

STANDARD AGREEMENT - AMENDMENT

STD 213A (Rev. 4/2020)

☒ CHECK HERE IF ADDITIONAL PAGES ARE ATTACHED 47 PAGES

AGREEMENT NUMBER

5-22-70-25-052

AMENDMENT NUMBER

2

Purchasing Authority Number

1. This Agreement is entered into between the Contracting Agency and the Contractor named below:

CONTRACTING AGENCY NAME

Department of General Services

CONTRACTOR NAME

Carahsoft Technology Corp.

2. The term of this Agreement is:

START DATE

April 21, 2022

THROUGH END DATE

April 20, 2027, with one (1) optional two (2) year extension

3. The maximum amount of this Agreement after this Amendment is:

\$0.00 (Zero dollars and no-cents, with no guarantee of contract expenditure)

4. The parties mutually agree to this amendment as follows. All actions noted below are by this reference made a part of the Agreement and incorporated herein:

Replace the Generative Artificial Intelligence (GenAI) Reporting provision with the Generative Artificial Intelligence provision in Exhibit A - MSA Statement of Work, Section 13. Exhibit A is hereby replaced in its entirety with the attached Exhibit A (47 pages).

All other terms and conditions shall remain the same.

IN WITNESS WHEREOF, THIS AGREEMENT HAS BEEN EXECUTED BY THE PARTIES HERETO.

CONTRACTOR

CONTRACTOR NAME (if other than an individual, state whether a corporation, partnership, etc.)

Carahsoft Technology Corp.

CONTRACTOR BUSINESS ADDRESS

11493 Sunset Hills Road, Suite 100

CITY

Reston

STATE

VA

ZIP

20190

PRINTED NAME OF PERSON SIGNING

Jennifer Kanach

TITLE

Proposals Director

CONTRACTOR AUTHORIZED SIGNATURE

Jennifer Kanach

 Digitally signed by Jennifer Kanach
Date: 2025.05.14 16:16:46 -04'00'

DATE SIGNED

05/14/2025

STATE OF CALIFORNIA

CONTRACTING AGENCY NAME

Department of General Services

CONTRACTING AGENCY ADDRESS

707 Third Street, 2nd Floor

CITY

West Sacramento

STATE

CA

ZIP

95605

PRINTED NAME OF PERSON SIGNING

For Carol Bangs

TITLE

Branch Chief, Acquisitions

CONTRACTING AGENCY AUTHORIZED SIGNATURE

Stephanne Lim

 Digitally signed by Stephanne Lim
Date: 2025.06.12 10:58:55 -07'00'

DATE SIGNED

06/12/2025

CALIFORNIA DEPARTMENT OF GENERAL SERVICES APPROVAL

EXEMPTION (If Applicable)

EXHIBIT A – MSA STATEMENT OF WORK

1. INTRODUCTION

The Department of General Services (DGS), Procurement Division (PD), hereinafter referred to as “DGS-PD” is contracting for Technology, Digital and Data Consulting services to be used by State and Local Governmental Agencies. A Local Governmental Agency is any city, county, city and county, district, or other local governmental body or corporation, including California State Universities (CSU) and University of California (UC) systems, K-12 schools and community colleges empowered to expend public funds, hereinafter collectively, with State Agencies, referred to as “User Agencies”. The term “User Agencies” used in conjunction with “must”, “shall” or “will” indicates a condition applicable to State Agencies and Local Governmental Agencies, unless otherwise specified.

2. SCOPE

Contractor agrees to provide Technology, Digital and Data Consulting services to User Agencies in accordance with the terms and conditions of this Agreement. Prior to rendering services, Contractor and User Agency must execute an Agreement that incorporates all of the terms of this Master Service Agreement (“MSA” or “Agreement”) by reference and may contain additional specific terms and conditions, none of which may alter, rescind, or be in conflict with the terms and conditions of this MSA. For California State Agencies such participating Agreement shall be in the form of the Standard Agreement, Std. 213; and for Local Governmental Agency, the Agreement shall be in a form as specified by the Local Governmental Agency and the Contractor. The duly executed Std. 213 and appropriate form for Local Governmental Agency are herein referred to as the “User Agreement”.

3. AGREEMENT TERM

- a. The term of this MSA is for three (3) years, with two (2) optional two (2) year extensions (upon mutual agreement of contractor and State) for a maximum cumulative term of seven (7) years, with the start and end date noted on the attached Std. 213 (the “Effective” term). Extensions will be made by amendment (Std. 213A) to the MSA at the same terms and conditions. All rates shall be firm fixed for the MSA term, including any optional year extensions.
- b. Should the Contractor fail to commence work at the agreed upon time, DGS-PD, upon five (5) days written notice to the Contractor, reserves the right to terminate the MSA.
- c. Should the Contractor fail to commence work at the agreed upon time, User Agency, upon five (5) days written notice to the Contractor, reserves the right to terminate the User Agreement. In addition, the Contractor shall be liable to User Agency for the actual cost of engaging another Contractor to perform the work.
- d. In addition to any other provision of the MSA, DGS-PD may terminate the MSA or cancel a portion of the service for any reason with thirty (30) days written notice. User

Agency may terminate the User Agreement or cancel a portion of the service for any reason with thirty (30) days written notice.

- e. Contractor agrees to honor all User Agreements made prior to MSA expiration or termination at the same rates, terms and conditions. All User Agreements issued against this MSA must be fulfilled/completed in its entirety within five (5) years following the MSA End Date.
- f. In the event of a discrepancy and/or inconsistency, the descending order displayed on the Std. 213 shall take precedence.

4. CONTRACT ADMINISTRATION

- a. The Contractor shall provide the DGS-PD State Contract Administrator the name, address, telephone number and e-mail address of its Contract Manager directly responsible for managing this Agreement. Should the Contractor's Contract Manager change or any of its contact information change, the Contractor shall provide the DGS-PD State Contract Administrator updated information no later than ten (10) business days after the date of such change. The Contractor is responsible for notifying all contracting User Agencies in writing of any changes to a contact person, address, telephone numbers, or any other information deemed important to the functionality of the MSA.
- b. The DGS-PD State Contract Administrator will be identified in the MSA User Instructions.

5. CONTRACTOR SELECTION PROCESS

- a. Use of this MSA by User Agencies is non-mandatory and is subject to Government Code section 19130 et. seq. governing standards for the use of personal services contracts for State Agencies.
- b. Services procured under this MSA, will be requested from a list of MSA Contractors awarded by Category as described below.
- c. User Agencies will issue a Request for Offer (RFO) in the Tier value where services are required. User Agencies may specify one (1) or more of the forty-two (42) Classifications in the RFO. The RFO should include a SOW that contains specific details including but not limited to:
 - i. User Agency contact information.
 - ii. Requested date(s) of service (if known).
 - iii. Necessary services.
 - iv. Special requirements.
 - v. SB/DVBE.
- d. Contractors must acknowledge and respond to a written User Agency RFO within the timeframe specified by the User Agency.
- e. Contractors must respond to the User Agency's RFO, which may require resumes, staffing plans, a Fixed Price Per Deliverable (FP/D) response and/or other information as specified by the User Agency.

- f. A Fixed Price Per Deliverable (FP/D) approach is where fixed pricing is requested for a defined project, task, or set of tasks, and delivered per a specific schedule. When using FP/D approach the User Agency's SOW must describe in detail the particular project and the work that the selected qualified Contractor will be required to perform. User Agencies evaluate RFO responses and make the final selection of the Contractor.
- g. User Agencies shall not request services from Contractors for Tiers and Classifications not awarded.
- h. Pricing offered by the Contractor shall not exceed the rates specified in Exhibit B.1 - Rate Sheet.
- i. Protest provisions do not apply at the RFO level.

6. USER AGENCY ADDITIONAL PROVISIONS AND/OR SPECIAL TERMS AND CONDITIONS

Prior to developing the RFO, User Agencies must read the user instructions for any special instructions, including but not limited to SB/DVBE. User Agency may include additional terms and conditions including but not limited to Federal Debarment, Suspension, Ineligibility and Voluntary Exclusion Certification; insurance requirements such as Workers' Compensation and Employer's Liability, and Professional Liability; Confidentiality of Data; SB/DVBE criteria; Consulting Services Contract Approval in accordance to PCC 10371; Performance Bond; ownership of proprietary property and ownership of work product and rights.

7. ORDER LIMITS/DOLLAR THRESHOLDS

- a. State Ordering Agencies may execute orders, including amendments, up to the maximum order limit listed on page 1 of their Purchasing Authority Approval Letter (PAAL), unless otherwise specified by their approved delegated purchasing authority. Each State Agency's purchasing authority is listed by acquisition method and type on their PAAL.
- b. This order limit does not apply to local agencies.
- c. Violation of Public Contract Code (PCC) Section 10329 Against Split Orders:
 - i. If a contractor is found to have participated in a split order transaction for the purpose of circumventing a User Agency's approved purchasing authority dollar thresholds, the contractor's individual MSA may be suspended and/or terminated.
 - ii. If a User Agency is found to have participated in a split order transaction for the purpose of circumventing its approved purchasing authority dollar thresholds, the User Agency's purchasing authority may be suspended and/or revoked.

8. CONTRACT ACTIVITY AND REPORTS

- a. Each quarter, the Contractor shall submit a Quarterly Usage Report to the DGS-PD State Contract Administrator via email or other delivery method as specified by DGS-PD. The report shall summarize the Contractor's MSA contract activity for each User Agency, and it shall be provided to the DGS-PD State Contract Administrator by the

fifteenth (15th) working day following the ending of the quarter's reporting period for which a User Agreement was executed. A report is required every quarter, even if the Contractor did not acquire a User Agreement during the reporting period.

- b. The Quarterly Usage Report will separate State contracting activities from that of local governmental entities. User Agreement issued against this MSA must contain at a minimum the following information:
 - 1) Contractor's MSA Number
 - 2) User Agency Name (department, agency, etc.)
 - 3) User Agreement Number
 - 4) User Agency Contact Person
 - 5) Classifications
 - 6) Rate(s)
- c. The DGS-PD State Contract Administrator reserves the right to modify this Quarterly Usage Report and require Contractor to provide additional reporting information during the course of the MSA.
- d. As applicable, Contractor will report subcontracting for Certified Small Business (SB) and Disabled Veteran Business Enterprise (DVBE).

9. SB/DVBE SUBCONTRACTING

Contractors who commit to subcontracting a percentage to Small Businesses/Disable Veteran Business Enterprises (SB/DVBE) shall do so for the entire term of the MSA. User Agencies will determine the use of socioeconomic programs at the RFO level to meet their departmental goals and determine commercially useful function (CUF). Changing of SB/DVBEs subcontractors may be subject to User Agency approval. Failure to maintain SB/DVBE subcontracting percentages may result in termination of the MSA.

The provisions for payment under the User Agreement may be subject to a ten thousand dollars (\$10,000) withhold in accordance with Military and Veterans Code sections 999.5 and 999.7.

