfill all of a customer's requirements and expectations. Should this occur, the Department may lose credibility relative to its ability to track and manage its IT projects. This may lead to a further loss of funding for other current and future IT projects, along with increased schedule delays and project overhead costs due to increased control agency reporting, technical, and financial and project management requirements.

PUBLIC AND INTERNAL CONTACTS

The incumbent will consult with or advise management on the planning, development, implementation, and coordination of IT issues. The incumbent will work closely with client personnel outside of the Information Technology organization. This will include all levels of management and staff within Caltrans and those of external agencies, private companies and consultants. The incumbent will frequently contact vendors to assess new technologies; contractors to provide oversight, negotiate contract modifications, and analyze compliance with contract specifications.

PHYSICAL, MENTAL, AND EMOTIONAL REQUIREMENTS

In terms of physical requirements, the incumbent may be required to: sit for long periods of time using a keyboard, video display terminal and telephone.

In terms of mental requirements, the incumbent must: be open to change and new information; adapt behavior and work methods in response to new information, changing conditions, or unexpected obstacles. Employee must have the ability to multi-task, to adapt to changes in priorities, and complete tasks or projects with short notice; ability to concentrate and focus for long periods of time in order to plan, problem solve, analyze, review, and create programs, documentation and/or reports.

In terms of emotional requirements, the incumbent must: be able to value cultural diversity and other individual differences in the workforce; adjust rapidly to new situations warranting attention and resolution; consider and respond appropriately to the needs, feelings, and capabilities of different people in different situations; be tactful and treat others with respect; be able to resolve emotionally charged issues reasonably and diplomatically; deal effectively with pressure, maintain focus and intensity yet remain optimistic and persistent, even under adversity; behave in a fair and ethical manner toward others and demonstrate a sense of responsibility and commitment to public service; have the ability to influence others toward a spirit of service and meaningful contributions to mission accomplished.

WORK ENVIRONMENT

While at their base of operation, employee will work in a climate-controlled office under artificial lighting using a personal computer. Employee may be required to travel to conduct the internal and public contacts identified above and to attend training.

I have read, understand and can perform the duties listed above. (If you believe you may require reasonable accommodation, please discuss this with your hiring supervisor. If you are unsure whether you require reasonable accommodation, inform the hiring supervisor who will discuss your concerns with the Reasonable Accommodation Coordinator.)

EMPLOYEE (Print)

EMPLOYEE (Signature)

DATE

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I have discussed the duties with, and provided a copy of this duty statement to the employee named above.

SUPERVISOR (Print)

SUPERVISOR (Signature)

DATE