10. LOCAL GOVERNMENT AGENCY INCENTIVE FEE

- a. For all local government agency transactions issued against the awarded MSA, the Contractor is required to remit DGS-PD an incentive fee of an amount equal to one point twenty-five (1.25) percent of the total contract amount (e.g. If the net Local Governmental Agency sales for a quarter is one million dollars (\$100,000.00), the incentive fee due to DG/PD is one-thousand two-hundred, fifty dollars (\$1,250.00).).
- b. This incentive fee shall not be included in the User Agency's purchase price, nor invoiced separately to the User Agency. All prices quoted to a local governmental agency shall reflect MSA contract pricing, including any and all applicable discounts, and shall not include add-on fees.
- c. Contractor payment of the local agency incentive fee to DGS-PD is due irrespective of whether or not the Local Governmental Agency has paid the Contractor for services.

- d. Contractor payment may be made in the form of an electronic payment using PD EPAY or by submitting a check payable to the State of California, Department of General Services. Along with each payment, a Contract Usage Report, filtered in Excel to include only local government agency sales, shall be submitted to the State Contract Administrator.
- e. To submit Incentive Fees through PD EPAY, users must register on the DGS/PD LPA Payment Portal (<https://www.dgs.ca.gov/PD/Services/Page-Content/Procurement-Division-Services-List-Folder/Access-LPA-Payment-Portal>).
- f. Incentive Fee payments made by check shall be submitted to the following address:
Department of General Services
MAPS Payments Processing
707 3rd Street, 2nd Floor
West Sacramento, CA 95605
- g. If a Contractor provided services for different Local Governmental agencies, the Contractor may submit one (1) check per month covering the DGS-PD incentive fee for the total of all Local Governmental Agency purchases. In this case, a separate report is still required for each contract and a list of the total Local Governmental Agency sales for each contract must be included with the check.

11.POTENTIAL SUBCONTRACTORS

Nothing contained in this Agreement or otherwise, shall create any contractual relation between the State and any Subcontractors, and no Subcontractor shall relieve the Contractor of its responsibilities and obligations hereunder. The Contractor agrees to be fully responsible to the State for the acts and omissions of its Subcontractors and of persons either directly or indirectly employed by any of the Subcontractors as it is for the acts and omissions of persons directly employed by the Contractor. The Contractor's obligation to pay its Subcontractors is an independent obligation from the State's obligation to make payments to the Contractor. As a result, the State shall have no obligation to pay or to enforce the payment of any moneys to any Subcontractor.

Contractor must ensure that the Subcontractor(s) will have all necessary licenses, permits, and/or certifications to accomplish its portion of the work. Failure of a Subcontractor(s) to have the proper licenses, permits, and/or certifications, may be cause for rejection of the Subcontractor and/or termination of the agreement. User Agencies may request an updated Bidder Declaration form with a User Agreement.

12. CLASSIFICATIONS

Contractor agrees to provide the Classifications as identified Exhibit B.1 - Rate Sheet as follows:

1) Senior Project Manager

The Senior Project Manager has full responsibility to manage and oversee all aspects of the most complex IT initiatives and work collaboratively with Product Managers to deliver IT products, services, or systems. This includes but is not limited to managing both external and internal IT project teams, and interacting with department heads, agency secretaries at the user agency, State control agencies, and individuals of similar status and capacity in the private sector.

The Senior Project Manager determines project scope, requirements, and deliverables for IT projects with clients or customers. They define, develop, modify, or provide input to project plans; they implement project plans to meet objectives; coordinate and integrate project activities; manage, lead or administer project resources; monitors project activities and resources to mitigate risk; implement or maintain quality assurance processes; make improvements, solve problems or takes corrective action when problems arise; gives presentations or briefings on all aspects of the project; participates in phase, milestone and final project reviews; identifies project documentation requirements or procedures; and develops and implements project schedules and release plans.

The Senior Project Manager; conducts analytical studies, feasibility studies, cost-benefit analyses; evaluates, monitors or ensures compliance with laws, regulations, policies, standards or procedures; identifies standards or requirements for change management; participates in change control (for example, reviewing change requests); implements information systems security plans and procedures; and ensures appropriate product-related training and documentation are developed and made available to customers. Senior Project Managers support Product Owners and Product Managers in product vision and roadmaps for projects that use agile or iterative methodologies.

The Senior Project Manager will possess knowledge and experience in customer service; decision making; flexibility; interpersonal skills; leadership; organizational awareness; problem solving, reasoning; team building; oral communication, speaking and writing; business process reengineering; capital planning and investment assessment; contracting/procurement; cost-benefit analysis; financial management; planning and evaluating; project management; quality assurance; requirements analysis and risk management; configuration, data, and information management; information resources strategy and planning; information technology architecture; information technology performance assessment; infrastructure design; systems integration; systems life cycle; and technology awareness.

Experience

This Classification requires a minimum of seven (7) years of broad, extensive and increasingly responsible experience applying PM principles, methods, techniques, and tools. At least four (4) years of that experience must have been as a senior PM of one or more large or complex IT projects.

And Education

This classification requires the possession of (a) a bachelor's degree, and (b) a valid Project Management Professional (PMP) certification from the Project Management Institute (PMI), which will be verified during the Request for Offer (RFO) process.

Additional qualifying experience may be substituted for the required education on a year-for-year basis. The PMP certification is required and may not be substituted with additional experience.

2) Project Manager

The Project Manager usually works under the direction of a Senior Project Manager or user agency personnel and manages or oversees all aspects of one or more IT projects while interacting with mid-level officials of similar capacity at the user agency and private sector.

The Project Manager determines appropriate IT services with clients or customers to define project scope, requirements and deliverables; develops, modifies or provides input to project plans; implements project plans to meet objectives; coordinates and integrates project activities; manages, leads or administers project resources; monitors project activities and resources to mitigate risk; implements or maintains quality assurance processes; makes improvements, solves problems or takes corrective action when problems arise; gives presentations or briefings on all aspects of the project; participates in phase, milestone and final project reviews; identifies project documentation requirements or procedures; and develops and implements project schedules and release plans in coordination with product teams.

The Project Manager conducts analytical studies, feasibility studies, cost-benefit analyses; evaluates, monitors or ensures compliance with laws, regulations, policies, standards or procedures; identifies standards or requirements change management; participates in change control (for example, reviewing change requests); implements information systems security plans and procedures; and ensures appropriate product-related training and documentation are developed and made available to customers.

The Project Manager will possess knowledge and experience in customer service; decision making; flexibility; interpersonal skills; leadership; organizational awareness; problem solving, reasoning; team building; oral communication, speaking and writing; business process reengineering; capital planning and investment assessment; contracting/procurement; cost-benefit analysis; financial management; planning and evaluating; project management; quality assurance; requirements analysis and risk

management; configuration, data, and information management; information resources strategy and planning; information technology architecture; information technology performance assessment; infrastructure design; systems integration; systems life cycle; and technology awareness.

Experience

This classification requires a minimum of five (5) years of broad, extensive and increasingly responsible Project Manager project experience applying project management principles, methods, techniques, and tools. At least three (3) years of that experience must have been in a lead capacity.

And Education

This classification requires the possession of (a) a bachelor's degree, and (b) a valid Project Management Professional (PMP) certification from the Project Management Institute (PMI), which will be verified during the RFO process.

Additional qualifying experience may be substituted for the required education on a year-for-year basis. The PMP certification is required and may not be substituted with additional experience.

3) Senior Technical Lead

A Senior Technical Lead ensures IT architectural integrity and functions as the interface between systems developers and IT project managers. The Senior Technical Lead provides coordination, oversight and leadership for the analyses, planning, design, implementation, documentation, assessment, and management of IT architecture and infrastructure design framework to align IT approaches with an organization's mission, goals and business processes.

The Senior Technical Lead will develop reference models of the enterprise and maintain the information in the IT repository; determine the gaps between the current and the target architecture and develop plans for transitioning to target architecture; define the policies and principles to guide technology decisions for the enterprise architecture; identify opportunities to improve enterprise-level systems to support business processes and utilize emerging technologies; promote and educate customers and stakeholders on the use and value of the enterprise architecture; provide enterprise architecture guidance, support and coordination to customers and IT project teams; document the enterprise architecture infrastructure, including the business units and key processes, using modeling techniques; ensure technical integration is achieved across the enterprise by participating in test planning, validation and reviews; evaluate the impact of enterprise architecture products and services on IT investments, business operations, stakeholder satisfaction and other outcomes; coordinate and conduct governance and portfolio management activities associated with ensuring compliance with the enterprise architecture; and ensure the rigorous application of information security/information assurance policies, principles and practices to all components of the enterprise architecture.

The Senior Technical Lead will possess knowledge and experience in organizational mission, IT infrastructure, enterprise architecture principles and reference models, and program management principles sufficient to participate in the development of organizational enterprise architecture goals, objectives, plans and policies; organizational enterprise architecture models, policies and planning formulation process, strategic and IT goals and objectives, and IT program metrics and measurement techniques sufficient to ensure enterprise-level IT specifications align with the organizational business requirements, identify potential improvements to enterprise architecture to meet organizational goals, and establish and implement metrics for evaluating the accomplishments of enterprise architecture goals and objectives; methods and approaches for sharing information through the use of IT assets, project management concepts, methods and practices, enterprise architecture concepts and principles, and multiple IT disciplines sufficient to develop major components of the enterprise architecture plan including strategic drivers, current and target architectures, the sequencing plan, architectural segments and reference models and standards; technical documentation methods; and speak and write effectively and prepare effective reports. Experience in architecture and implementation of the applications in the cloud, On-premises, and hybrid environments.

Experience

This Classification must have a minimum of eight (8) years of experience aligning IT systems with organizational business processes. At least five (5) years of that experience must have been in a lead capacity.

And Education

This classification requires the possession of a bachelor's degree in an IT-related or Engineering field. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

4) Technical Lead

The description is the same as with the Senior Technical Lead, except this classification functions under general supervision of a Senior Technical Lead or Senior Project Manager.

The Technical Lead will develop reference models of the enterprise and maintain the information in the IT repository; determine the gaps between the current and the target architecture and develop plans for transitioning to target architecture; define the policies and principles to guide technology decisions for the enterprise architecture; identify opportunities to improve enterprise-level systems to support business processes and utilize emerging technologies; promote and educate customers and stakeholders on the use and value of the enterprise architecture; provide enterprise architecture guidance, support and coordination to customers and IT project teams; document the enterprise architecture infrastructure, including the business units and key processes, using modeling techniques; ensure technical integration is achieved across the enterprise by participating in test planning, validation and reviews; evaluate the impact of enterprise architecture products

and services on IT investments, business operations, stakeholder satisfaction and other outcomes; coordinate and conduct governance and portfolio management activities associated with ensuring compliance with the enterprise architecture; and ensure the rigorous application of information security/information assurance policies, principles and practices to all components of the enterprise architecture.

The Technical Lead will possess knowledge and experience in organizational mission, IT infrastructure, enterprise architecture principles and reference models, and program management principles sufficient to participate in the development of organizational enterprise architecture goals, objectives, plans and policies; organizational enterprise architecture models, policies and planning formulation process, strategic and IT goals and objectives, and IT program metrics and measurement techniques sufficient to ensure enterprise-level IT specifications align with the organizational business requirements, identify potential improvements to enterprise architecture to meet organizational goals, and establish and implement metrics for evaluating the accomplishments of enterprise architecture goals and objectives; methods and approaches for sharing information through the use of IT assets, project management concepts, methods and practices, enterprise architecture concepts and principles, and multiple IT disciplines sufficient to develop major components of the enterprise architecture plan including strategic drivers, current and target architectures, the sequencing plan, architectural segments and reference models and standards; technical documentation methods; and speak and write effectively and prepare effective reports.

Experience

This Classification must have a minimum of five (5) years of experience aligning IT systems with organizational business processes. At least three (3) years of that experience must have been in a lead capacity.

And Education

This classification requires the possession of a bachelor's degree in an IT-related or Engineering field. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

5) Business Solutions Analyst

A Business Solutions Analyst performs business systems analysis and is responsible for work that involves applying analytical processes to the planning, design and implementation of new and improved business information systems and business processes to meet the business requirements of customer organizations.

The Business Solutions Analyst will perform needs analyses to define opportunities for new or improved business process solutions; conduct business process reengineering; conduct feasibility studies and trade-off analyses; perform as a liaison between internal and external customers; consult with customers to identify, refine and specify functional requirements, and translate functional requirements into technical specifications; develop overall

functional and systems requirements and specifications; prepare business cases for the application of IT solutions; define systems scope and objectives; develop cost estimates for new modified systems; ensure the integration of all system components; e.g., policies, procedures, training material, databases, software and hardware; conduct performance and reliability testing of new solutions; plan and participate in systems implementation and provide post-implementation support and ensure the rigorous application of information security/information assurance policies, principles and practices to the systems analysis process.

The Business Solutions Analyst will possess knowledge and experience in structured analysis principles and methods; systems analysis and analytical principles, concepts, techniques and methods, including cost-benefit analysis methods; basic IT architecture and technical documentation methods; systems design tools, methods and techniques, including automated systems analysis and design tools sufficient to develop requirements and specifications for systems that meet business requirements; systems design standards, policies and authorized approaches sufficient to assist in identifying and specifying business requirements for new or enhanced systems and develop basic system specifications; system design precedents or alternative approaches sufficient to advise on the merits of proposed systems development projects; business processes, workflows and operations of customer organizations sufficient to apply a structured systems analysis approach to the design and development of new or enhanced applications; business process engineering concepts and methods sufficient to lead/conduct studies designed to identify potential improvements in the way IT is applied to key business functions; life cycle management concepts; internet and new IT technologies; and speak and write effectively and prepare effective reports.

Experience

This Classification must have a minimum of five (5) years of experience applying analytical processes on IT projects. At least three (3) years of that experience must have been in business systems analysis and design.

And Education

This classification requires the possession of a bachelor's degree. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

6) Senior Software Engineer

A Senior Software Engineer is responsible for leading and/or working on the most complex IT applications design, documentation, development, modification, testing, installation, implementation and support of new or existing applications software. This Classification may also plan, install, configure, test, implement and manage a systems environment in support of an organization's IT architecture and business needs. Common organizational or functional industry position titles for programmers include but are not limited to programmer analyst, applications developer, software engineer, software developer, software quality

assurance specialist, systems programmer, systems software programmer, database administrators, computer systems analysts, systems engineer, systems software engineer.

The Senior Software Engineer, in development of applications software, is responsible for analyzing and refining systems requirements; translating systems requirements into applications prototypes; planning and designing systems architecture; writing, debugging and maintaining code; determining and designing applications architecture; determining output media/formats; designing user interfaces; working with customers to test applications; assuring software and systems quality and functionality; integrating hardware and software components; writing and maintaining program documentation; evaluating new applications software technologies; and/or ensuring the rigorous application of information security/information assurance policies, principles and practices to the delivery of application software services.

The Senior Software Engineer, in development of operating systems, is responsible for analyzing systems requirements in response to business requirements, risks and costs; evaluating, selecting, verifying and validating the systems software environment; evaluating, selecting and installing compilers, assemblers and utilities; integrating hardware and software components within the systems environment; monitoring and fine-tuning performance of the systems environment; evaluating new systems engineering technologies and their effect on the operating environment; and/or ensuring that information security/information assurance policies, principles and practices are an integral element of the operating environment.

The Senior Software Engineer will possess knowledge and experience in applications software development principles and methods sufficient to participate in the design, development, testing and implementation of new or modified applications software; operating systems installation and configuration procedures; organization's operational environment; software design principles, methods and approaches; principles, methods and procedures for designing, developing, optimizing and integrating new and/or reusable systems components; pertinent government regulations; infrastructure requirements, such as bandwidth and server sizing; database management principles and methodologies, including data structures, data modeling, data warehousing and transaction processing; functionality and operability of the current operating environment; systems engineering concepts and factors such as structured design, supportability, survivability, reliability, scalability and maintainability; optimization concepts and methods; establish and maintain cooperative working relationships with those contacted in the course of the work; and speak and write effectively and prepare effective reports.

Experience

This Classification must have a minimum of seven (7) years of experience in electronic data processing systems study, design, and programming. At least four (4) years of that experience must have been in a lead capacity.

And Education

This classification requires the possession of a bachelor's degree in an IT-related or Engineering field. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

7) Software Engineer

The description is the same as with the Senior Software Engineer, except this Classification functions under general supervision.

The Software Engineer, in development of applications software, is responsible for analyzing and refining systems requirements; translating systems requirements into applications prototypes; planning and designing systems architecture; writing, debugging and maintaining code; determining and designing applications architecture; determining output media/formats; designing user interfaces; working with customers to test applications; assuring software and systems quality and functionality; integrating hardware and software components; writing and maintaining program documentation; evaluating new applications software technologies; and/or ensuring the rigorous application of information security/information assurance policies, principles and practices to the delivery of application software services.

The Software Engineer, in development of operating systems, is responsible for analyzing systems requirements in response to business requirements, risks and costs; evaluating, selecting, verifying and validating the systems software environment; evaluating, selecting and installing compilers, assemblers and utilities; integrating hardware and software components within the systems environment; monitoring and fine-tuning performance of the systems environment; evaluating new systems engineering technologies and their effect on the operating environment; and/or ensuring that information security/information assurance policies, principles and practices are an integral element of the operating environment.

The Software Engineer will possess knowledge and experience in many of the following areas: applications software development principles and methods sufficient to participate in the design, development, testing and implementation of new or modified applications software; operating systems installation and configuration procedures; software design principles, methods and approaches; principles, methods and procedures for designing, developing, optimizing and integrating new and/or reusable systems components; pertinent government regulations; infrastructure requirements, such as bandwidth and server sizing; database management principles and methodologies, including data structures, data modeling, data warehousing and transaction processing; systems engineering concepts and factors such as structured design, supportability, survivability, reliability, scalability and maintainability; optimization concepts and methods; establish and maintain cooperative working relationships with those contacted in the course of the work; and speak and write effectively and prepare effective reports.

Experience

This Classification must have a minimum of five (5) years of experience in electronic data processing systems study, design, and programming. At least three (3) years of that experience must have been in a lead capacity.

And Education

This classification requires the possession of a bachelor's degree in an IT-related or Engineering field. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

8) Technical Writer

A Technical Writer produces technical documentation that helps people understand and use a product or service. This documentation may include but not limited to online help, manuals (system, end-user, training, and instruction), white papers, design specifications, project plans, test plans, business correspondence, how-to-guides, etc. With the rise of e-learning, technical writers are also charged with creating online training for their audience of learners. Technical writers explain technologies, processes, and products in many formats, including print, online, and other electronic means.

The Technical Writer will work with internal teams to obtain an in-depth understanding of the product and the documentation requirements; analyze existing and potential documentation content; produce high-quality documentation that meets applicable standards and is appropriate for its intended audience; research, develop, write, edit and proofread complex technical documentation and supporting material for software, hardware, technical procedures, and computer related services; create, maintain and update manuals, procedures, specifications and other documents; create, assimilate, convey, maintain and update technical documents and policies and procedures in a concise and effective manner for a variety of audiences; review, revise, modify and edit documents prepared by others; provide writing, editing and design support to team members; create and maintain the information architecture; write easy-to-understand user interface text, online help and developer guides; create manuals and tutorials to help end-users use a variety of applications; and create, compile and deliver software development documentation packages.

The Technical Writer will possess knowledge and experience in message delivery and development; communications; attention to detail; collaboration; data gathering and analysis; planning and prioritization; leveraging technology; excellent clear and concise writing and grammar skills, work independently, deliver accurate documentation under deadline pressure; strong working knowledge of Microsoft Office; requirements analysis; Information Management skills; interview and listening skills; proven working experience in technical writing of software documentation; ability to quickly grasp complex technical concepts and make them easily understandable in text and visuals; reviews and studies blueprints, sketches, drawings, parts lists, specifications, mockups, and product samples to integrate and delineate technology, operating procedure, and production sequence and

detail; familiarity of a variety of software programs for the purpose of writing text, creating charts and graphs, and incorporating diagrams and photos in documents; basic familiarity with the SDLC and software development; systems and business analysis and analytical principles, computer scripting, illustration/graphic design, information architecture and design, technical translation, training, e-learning, user interfaces, website design/management, hyper-text markup language (HTML), concepts, techniques and methods, including cost-benefit analysis methods; and knowledge of information technology, e.g. hardware and software.

Experience

This Classification must have a minimum of two (2) years of experience performing IT technical writing. Experience can include being in a position as a specialist or research assistant in a technical field.

And Education

This classification requires the possession of a bachelor's degree. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

9) Information Security Specialist

An Information Security Specialist interprets information security policies, standards and other requirements as they relate to internal information system and coordinates the implementation of these and other information security requirements. The Information Security Specialist redesigns and reengineers internal information handling processes so that information is appropriately protected from a wide variety of problems including unauthorized disclosure, unauthorized use, inappropriate modification, premature deletion, and unavailability.

The Information Security Specialist will provide highly specialized experience in one or more information, computer, or network security disciplines (e.g. penetration testing, accreditation, or risk assessment and mitigation); develop system security plans, certification and accreditation reviews; analyze and establish processes for comprehensive systems and data protection; assess and mitigate system security threats and risks; perform security audits, evaluation, risk assessments and make strategic recommendations; and manages, supports, installs and maintains security tools and systems, and tracks security patches and incidents.

The Information Security Specialist will possess knowledge and experience in standard methodologies used in certification and accreditation processes; extensive experience following NIST guidelines in risk assessment and management; conducting vulnerability analysis; developing mitigation plans; and performing penetration testing, password protection testing and application security testing.

Experience

This Classification must have a minimum of five (5) years of experience applying security policies, standards, testing, modification and implementation. At least three (3) years of that experience must be in information security analysis.

And Education

This classification requires the possession of a bachelor's degree in an IT-related or Engineering field. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

10)Senior Enterprise Architect

A Senior Enterprise Architect applies their management skills and specialized functional and technical expertise to support complex projects in applying organizing principles and methods of enterprise architecture. Methods of enterprise architecture include IT business systems development and technical solutions that align with the business process. This is accomplished through requirements analysis, needs assessments, and selection and implementation of integration strategies including lifecycle sustainability.

The Senior Enterprise Architect will provide subject matter expertise in industry and have specific knowledge of methods including governance, architect enterprise strategy, enterprise architecture development and management; business process design and re-engineering; investment decision making and support for solution architecture development/management; and support the attainment of business strategy and its alignment with processes and information technology strategy.

The Senior Enterprise Architect must have experience end-end solution in infrastructure (compute, storage, and network) and application-level experience in delivering a complete solution for on-premises, cloud or in hybrid environment. The Senior Enterprise Architect will possess knowledge and technical expertise in standards and technologies to support complex business analysis, solution selection, systems architecture, and application integration.

Experience

This Classification must have a minimum of seven (7) years of applying Enterprise Architecture principles. At least five (5) years of that experience must be in a lead capacity.

And Education

This classification requires the possession of a bachelor's degree in an IT-related or Engineering field. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

11)Enterprise Architect

An Enterprise Architect applies functional and technical expertise to support complex projects in applying organizing principles and methods of enterprise architecture. Methods of enterprise architecture include IT business systems development and technical solutions that align with the business process. This is accomplished through requirements analysis, needs assessments, and selection and implementation of integration strategies including lifecycle sustainability.

Enterprise Architects provide subject matter expertise in industry and have specific knowledge of methods including governance, architect enterprise strategy, enterprise architecture development, business process design and re-engineering, investment decision making and support for solution architecture development. They support the attainment of business strategy and its alignment with processes and information technology strategy.

An Enterprise Architect possesses knowledge and technical expertise in standards and technologies to support complex business analysis, solution selection, systems architecture, and application integration.

Experience

This Classification must have a minimum of five (5) years of applying Enterprise Architecture principles. At least three (3) years of that experience must be in a lead capacity.

And Education

This classification requires the possession of a bachelor's degree in an IT-related or Engineering field. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

12)Technical Architect

A Technical Architect will serve as the manager of complex technology implementations, with an eye toward constant reengineering and refactoring to ensure the simplest and most elegant system possible to accomplish the desired need; understand how to maximize leverage of the open source community to deploy systems on Infrastructure as a Service (IaaS) providers; be comfortable sharing knowledge across a multi-disciplinary team and working within various methodologies; and be a full partner in the determination of vision, objectives, and success criteria.

The Technical Architect will architect the overall system by using prototyping and proof of concepts, which may include: modern programming languages (e.g., Ruby, Python, Node.js) and web frameworks (e.g., Django, Rails), modern front-end web programming techniques (e.g., HTML5, CSS3, RESTful APIs) and frameworks (e.g., Twitter Bootstrap, jQuery), relational databases (e.g., PostgreSQL), and "NoSQL" databases (e.g.,

Cassandra, MongoDB), automated configuration management (e.g., Chef, Puppet, Ansible, Salt), continuous integration/deployment, and continuous monitoring solutions; use version control systems (e.g., Git and GitHub); ensure strategic alignment of technical design and architecture to meet business growth and direction, and stay on top of emerging technologies; decompose business and system architecture to support clean-interface multi-team development; develop product roadmaps, backlogs, and measurable success criteria, and write user stories (i.e., can establish a path to delivery for breaking down stories) and clearly communicate and work with stakeholders at every level.

The Technical Architect will possess knowledge and experience in analyses and development of conceptual designs and detail designs; developing JBOSS Messaging and connectivity with Spring-JMS connectivity; designing DB schema as per the requirements and in sync with the old system; implementing the daily and weekly jobs that interact with external interfaces; coordinating with business stakeholders to understand their requirements; communicate with cross-divisional personnel at both team and executive levels to understand performance measurement methodologies; and direct team members in compiling business requirements and executing project milestones.

Experience

This classification must have a minimum of eight (8) years of experience in systems development, analysis, programming or testing.

And Education

This classification requires the possession of a bachelor's degree in an IT-related or Engineering field. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

13) Visual Designer

A Visual Designer develops a deep understanding of the goals of customers and their business needs; will be well-versed in all aspects of current visual design standards and trends and will be responsible for managing project design reviews, resource planning, and execution for all project work related to visual design; and oversees all visual design efforts.

The Visual Designer will guide, mentor, and coach team members while leading projects to successful completion; develop and maintain relationships with key peers in Marketing, Branding, UX leaders, IT leaders, and others to identify and plan creative solutions; manage external service resources and budgets for visual design; ensure successful completion of all work executed by the team (on time, on budget, and ensuring quality); ensure compliance with the project management methodologies and the Project Management Office processes and standards; develop, maintain, and ensure compliance of application release management, outage management and change control processes and standards; Defines, creates, communicates, and manages resource plans and other required project documentation such as style guides and provides updates as necessary.

The Visual Designer will possess knowledge and experience in developing requirements with clients; designing products using design software; good interdisciplinary collaboration and communication skills; work with team members to solve problems through analysis of existing systems and processes; work on full lifecycle projects from requirements gathering through design, implementation and rollout; flexibility to be creative and have an impact on designs within the general boundaries of clients expectations; work on highly interactive custom web and mobile front-ends as well as full desktop applications; ability to visualize and create high level aesthetic product designs; industrial design tools, sketching tools, Photoshop, Illustrator, rendering software (Keyshot), and 3D modeling software and exceptional follow through and organizational skills.

Experience

This classification must have a minimum of three (3) years of experience in project and product design, visual design standards, and visual design software and trends.

And Education

This classification requires the possession of a bachelor's degree in Graphic Design, Graphic Arts, or related field. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

14)Front End Web Developer / Engineer

A Front-End Web Developer uses modern, front end web development tools, techniques, and methods for the creation and deployment of user-facing interfaces and is comfortable working in an environment to routinely deploy changes.

The Front-End Web Developer will perform front end web development and frontend configuration capabilities for SaaS technologies using modern techniques and frameworks (e.g., HTML5, CSS3, CSS frameworks like LESS and SASS, Responsive Design, Bourbon, Twitter Bootstrap); perform JavaScript development using modern standards, including strict mode compliance, modularization techniques and tools, and frameworks and libraries (e.g., jQuery, MV* frameworks such as Backbone.js and Ember.js, D3); develop and consumes web-based RESTful APIs; work in team environments that use various methodologies (e.g., Scrum, Lean); use version control systems (e.g., Git and GitHub); ensure Section 508 Compliance; research and learn new programming tools and techniques; work with open source solutions and community; create web layouts from static images; and create views and templates in full-stack frameworks like Rails, Express, or Django.

Front-End Web Developers will possess knowledge and experience in working on new and existing micro-sites, landing pages, and templates and provide guidance and troubleshooting support to clients; show skills such as presenting completed HTML and CSS mobile and desktop mockups to clients, fixing front end related bug issues on existing client website and HTML prototypes, and expertise in several programming languages, such as HTML5, W3C, JavaScript and CSS3.

Experience

This classification must have a minimum of four (4) years of experience in front end web development tools, techniques and methods for user-facing interfaces.

And Education

This classification requires the possession of a bachelor's degree in an IT-related or Engineering field. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

15)Back End Web Developer / Engineer

A Back End Web Developer uses modern, open-source software to prototype and deploy back end web applications, including all aspects of server-side processing, data storage, and integration with front end development.

The Back End Web Developer will perform web development using open-source web programming languages (e.g., Ruby, Python), SaaS technologies and frameworks (e.g., Django, Rails); develop and consume web-based, RESTful APIs; work in team environments that use various methodologies (e.g., Scrum, Lean); author developer-friendly documentation (e.g., API documentation, deployment operations); test-driven development techniques; use version control systems (e.g., Git and GitHub); research and learn new programming tools and techniques; develop relational and non-relational database systems; develop scalable search technology (e.g. Elasticsearch, Solr) to handle large data sets and scaling their handling and storage; work with open source solutions and community; and communicate technical concepts to a non-technical audience.

Back End Web Developers will possess knowledge and experience in ability to translate technical work into user-friendly visuals; working on the back-end coding while staying plugged into emerging technologies and trends to ensure that the website is current and well maintained at all times; have a solid understanding of how web applications work including security, session management, and best development practices; programming skills HTML/CSS, security knowledge, and session management; and knowledge in one of the following programming languages: PHP, ASP.NET, JavaScript, Python or Ruby on Rails.

Experience

This classification must have a minimum of four (4) years of experience in back-end web applications, open-source web programming languages and frameworks, emerging technologies and trends, and best development practices.

And Education

This classification requires the possession of a bachelor's degree in an IT-related or Engineering field. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

16)DevOps Engineer

A DevOps Engineer serves as the engineer of complex technology implementations in a product-centric environment; is comfortable with bridging the gap between legacy development or operations teams and working toward a shared culture and vision; and works to arm developers with the best tools and ensuring system uptime and performance.

The DevOps Engineer will deploy and configure services using infrastructure as a service (IaaS) providers (e.g., Amazon Web Services, Microsoft Azure, Google Compute Engine, RackSpace/OpenStack); configure and manage Linux-based servers to serve a dynamic website; debug cluster-based computing architectures; use scripting or basic programming skills to solve problems; install and manage open source monitoring tools; use configuration management tools (e.g., Puppet, Chef, Ansible, Salt); Develop architecture for continuous integration and deployment, and continuous monitoring; and use containerization technologies (e.g., LXC, Docker, Rocket).

DevOps Engineers will possess knowledge and experience in deployment and network operations, or systems administration including scripting, coding and development that focuses on improving the planning, testing and deployment; skill in configuring Linux Slackware web servers; creating custom HTML, CSS, JavaScript, Java, and C code; developing applications for Android systems; and familiarity with coding and automation tools.

Experience

This classification must have a minimum of five (5) years of experience in complex technology implementations in a product-centric environment.

And Education

This classification requires the possession of a bachelor's degree in an IT-related or Engineering field. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

17)Security Engineer

A Security Engineer serves as the security engineer of complex technology implementations in a product-centric environment; is comfortable with bridging the gap between legacy development or operations teams and working toward a shared culture and vision; works to ensure developers create the most secure systems while enhancing the privacy of all system users; and has experience with white-hat hacking and fundamental computer science concepts.

The Security Engineer will perform security audits, risk analysis, application-level vulnerability testing, and security code reviews; develop and implement technical solutions to help mitigate security vulnerabilities; and conduct research to identify new attack vectors.

Security Engineers will possess knowledge and experience in safeguarding sensitive data from cyber-attacks.

Experience

This classification must have a minimum of seven (7) years of experience with developing and implementing technical solutions to help mitigate security vulnerabilities.

And Education

This classification requires the possession of a bachelor's degree in an IT-related or Engineering field. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

18) Delivery Manager

A Delivery Manager facilitates teams for successful delivery by removing obstacles (or blockers to progress), constantly helping teams become more self-organizing, and enabling the work teams do rather than impose how it's done; manages one or more projects, typically to deliver a specific product or transformation via a multi-disciplinary, high-skilled digital team; is adept at delivering complex digital projects, breaking down barriers to the team, and both planning at a higher level and getting into the detail to ensure deliverables happen when needed; and defines project needs and feeds these into the portfolio/program process to enable resources to be appropriately allocated.

The Delivery Manager will deliver projects and products using the appropriate project management methodology, learning & iterating frequently; work with the Product Manager to define the roadmap for any given product and translate this into user stories; lead the collaborative, dynamic planning process prioritizing the work that needs to be done against the capacity and capability of the team; matrix-manage a multi-disciplinary team; ensure all products are built to an appropriate level of quality for the stage (alpha/beta/production); and actively and openly share knowledge of best practices.

The Delivery Manager will possess knowledge and experience in analyzing critical situations with the customer and utilizing data to troubleshoot production environments and solve issues.

Experience

This classification must have a minimum of five (5) years of experience utilizing various project management methodologies, planning processes and matrix-managing a multi-disciplinary team.

And Education

This classification requires the possession of a bachelor's degree. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

19) Agile Coach

An Agile Coach transforms initiatives to deliver lasting change within agencies that focus on delivering value and outcomes for residents. This role often works closely with scrum masters, product managers, and program leaders. Agile coaches enable teams to deliver products and services across an organization or organizations. Coaches may be required to work across levels including: at the team level, working with teams to ensure that delivery teams within agencies are adopting agile practices and tools while performing effectively; at the portfolio or program level, to help agencies to establish the right processes for managing a portfolio of work in an agile way; at the organization level, to drive strategic change across the organization and ensure that adoption of agile techniques is embedded from the most senior levels of the organization; or across all levels to ensure that organizations adopt a pragmatic approach to the way in which they govern delivery and continuous improvement of digital services.

The Agile Coach will embed an agile culture using techniques from a wide range of agile and lean methodologies and frameworks but be methodology agnostic. They should be able to understand waterfall approaches to be able to teach and enable agile ways of working. They help to create an open and trust-based environment by establishing feedback loops within the team and across disciplines, which enables a focus on outcomes, delivery and facilitates continuous improvement. They help coach the team through different phases of the delivery product life cycle; assess the culture of a team or organization and delivery processes in place to identify improvements and facilitate these improvements with the right type of support; showcase relevant tools and techniques such as coaching, advising, workshops, and mentoring. They maintain cadence of delivery by managing relationships between people and across teams, engage with stakeholders at all levels of the organization; develop clear lines of escalation, in agreement with senior managers; ensure any stakeholder can easily find out an accurate and current project or program status, without disruption to delivery; work effectively with other suppliers and agencies; apply best tools and techniques to: team roles, behaviors, structure and culture, agile ceremonies and practices, knowledge transfer and sharing, program management, cross-team coordination, and overall governance of digital service delivery; ensure key metrics and requirements that support the team and delivery are well defined and maintained; equip staff with the ability to coach others; and executive coaching on the fundamental considerations of digital service delivery design.

The Agile Coach will possess knowledge and experience in focusing primarily on training the teams to write good user stories; prioritization of the work based on business value and handling of the tasks by the team; and placing substantial efforts on team member role training, time-boxing and providing strong metrics for all players.

Experience

This classification must have a minimum of six (6) years of experience in creating and implementing an agile culture utilizing agile methodologies and frameworks in complex teams and organizations.

And Education

This classification requires the possession of a bachelor's degree in an IT-related, project management, leadership, communications, or Engineering field. Additional qualifying experience may be substituted for the required education on a year-for-year basis. Also requires the possession of certification in Agile Coach.

20)Analyst

An Analyst is familiar with a range of digital/web services and solutions, ideally where open source and cloud technologies and various development methodologies have been applied; has an eye for detail, excellent communication skills, and ability to rationalize complex information to make it understandable for others to work; and ability to interrogate reported information and challenge sources where inconsistencies are found.

The Analyst will support agencies by analyzing propositions and assessing decision-making factors such as strategic alignment, cost/benefit, and risk; work closely with the Product Manager to define a product approach to meet user needs; define skill requirements and map internal, agency, and external (partners/specialist contractors) resources; work with the owning agency to ensure they have the budget to cover the proposed approach and resource requirements during delivery and analyze what provision they have for ongoing running costs; analyze and map the risks of this product approach and propose mitigation solutions; define how the predicted user and financial benefit can be realized, and how channel shift will be measured; and make a recommendation for action against the analysis done.

The Analyst will possess knowledge and experience in ensuring enhanced processes and services are technically, operationally, and legally supported by analyzing and compiling requirements and solidifying successful implementation; strengthening risk mitigation techniques and improved process efficiencies while meeting stringent regulatory requirements; developing, coordinating, and implementing methodology and scope for multiple complex projects; strong analytical and research techniques to identify gaps and inconsistencies within current measurement tools, allowing development of improved and cost-effective models; and performing requirements analysis, documentation and quality assurance for each deliverable.

Experience

This Classification must have a minimum of five (5) years of experience applying analytical processes on IT projects. At least three (3) years of that experience must have been in systems analysis and design.

And Education

This Classification requires the possession of a bachelor's degree. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

21)Digital Performance Analyst

A Digital Performance Analyst specifies, collects, and presents key performance data and analysis for a given digital service; supports Product Managers by generating new and useful information and translating it into actions that will allow them to iteratively improve their service for users; possesses analytical and problem-solving skills necessary for quickly developing recommendations based on the quantitative and qualitative evidence gathered via web analytics, financial data, and user feedback; is confident in explaining technical concepts to senior officials with limited technological background; and is comfortable working with data, from gathering and analysis through to design and presentation.

A Digital Performance Analyst will support the Product Manager to make sure their service meets performance requirements; communicate service performance against key indicators to internal and external stakeholders; ensure high-quality analysis of agency transaction data; support the procurement of the necessary digital platforms to support automated and real-time collection and presentation of data; share examples of best practice in digital performance management across government; and identify delivery obstacles to improving transactional performance in agencies and working with teams to overcome those obstacles.

A Digital Performance Analyst will possess knowledge and experience in analyzing investment activities; evaluating investment projects and objectives; and performing detailed analyses of portfolios, and creating reports that summarize factors like peer rankings, portfolio positioning, attributes performance, and quantified risks.

Experience

This classification must have a minimum of four (4) years of experience identifying, collecting and presenting performance data and analysis to ensure and improve service performance.

And Education

This classification requires the possession of a bachelor's degree in an IT-related or Engineering field. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

22)Data Analyst

A Data Analyst supports the organization by translating business initiatives and goals into analytical questions, identifying critical metrics, conducting analysis, and developing reporting. Additionally, they will help identify relevant datasets, contribute to data

transformations, clean data, and conduct exploratory and statistical analyses to identify, analyze, and interpret trends or patterns in complex datasets.

A Data Analyst must be able to work with subject matter experts across programs, divisions, policy areas, and levels of knowledge. A Data Analyst must be able to derive insights that advance the business needs and that are actionable by the client. They must be able to articulate and present these insights in ways that the client understands and is able to take action on. They must be comfortable starting with ill-defined datasets and problems and helping stakeholders to unpack what will be most helpful and achievable given the data available.

The Data Analyst must also be an effective data storyteller with a strong background in written and oral communications and a demonstrated ability to translate complex concepts into actionable insights.

They work with structured data of various kinds and sizes in databases or spreadsheets, using scripting languages and/or SQL to manipulate data. They should be familiar with data modelling concepts and be able to shape and reshape data as needed. A Data Analyst will also create visualizations, reports, and present findings, using business intelligence applications, spreadsheets, or code.

A Data Analyst also contributes to defining data quality needs to support analysis and should be proficient in profiling data to support data quality definitions. They may need to implement quality monitoring or work with others to do so and should be able to communicate the impact of data quality on analyses.

They may work with other data analysts, data scientists, data modelers, business intelligence analysts, and data engineers to define requirements to implement more complex ongoing analysis (e.g., analyses on big datasets or real time data).

They may be required to create documentation and provide training to inform stakeholders and cultivate data literacy within the organization.

Experience

This Classification must have a minimum of two (2) years of experience as a data analyst or in other quantitative analysis or engineering disciplines, such as researcher, data engineer or BI analyst.

And Education

This classification requires the possession of a bachelor's degree. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

23)Senior Data Analyst

A Senior Data Analyst leads work to enable stakeholders across the organization by translating initiatives and goals into analytical questions, identifying critical metrics, conducting analysis, developing reporting, and leading efforts to uncover levers that could improve decision making and program outcomes. Additionally, they will work with staff to identify relevant datasets, contribute to data transformations, clean data, and conduct exploratory and statistical analyses to identify, analyze, and interpret trends or patterns in complex datasets.

A Senior Data Analyst must be able to work with subject matter experts across programs, divisions, policy areas, and levels of knowledge. A Data Analyst must be able to derive insights that advance the needs and that are actionable by the client. They must be able to articulate and present these insights in ways that the client understands and is able to take action on. They must be comfortable starting with ill-defined datasets and problems and helping stakeholders to unpack what will be most helpful and achievable given the data available.

The Senior Data Analyst must also be an effective data storyteller with a strong background in written and oral communications and a demonstrated ability to translate complex concepts into actionable insights.

They work with structured data of various kinds and sizes in databases or spreadsheets, using scripting languages and/or SQL to manipulate data. They should be familiar with data modelling concepts and be able to shape and reshape data as needed. A Senior Data Analyst will also create visualizations, reports, and present findings, using business intelligence applications, spreadsheets, or code. They will also provide mentorship, expertise and feedback to other analysts and help establish standards for analytical work.

A Senior Data Analyst also informs the organization of data quality challenges and can recommend interventions (technical, policy or organizational) for maintaining necessary quality to support analysis. They have competencies to work across different aspects of projects to inform how data is captured, stored and managed to enable manipulation and analysis. They may need to implement quality monitoring or work with others to do so and should be able to communicate the impact of data quality on analyses.

They may work with data scientists, data modelers, business intelligence analysts, and data engineers to define requirements to implement more complex ongoing analysis (e.g., analyses on big datasets or real time data).

They may be required to create documentation and provide training to inform stakeholders and cultivate data literacy within the organization.

Experience

This Classification must have a minimum of five (5) years of experience as a data analyst or in other quantitative analysis or related disciplines, such as researcher, data engineer or BI analyst.

And Education

This classification requires the possession of a bachelor's degree. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

24)Geospatial Engineer

A Geospatial Engineer prepares analyses of spatial data, including but not limited to static maps, interactive maps, and other derived spatial data products. They share core competencies of a Data Analyst but will be more specialized working with spatial data and best practices around spatial visualization.

A Geospatial Engineer must be able to work with subject matter experts across programs, divisions, policy areas, and levels of knowledge. The position may benefit from specific domain knowledge to synthesize data into actionable insights based on the program's need. Distinct from a data analyst, the Geospatial Engineer will be expected to hold expertise on working with spatial data and be able to leverage that expertise with stakeholders. They must be comfortable starting with ill-defined datasets and problems and helping stakeholders to unpack what will be most helpful and achievable given the data available.

A Geospatial Engineer must be able to translate business value goals into usable and useful maps, visuals, and underlying data models that support them. They work with structured data of various kinds and sizes in databases, GIS, or spreadsheets, using scripting languages, SQL and/or GIS to manipulate data. They have competencies to work across different aspects of projects to inform how data is captured, stored and managed to enable manipulation and analysis. A Geospatial Engineer will also create visualizations, reports, and present findings, using GIS or code.

They should be comfortable working with a range of statistical and analytical techniques using spatial and non-spatial data. They will demonstrate strong spatial analysis skills that could include but not be limited to: spatial aggregations and joins, neighborhood analysis (nearest neighbor, k-function, etc.), and raster analysis.

A Geospatial Engineer may need to develop strategies for working with real time and/or big spatial datasets depending on the organization's needs. They may need to work with other analysts, data scientists, data engineers, data modelers and IT staff for more complex ongoing analyses that require live access to data but should be proficient enough to prototype and define those needs with staff.

A Geospatial Engineer must be able to work with modern open source (GRASS, QGIS, etc.) or proprietary ESRI GIS toolsets as required to perform complex spatial data analysis to support program objectives. They should be proficient in the use of current and popular commercial low code / no code cloud GIS tools (ArcGIS Online, etc.).

Experience in Extract/Load/Transform (ETL) Tools, Data Interoperability best practices, Digitizing techniques, geographic standards, and coordinate systems, Cartographic design principles, Raster and vector data creation and editing. Experience in Geo-referencing, geoprocessing, and geocoding techniques and methods. Experience with 3D corridors and surface models, Linear referencing, Publication and incorporation of web mapping services. Experience in Python. Ability to convert multiple data formats to spatial data. They may be required to create documentation and provide training to inform stakeholders and cultivate data literacy within the organization.

Experience

This Classification must have a minimum of three (3) years of experience in geospatial analysis using GIS or geospatial frameworks. Project work should demonstrate excellence in geospatial analysis techniques and approaches.

And Education

This classification requires the possession of a bachelor's in geography or IT, or an advanced degree (master's or PhD) in geography or IT. Also requires the possession of certification in geospatial technologies, including, but not limited to GISP. Additional qualifying experience may be substituted for the required bachelor's in geography or IT, or an advanced degree (master's or PhD) in geography or IT on a year-for-year basis.

25) Geospatial Application Developer

The Geospatial Application Developer is responsible for the development of new GIS applications, maintenance and operations of existing GIS applications, including updating system documents; geodatabase modeling; system administration; data management; performance tuning; installing updates and patches; and maintaining geospatial databases and metadata. They maintain expertise in existing and emerging GIS-related software and technologies and evaluate to improve program use of geospatial data and applications.

They will perform quality assurance of GIS data and processes in accordance with organizational standards and facilitate data collaboration among program stakeholders. They work with IT and program staff to resolve application issues and ensure and follow the established change management and release management processes of the organization. They may need to maintain data assets in existing or new solutions per established principles and policies of the organization.

The Geospatial Application Developer will also participate in the definition of solution requirements, analysis, and lead the solution design and development of GIS applications to meet organizational needs. They will be able to translate business needs into solutions

that work for the program and should be able to account for GIS needs in different contexts: out in the field, mobile or desktop. They will develop and/or review Software Development Lifecycle (SDLC) policies to ensure requirements, strategies, standards, plans, and policies are met.

They will assist in implementing IT policies, plans, processes, and standards related to GIS and participate in the analysis and selection process of new IT services and solutions to meet identified partner needs, especially where the collection, analysis and interpretation of geospatial data is a concern.

The Geospatial Application Developer will conduct continuous improvement efforts for application development, maintenance, and support processes to optimize operations; assist with the development and maintenance of continuity plans; and ensure established standards and best practices for system design, development, deployment, and system maintenance and operations are followed. They will also provide technical expertise to IT and program staff on matters related to GIS. Must have experience with JavaScript and Python. Must have knowledge of and/or proficiency with Web application development utilizing modern API's and user interface design techniques.

Experience

This Classification must have a minimum of three (3) years of experience in supporting and/or developing geospatial applications.

And Education

This classification requires the possession of a bachelor's degree in GIS, computer science, IT, engineering or related field. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

26)Business Intelligence Analyst

Business Intelligence (BI) Analyst is responsible for preparing dashboards, charts, and other statistics/information from compiled datasets for use by decision makers, the public and other stakeholders. A BI Analyst enables program leaders and stakeholders with accurate and timely data to support decision-making, using a BI platform or framework to implement. They share core competencies with a data analyst but specialize in implementing analyses in the context of a BI framework.

A BI Analyst must be able to work with subject matter experts across programs, divisions, policy areas, and levels of knowledge. They must be comfortable starting with ill-defined datasets and problems and helping stakeholders to unpack what will be most helpful and achievable given the data available. Essential to this work is the development and standardization of Key Performance Indicators (KPIs) that are relevant to tracking a program or State organization's success.

A BI Analyst must be able to translate business value goals into usable and useful visualizations and underlying data models that support decision-making. They work with structured data of various kinds and sizes in databases, warehouses or spreadsheets, and must have strong SQL skills and be able to work in one or multiple BI frameworks depending on need (Power BI, Tableau, Looker, etc.) They should be fluent in data modelling concepts and tools. Experience and comfort with data manipulation in other languages (Python, R, Scala, etc.) is helpful, but not always required.

A BI Analyst must be able to design user-centered dashboards and visualizations and use best practices for user interaction and interface design. They may work with other design professionals (interface designers, user researchers, etc.) to solicit feedback and improve BI products (dashboards, reports, metrics, etc.).

They may work with other analysts, data scientists, data modelers, data engineers, and warehouse architects to implement more complex data models, but ideally are capable of prototyping to assist in that work. They may also need to work with IT staff to design and implement secure and sustainable paths for data access from systems to support timely dashboards.

They may be required to create documentation and provide training to inform stakeholders and cultivate data literacy within the organization.

Experience

This Classification must have a minimum of two (2) years of experience in data analysis, with minimum six (6) months of that experience developing business intelligence reports.

And Education

This classification requires the possession of a bachelor's degree. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

27)Data Scientist

A Data Scientist is responsible for analyzing, processing, and modeling data and then communicating the results to inform actionable plans and decisions for the organization. A Data Scientist will need to be able to exercise judgement on selecting the most appropriate method(s) to the analytical question and supporting data. They should be skilled at translating methods to a lay audience.

They understand the constraints of datasets and are involved in identifying relevant data sources. They are fluent in one or more data manipulation programming languages (e.g., R, Python, Scala, etc.) They are proficient at working with structured and unstructured datasets of varying sizes and complexity, with experience working in big data management and data mining.

They need to be able to organize, clean, and transform data into usable formats in order to apply the appropriate statistical models or algorithms. They are proficient at automating data collection and preprocessing of data.

They also will do analysis, including ad-hoc analysis, looking for trends and patterns across large and multiple datasets, answering specific questions, and developing and validating hypotheses. In the course of doing exploratory data analysis and sharing findings they will create visualizations and charts to further understand and communicate insights and to identify underlying data issues (missing data, poor quality, etc.) that may constrain or influence the interpretation of results. They will need to present findings to key stakeholders and demonstrate relevant domain knowledge.

They will develop, test, and implement predictive and machine-learning models and algorithms using a mix of statistical and machine learning approaches.

They may need to work with data engineers, data modelers, business intelligence analysts and IT staff to set up more complex ongoing analyses that feed dashboards or other data products.

They may be required to create documentation and provide training to inform stakeholders and cultivate data literacy within the organization.

Experience

This Classification must have a minimum of three (3) years of relevant experience in mathematical modeling, statistical analysis, machine learning, AB testing, or data science in an applied context using statistical programming languages, SQL, and other scripting and statistical tools as well as proficiency in one or more visualization tools.

And Education

This classification requires the possession of a master's degree or higher in economics, statistics, math, engineering, science, social science, data science or other quantitative focused field. Additional two (2) years of qualifying experience may be substituted for the required education along with demonstrated completion of training, bootcamps, or supplemental coursework in mathematical modeling, statistical analysis, and machine learning methods.

28)Senior Data Scientist

A Senior Data Scientist is responsible for analyzing, processing, and modeling data and then communicating the results to inform actionable plans and decisions for the organization. A Senior Data Scientist will need to be able to exercise judgement on selecting the most appropriate method(s) to the analytical question and supporting data. They should be skilled at translating methods to a lay audience.

They understand the constraints of datasets and are involved in identifying relevant data sources. They are fluent in one or more data manipulation programming languages (e.g., R, Python, Scala, etc.) They are proficient at working with structured and unstructured datasets of varying sizes and complexity, with experience working in big data management and data mining.

They need to be able to organize, clean, and transform data into usable formats in order to apply the appropriate statistical models or algorithms. They are proficient at automating data collection and preprocessing of data.

They also will do analysis, including ad-hoc analysis, looking for trends and patterns across large and multiple datasets, answering specific questions, and developing and validating hypotheses. In the course of doing exploratory data analysis and sharing findings they will create visualizations and charts to further understand and communicate insights and to identify underlying data issues (missing data, poor quality, etc.) that may constrain or influence the interpretation of results. They will need to present findings to key stakeholders and demonstrate relevant domain knowledge.

They will develop, test, and implement predictive and machine-learning models and algorithms using a mix of statistical and machine learning approaches.

They will manage and mentor other more junior data scientists and are distinguished from Data Scientists both in years of experience and by providing leadership in introducing new methods and supporting infrastructure.

They may need to work with data engineers, data modelers, business intelligence analysts and IT staff to set up more complex ongoing analyses that feed dashboards or other data products.

Experience

This Classification must have a minimum of five (5) years of relevant experience in mathematical modeling, statistical analysis, machine learning, AB testing, or data science in an applied context using statistical programming languages, SQL, and other scripting and statistical tools as well as proficiency in one or more visualization tools.

And Education

This classification requires the possession of a master's degree or higher in economics, statistics, math, engineering, science, social science, data science or other quantitative focused field. Additional two (2) years of qualifying experience may be substituted for the required education along with demonstrated completion of training, bootcamps, or supplemental coursework in mathematical modeling, statistical analysis, and machine learning methods.

29)Data Engineer

A Data Engineer supports the inventorying, gathering, cleaning, processing, and programming of automated datasets and data pipelines for use by analysts and others. They are also concerned with clear documentation and work with analysts and others to ensure the output datasets are well-defined for use.

A Data Engineer must be able to work with analysts and subject matter experts to define and build requirements for automated datasets, including but not limited to defining business transformations, validation rules, and frequency of updates. The ability to map the requirements on to an efficient and sustainable solution is necessary. Expertise in modern ETL/ELT (Extract Transform Load / Extract Load Transform), data profiling, and other data quality tools and approaches is required.

A Data Engineer may also be involved in the identification of datasets with lines of business, particularly around a project or program need. They may be involved in helping to make a catalog of raw datasets accessible to analysts, data scientists and others for more exploratory analysis to inform the development of data products and services. They will need to work closely with analysts, data scientists, data modelers, warehouse architects, and IT staff to design and implement proposed solutions and architectures that meet business needs.

A Data Engineer should be fluent in one or more data manipulation languages with an emphasis on frameworks appropriate for production code and depending on need (e.g., Java, Scala, Python, Advanced SQL, etc.) They should also be able to implement data automations within existing frameworks as opposed to writing one off scripts.

While they should have proficiency in code, they should also be comfortable implementing in low-code ETL/ELT platforms if that is the more sustainable approach for the organization. Experience to data engineering in Google Cloud, Amazon Web Services, and/or Microsoft Azure.

Experience

This Classification must have a minimum of two (2) years of relevant experience in authoring and monitoring data pipelines.

And Education

This classification requires the possession of a bachelor's or advanced degree (master's or PhD) in computer science, engineering, information systems, math or technology-related field. Additional qualifying experience may be substituted for the required education on a year-for-year basis. Successful completion of a data engineering bootcamp plus an additional year of experience may be substituted for the degree requirement.

30)Senior Data Engineer

A Senior Data Engineer leads the inventorying, gathering, cleaning, processing, and programming of automated datasets for use by analysts and others. They may work with other data engineers and act as mentor, expert, and project manager to implement data engineering projects. They are concerned with establishing standard practices that enable continuous improvement and data operations, including but not limited to documentation, tooling, and project intake, prioritization, and management.

A Senior Data Engineer must be able to work with analysts and subject matter experts to define and build requirements for automated datasets, including but not limited to defining business transformations, validation rules, and frequency of updates. The ability to map the requirements on to an efficient and sustainable solution is necessary. Expertise in modern ETL/ELT (Extract Transform Load / Extract Load Transform), data profiling, and other data quality tools and approaches is required.

A Senior Data Engineer may also be involved in the identification of datasets with lines of business, particularly around a project or program need. They may be involved in helping to make a catalog of raw datasets accessible to analysts, data scientists and others for more exploratory analysis to inform the development of data products and services. They will need to work closely with analysts, data modelers, warehouse architects, and IT staff to design and implement proposed solutions and architectures that meet business needs.

A Senior Data Engineer should be fluent in one or more data manipulation languages with an emphasis on frameworks appropriate for production code and depending on need (e.g., Java, Scala, Python, Advanced SQL, etc.). They should also be able to implement data automations within existing frameworks as opposed to writing one off scripts. They may spend less time on writing code or constructing pipelines as they will lead on ensuring work products meet quality standards through a mix of methods including but not limited to peer review, pair programming, and automated testing. This is dependent on program needs and complexity of projects.

While they should have proficiency in code and best practices in engineering management, they should also be comfortable implementing in low-code ETL/ELT platforms if that is the more sustainable approach for the organization. Experience to data engineering in Google Cloud, Amazon Web Services, and/or Microsoft Azure.

Experience

This Classification must have a minimum of four (4) years of relevant experience in authoring and monitoring data pipelines.

And Education

This classification requires the possession of a bachelor's or advanced degree (master's or PhD) in computer science, engineering, information systems, math or technology-related field. Additional qualifying experience may be substituted for the required education on a

year-for-year basis. Successful completion of a data engineering bootcamp plus an additional year of experience may be substituted for the degree requirement.

31)Data Modeler

A Data Modeler designs and implements data modeling solutions using relational, dimensional, and NoSQL databases depending on need. They work closely with data architects to design databases or data warehouses using a mixture of conceptual, physical, and logical data models. They are concerned with models that can improve the interoperability of data among systems and improve the performance of underlying data queries and data movement that feed applications.

A Data Modeler must be able to work with subject matter experts across programs, divisions, policy areas, and levels of knowledge. They must lead working groups and stakeholder meetings for data specifications and know the appropriate level of specificity to model at different stages of a project from conceptual to logical to physical. They perform research with technical staff and data users to determine the ideal interfaces for implementation of future technical systems.

A Data Modeler may be involved in the evaluation of existing data systems, including constructing as-is data models (where they are not already documented) and identifying foundational data model issues that could affect the efficient and effective use of data (e.g., slow queries, poorly validated data, unnecessary duplication of data, etc.) They may also do hands-on troubleshooting to optimize data system query performance where appropriate.

A Data Modeler works with the project delivery team to define risks and tradeoffs related to different design choices and to help the organization make informed decisions about implementation options for new or rebuilt systems. And they may also contribute by identifying options for architecture, infrastructure, and interfaces to data sources that enable appropriate use by lines of business.

They may also define and set up governance for data modeling and design standards, tools, best practices, and related development for enterprise data models, so that work can be repeatable across projects and programs. This is dependent on the program's needs.

A Data Modeler should be comfortable modeling data for relational, dimensional, and NoSQL databases; however, they may be focused on modeling in one more than the others depending on the project context. They should be proficient in data modeling and query analysis tools (e.g., Power Designer, DAX Studio, ERWin, ER/Studio, etc.) and SQL.

Experience

This Classification must have a minimum of three (3) years of relevant experience in data modeling.

And Education

This classification requires the possession of a bachelor's or advanced degree (master's or PhD) in computer science, engineering, math or related field. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

32) Data Warehouse Architect

A Data Warehouse Architect designs data warehouse architectures to support organizational goals. They understand how to build data warehouse models that can optimally serve BI and analytic needs. They can evaluate the tradeoffs of different schema implementations (e.g., star schema vs. snowflake schema), consider data throughput constraints, and propose a best fit architecture and infrastructure for the defined problem.

A Data Warehouse Architect must be able to work with subject matter experts across programs, divisions, policy areas, and levels of knowledge. They work with data modelers, analysts, program and technical staff to collaboratively define data needs and technical constraints that can influence the warehouse architecture design. These can include requirements of data timeliness, location of source data, latency of connections to data centers, and the amount of data to name some but not all considerations.

A Data Warehouse Architect will be familiar with ETL/ELT (Extract Transform Load / Extract Load Transform) approaches, and while they won't have to implement ETL/ELT, they will have to propose warehousing approaches that fit with the defined ETL/ELT framework or work with data engineers to define an optimal approach.

A Data Warehouse Architect should be able to model data primarily for dimensional models, but be able to interpret data models for relational and/or NoSQL databases to appropriately map source data to the warehouse target schema. They should be proficient in using tools to develop and iterate on dimensional models (e.g., Power Designer, DAX Studio, ERWin, ER/Studio, etc.) and SQL.

Experience

This Classification must have a minimum of five (5) years of relevant experience in data modeling, database design, and warehouse architecture.

And Education

This classification requires the possession of a bachelor's or advanced degree (master's or PhD) in computer science, engineering, math or related field. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

33) Product Lead

A Product Lead collaborates with the Product Manager to scope user-centered product needs, build user stories around feature development, create acceptance criteria, and determine the practices and processes for the delivery team to implement towards product

delivery goals. The Product Lead will establish and manage product organizations comprising multiple product lines tied directly to business functions and programs that support user needs.

The Product Lead will own the end-to-end delivery process with a focus on lean practices and user-centered discovery to inform and prioritize iterative product improvements; develop user stories for features based on user discovery and research; maintain consistency across process workflows.

The Product Lead will possess knowledge and experience in lean and agile processes (SCRUM mastery a plus), development and delivery of digital products such as websites and software applications; work closely with designers and engineers to bring the product to market; and the technical know-how to communicate with the engineering department.

Experience

This Classification must have a minimum five (5) years of experience in leading lean and agile iterative processes for product deliverables; UX research; meeting product requirements and timetables; managing team well-being and optimizing workflows.

And Education

This classification requires the possession of a bachelor's degree. Additional qualifying experience may be substituted for the required education on a year-to-year basis. Successful completion of a bootcamp in a related field plus an additional year of experience may be substituted for the degree requirement. [PL and PM ed requirements are now matching]

34)Product Manager

A Product Manager facilitates product vision alignment and strategy to meet clear data driven goals and success metrics. They act as champions of stakeholders to align and meet their expectations, champions of the team to optimize workflow velocity and well-being by cutting through uncertainty, champions of design and the end user in discovering and validating real user value, and act as the voice of product as it orients towards user-centered service delivery. They also manage the delivery, ongoing success, and continuous improvement of one or more digital products and/or platforms in collaboration with the Product Lead.

The Product Manager will lead one or more multi-disciplinary delivery teams to deliver excellent new products and/or iterations to existing products to meet user needs; gather user requirements based on a communicable understanding of diverse audience groups; define and get stakeholder buy-in for product definition and delivery approach; create effective, prioritized product descriptions, and delivery plans to meet user needs in a cost-effective way; interpret user research in order to make the correct product decisions; continually keep abreast of changes to user habits, preferences, and behaviors across various digital platforms and their implications for successful delivery of government digital

services; underpin the delivery and iteration of digital services through effective analysis of qualitative and quantitative user data; and communicate credibly with a wide range of digital delivery disciplines and talent.

The Product Manager will possess knowledge and experience in development and delivery of digital products such as websites and software applications; collaboration with leaders to develop and facilitate a product vision and then work closely with designers and engineers to ship the product; both systems acumen and the technical know-how to communicate across disciplines: research/analytics, design, content, and engineering.

The Product Manager is familiar with agile, SCRUM, and lean methodologies and well-versed in standard project and program management processes.

Experience

This classification must have a minimum of three (3) years of experience in understanding end-to-end product development cycles developing products; UX conducting market research; generating product requirements; determining product road maps and specifications, production timetables, and time-integrated plans for product introduction; and developing service to market strategies; and managing client service relations.

And Education

This classification requires the possession of a bachelor's degree. Successful completion of a bootcamp in a related field plus an additional year of experience may be substituted for the degree requirement.

35)Content Strategist

The Content Strategist will lead the information architecture on digital products and experiences and create content style guides and collaborate with designers and other content strategists to measure and improve the effectiveness of digital, print, and other content. The Content Strategist will develop content strategies to build and scale inclusive language and accessible design. They will lead the information architecture on digital products and experiences and collaborate with designers and other content strategists to measure and improve the effectiveness of digital, print, and other content. They will contribute to increasing the quality and visibility of relevant content and services by applying best practices in SEO in search engine results (edit content, add content, and modify HTML and associated coding to both increase its relevance to specific keywords and remove barriers to the indexing activities of search engines).

They will develop and maintain appropriate voice for produced content; advise how to streamline content production and management solutions and processes based on user research; assign, edit, and produce content for products, services, and various projects; plan and facilitate content strategy workshops and brainstorming sessions on developing content and content services (including API development); collaborate closely with developers and designers to create, test, and deploy effective content marketing

experiences using various methods of software development; offer educated recommendations on how to deliver a consistent, sustainable and standards-driven execution of content strategy across products, services, and projects; and collaborate with content managers, writers, information architects, interaction designers, developers, and content creators of all types.

The Content Strategist will possess knowledge and experience in representing key members of creative teams and developing content strategies for various clients and projects; selecting an appropriate content management system; organizing website content; collaborating with the information architect in creating content, enforcing content guidelines and developing editorial calendars; displaying editorial skills and excellent writing abilities; leadership; information technology tools; project management skills; and time management.

Experience

This classification must have a minimum of three (3) years of experience in developing and executing content strategy and developing content across digital channels.

And Education

This classification requires the possession of a bachelor's degree. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

36)Content Designer

Content Designers (or UX writers) make things easier for people to understand and use. This can involve working on a single piece of content or on the end-to-end journey of a service to help users complete their goal and government deliver a policy intent. In this role the Content Designer's work may involve the creation of, or changes to, a transaction, product or single piece of content that stretches across digital and offline channels. The Content Designer will be expected to make sure appropriate content is shown to a user in the right place and in the best format start from discovery and work closely with user researchers, service designers and interaction designers. The Content Designer will develop inclusive language and accessible design.

The Content Designer makes sure all content meets user needs. This includes the text, visuals and interactive content. They work with subject matter experts to write clear text in plain language; review content to make sure it's accurate and written in line with the state content guidelines or standards; structure content to reflect how users read online and on different devices; make sure content is accessible and inclusive; make sure content is searchable and findable; use research and data to make sure content meets user needs; communicate the principles of content design to the team and agency; plan, organize, direct and edit content for editorial users and audiences; shape the voice and tone of products through writing and research; translate UX research into language that anticipates needs and makes the experience easier to understand.

Experience

This classification must have a minimum of one (1) year of experience in the execution of content across digital channels.

And Education

This classification requires the possession of a bachelor's degree in a writing-intensive field such as English, Journalism, Communications, User Experience, Library Science, Technical Writing, Information Management or social sciences such as psychology, sociology, demography, geography, anthropology, statistics, policy analysis, or a research-related field. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

37)User Experience Researcher

User Experience Researchers plan, design and carry out research activities with users that help teams get a deep understanding of the people that use government services. This research informs policy, proposition, service, content, and interaction design so that services work well for users and achieves policy intent. User Experience Researchers help the team understand their existing users by regularly talking to, observing, and gathering feedback. Also, help the team reach out to harder to reach people by finding ways to meet them where they are.

User Experience Researchers will design and conduct research activities that turn research data into clear findings that inform decisions on service design, involving clients and partners in analysis and synthesis to increase consensus and challenge assumptions. They will include all kinds of users in appropriate research activities to help teams deliver accessible services to the diversity of users of government services. They will capture and share real stories to help build empathy for users.

The User Experience Researcher will possess knowledge and understand and have experience of a range of user research methods, including qualitative and quantitative research methods. They will understand how to choose appropriate methods for different stages of the product life cycle and situations and apply methods correctly. This can include but is not limited to crafting surveys to inform design and content strategy; recruiting and screening participants using a variety of techniques; creating human-centered frameworks such as user journeys and behavior archetypes; maintaining and tracking research activities across multiple sprints; creating discussion guides, screeners, and research plans; conducting usability and timed-task tests; and producing user requirements specifications and experience goals, personas.

The User Experience Researcher will understand the social and technological context for government services and help colleagues understand how digital technology is changing user behavior, and the challenges and opportunities for government services. The User Experience Researcher demonstrates knowledge of the technologies used to build and operate digital services; understands the different technical roles in a multidisciplinary

team; and recommends system enhancements according to research insights. The User Experience Researcher understands user-centered design practices and knows how to embed them into an agile workflow to deliver timely findings. They have the ability to work in an open, iterative and collaborative way in a multidisciplinary team.

Experience

This Classification must have a minimum of three (3) years of experience in conducting user research, analysis, and synthesis, could be a combination of qualitative and quantitative research.

And Education

This classification requires a bachelor's degree. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

38) Usability Tester

The Usability Tester gathers feedback about how people interact with a digital solution, the intuitiveness of the interface, the understandability of the content and the relevance of the solution to their needs and challenges.

The Usability Tester designs testing plans and protocols, prepares for and runs usability tests, and synthesizes results and findings. The testing plans will include subjective metrics and quantitative metrics to track across an individual user in a test as well as across all users in a test. They test the usability of digital solutions and web applications using a variety of off-the-shelf and custom programs and platforms; work closely with the product team to understand the key questions or product choices they want to make and how usability data can help inform their choices; collaborate with other researchers on the team to understand and guide how usability testing fits into a larger research and feedback strategy; plan, recruit, and facilitate the usability testing of a system; collect information about product usability from a variety of channels; conduct usability tests with users in person or remotely; interact with users to understand how they use, respond to and work with specific digital solutions; analyze and synthesize the results of usability testing in order to provide recommendations for change to a system; gather data, summarize it and present it in a way that is clear, easy to understand and actionable; and create such artifacts as Usability Testing Plan, Testing Scripts, and Usability Testing Report. They test products and services to make sure they are compliant with accessibility best practices and with required laws such as WCAG 2.1. The Usability Tester reports bugs for the product team and engineering to address.

Experience

Must have a minimum of one (1) year of experience in usability testing in addition to working knowledge of various programming languages and development platforms, sharp eye for detail and communication, reporting, and troubleshooting skills.

And Education

This classification must have either a relevant certification or a bachelor's degree. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

39) UX/Interaction Designer

The UX/Interaction Designer is part of a highly collaborative, multi-disciplinary team focused on improving usability, user experience, and driving user adoption and engagement; and responsible for conducting interaction design.

The UX/Interaction Designer will design and specify user interfaces and information architecture; lead participatory and iterative design activities, including observational studies, and other forms of requirements discovery; produce system maps, user scenarios, flowcharts, design prototypes, and design specifications; effectively communicate research findings, conceptual ideas, detailed design, and design rationale and goals both verbally and visually; plan and facilitate collaborative critiques and analysis and synthesis working sessions; work closely with visual designers and development teams to understand product requirements and ensure that customer goals are met and design specifications are delivered upon; design and develop primarily internet/web pages and applications; develop proof-of-concepts and prototypes of easy-to-navigate and intuitive user interfaces (UIs) that consists of web pages with graphics, icons, and color schemes that are visually appealing.

The UX/Interaction Designer will gather feedback about concepts, prototypes and finished products and improve interfaces and the user experience as needed from research and testing. They will design for accessibility and make interfaces that are usable by a wide variety of people who have very different abilities and backgrounds. They will translate larger strategic, policy, program and service requirements into clear requirements and compelling experiences. They will create concepts for what future experiences may work like and illustrate potential scenarios of use in various visual and digital forms.

The UX/Interaction Designer will possess knowledge and experience in using a mix of text, images, data, sound, animation and other effects to create interactive communication products as part of a product development team, use multimedia software, create design concepts, create wireframes and interface mock-ups, monitor design performance and ensure compliance with guidelines; and displaying imagination, creativity, computer technology expertise, teamwork, communication, and self-motivation.

Experience

This classification must have a minimum of three (3) years of experience in doing digital design, user research, qualitative analysis & synthesis, interaction design.

And Education

This classification requires the possession of a bachelor's degree. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

40)Customer Experience Architect

A Customer Experience Architect designs and tests processes to capture, understand and respond to feedback that's both internal from employees and external from customers and stakeholders. They are concerned both with creating a voice of the customer function and operationalizing insights and experiments back into the program or project. They design and organize processes and information around the customer – who they are and what their needs are, and then integrate customer data to create useful insights that are shared across the right teams and increasingly interwoven with the fabric of the project or program.

A Customer Experience Architect must be able to collaborate with customers, data engineers, analysts, and subject matter experts with a variety of skills from different disciplines to create delightful customer journey experiences and to define and build requirements for datasets and processes. The ability to map requirements on to an efficient and clear design to facilitate decision-making is necessary. Expertise in ETL/ELT (Extract Transform Load / Extract Load Transform), data profiling, and other data quality tools and approaches are strongly preferred to design the experience customers need across key interactions and processes.

A Customer Experience Architect may also be involved in the identification of datasets with lines of business, particularly around a project or program need. They will need to work closely with management, analysts, data modelers, and IT staff to design and test proposed solutions and architectures that meet customer and business needs.

A Customer Service Architect should be fluent in one or more data manipulation languages as well as service design.

While they should have some proficiency in code and best practices in engineering management, they should primarily be comfortable implementing in low-code ETL/ELT platforms if that is the more sustainable approach for the organization.

Experience

This Classification must have a minimum of three (5) years of relevant experience in one or more of the following areas: business process modelling/mapping, authoring service design, developing customer experience programs.

And Education

This classification requires a bachelor's degree. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

41)Customer Experience Analyst

A Customer Experience Analyst gathers and interprets data on customer needs, satisfaction, perceptions, and capacity on behalf of a program or project. They conduct surveys to collect stakeholder feedback, analyze data, perform research, and create

reports that are both internal from employees and external from customers and stakeholders. They are concerned both with identifying and reporting on a voice of the customer function and surfacing insights for project or program management to operationalize back into the program or project.

They audit and analyze processes and information around the customer – who they are and what their needs are, and then integrate customer data to create useful insights that management may choose to be shared across the right teams and interwoven with the fabric of the project or program to promote operational rigor. They identify process improvement opportunities or necessary process changes for better data collection to serve the customers.

A Customer Experience Analyst must be able to collaborate with service architects/designers, data engineers, other types of analysts, and subject matter experts with a variety of skills from different disciplines for internally facing analysis, and with the stakeholders and end-users for externally facing analysis.

A Customer Experience Analyst may also be involved in the identification of datasets with lines of business, particularly around a project or program need. Experience with conflict resolution techniques, knowledge of diverse research practices and low-code platform programming skills are also preferred.

A Customer Experience Analyst should be fluent in one or more data manipulation languages as well as statistical methods, regression modeling and predictive analytics and a passion for customer experience. Knowledge in behavioral data analysis preferred.

Experience

This Classification must have a minimum of two (2) years in a technical or functional consulting or research role or other relevant industry experience. Experience presenting to clients or other decision makers to lay out and advance ideas to various audiences (technical and non-technical).

And Education

This classification requires a bachelor's degree. Additional qualifying experience may be substituted for the required education on a year-for-year basis.

42)Information Technology Expert

An IT Expert is a person who has comprehensive and authoritative knowledge, abilities or skills through extensive practice and/or education in a particular IT area not found in any of the above Classifications. Examples may include, but not limited to, geospatial specialties, business intelligence experts, specialized data analytics. Qualifying experience and education, determined by User Agencies, are at the highest, specialized level. Contractor must provide objective measures of expertise, which may include but are not limited to unique credentials, patents, research and publication history, etc.

13. GENERATIVE ARTIFICIAL INTELLIGENCE

DEFINITIONS:

For purposes of this Section, the following terms shall be given the meaning shown below. Capitalized terms used below and not defined in this Section shall have the meaning set forth in Section 1 (Definitions) or in the text of the IT General Provisions (rev. 11/19/2021).

Artificial Intelligence (AI): an engineered or machine-based system that varies in its level of autonomy and that can, for explicit or implicit objectives, infer from the input it receives how to generate outputs that can influence physical or virtual environments (Gov Code §§ 11549.64 & 11546.45.5).

GenAI Training Data: any content, information, or data that is used to train, tune, test, or validate a GenAI, including text, images, video, audio, code, or similar types of input.

Generated Data: any output, results, content, or other data that is produced by GenAI, including but not limited to text, images, video, audio, code, or similar types of output.

Generative AI (GenAI): an AI system that can generate derived synthetic content, including text, images, video, and audio, that emulates the structure and characteristics of the system's GenAI Training Data (Gov Code §11549.64).

Hallucination: Generated Data that is nonsensical, false, or misleading, and is not based on real or existing data, but is instead produced by bias or the GenAI's extrapolation or creative interpretation of its Gen AI Training Data.

Materially Impacts: shall have the same meaning set forth in State Administrative Manual (SAM) 4986.2.

Prompt: any written, spoken, or rendered information provided as a query, command, or other form of input, to any GenAI in connection with this Contract. For avoidance of doubt, Prompt includes any input automatically detected or created by the GenAI, as well as any derivative works of a Prompt or collection of Prompts.

GENAI DISCLOSURE OBLIGATIONS:

Disclosure Obligations:

- (a) Contractor must immediately notify the State in writing if it: (1) intends to provide GenAI as a Deliverable to the State; or (2) intends to utilize GenAI, including GenAI from third parties, to complete all or a portion of any Deliverable that materially impacts: (i) functionality of the System, (ii) risk to the State, or (iii) Contract performance. For avoidance of doubt, the term "materially impacts" shall have the same meaning set forth in State Administrative Manual (SAM) § 4986.2 Definitions for GenAI.

- (b) Such notification shall be provided to the State designee identified in this Contract.
- (c) At the direction of the State, Contractor shall discontinue the provision to the State of any previously unreported GenAI that results in a material impact to the functionality of the System, risk to the State, or Contract performance, as determined by the State.
- (d) If the use of previously undisclosed GenAI is approved by the State, then Contractor will update the Deliverable description, and the Parties will amend the Contract accordingly, which may include incorporating the GenAI Special Provisions into the Contract, at no additional cost to the State.

Failure to Disclose or Discontinue GenAI Use: The State, at its sole discretion, may consider Contractor's failure to disclose or discontinue the provision or use of GenAI as described above, to constitute a material breach of Contract when such failure results in a material impact to functionality of the System, risk to the State, or Contract performance. The State is entitled to seek any and all remedies available to it under law as a result of such breach, including but not limited to termination of the contract, for default pursuant to Section 23 (Termination for Default) of the IT General Provisions (rev. 11/19/2021).