

RPF01-2203023B01-ITMTRX-XXXXXX
INFORMATION TECHNOLOGY PROJECTS SERVICES
EXHIBIT C
SAMPLE RESOURCE JOB DESCRIPTIONS
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FULL STACK SOFTWARE DEVELOPER – Beginner Level

The Associate Software Developer assists in designing, building, and supporting custom application development and 3rd party product integrations. Additionally, the Associate Software Developer provides specific 3rd tier support for custom applications. Essential functions include:

- Develop, test, document, and implement high quality applications on time that perform according to specifications and requirements documents
- Develop and adhere to development standards that allow for the maintainability of code in a manner that supports team development
- Work with Systems Architect and Senior Developers to assist with the preparation of design documents for future features
- Provide defect resolution for each sprint in the Agile Software Development Lifecycle (SDLC)
- Assist with production incidents as they arise and document the resolutions
- Participate in code reviews and status meetings as necessary

Education/Licensure/Certification:

- Some college courses in Computer Science or Information Systems; or equivalent combination of education and relevant experience; Associate degree preferred
- Industry certifications in software, systems, network or project management disciplines, preferred
- Microsoft Certified Technology Specialist (MCTS) in ASP.NET, Web Applications or Visual Studio Team Foundation Server, preferred
- Microsoft Certified Professional Developer (MCPD), preferred

Experience (Minimum Required):

- 1-3 years .NET technologies (VB.NET/C#/ASP.NET) experience
- 1-3 year developing enterprise-wide software solutions
- 1-3 years' MS-SQL writing stored procedures and database schema design
- 1-3 years' NoSQL databases (MongoDB, Azure Cosmos DB, other)
- 1-3 years' Microsoft operating systems experience preferred
- 1-3 years' developing and delivering custom business computer applications preferred

Experience (Preferred):

- Business Intelligence, Big Data, or analytics
- Education industry or with education data preferred
- Client-side technologies such as JavaScript, CSS, DHTML and similar
- Deploying web applications, in Microsoft Windows Server 2008 and IIS 7
- Database tools and development environments such as AdeptSQL Diff, RedGate SQL Toolbelt, Microsoft Visual Studio for Database Developers, or Microsoft Business Intelligence Development Studio
- Thorough knowledge of technology solutions for the Internet, handheld devices, personal computers and networks

FULL STACK SOFTWARE DEVELOPER – Intermediate Level

The Software Developer designs, builds and supports custom application development and 3rd party product integrations. Additionally, the Software Developer provides specific 3rd tier support for custom applications. Essential functions include:

- Develops, tests, documents, and implements high quality applications on time that perform according to specifications and requirements documents.
- Analyzes performance of programs and takes action to correct deficiencies.
- Develops and adheres to development standards that allow for the maintainability of code in a manner that supports team development.
- Participates in the modification of software applications or architecture to resolve issues and plan for future growth.
- Participates in code reviews and status meetings, as necessary.

Education/Licensure/Certification:

- Associate Degree in Computer Science or Information Systems; or equivalent combination of education and relevant experience; Bachelor's Degree preferred
- Industry certifications in software, systems, network or project management disciplines, preferred
- Microsoft Azure Fundamentals or Azure Developer Associate certification, preferred

Experience (Minimum Required):

- 3-5 years' .NET technologies (C#/ASP.NET/ ASP.NET Core) experience
- 3-5 years' developing enterprise-wide software solutions
- 3-5 years' MS-SQL writing stored procedures and database schema design
- 3-5 years' NoSQL databases (MongoDB, Azure Cosmos DB, other)
- 3-5 years' Microsoft operating systems experience
- 3-5 years' developing and delivering custom business computer applications preferred

Experience (Preferred):

- Business Intelligence, Big Data, or analytics
- Education industry or with education data
- Advanced experience with client-side technologies such as JavaScript, CSS, MVVM/MVC frameworks such as React, Angular, Vue.js, and others
- Deploying web applications, in Microsoft Windows Server 2012+ and IIS 7 8+
- Database tools and development environments such as Microsoft SQL Server Management Studio, or RedGate SQL Toolbelt
- Knowledge of technology solutions for the Internet, handheld devices, personal computers and networks.

FULL STACK SOFTWARE DEVELOPER- Advanced Level

The Senior Software Developer designs, builds and supports custom application development and 3rd party product integrations. Additionally, the Senior Software Developer provides specific 3rd tier support for custom applications and acts in a leadership role providing assistance to peers. Essential functions include:

- Develop, test, document, and implement high quality applications on time that perform according to specifications and requirements documents
- Analyze performance of programs and takes action to correct deficiencies
- Develop and adhere to development standards that allow for the maintainability of code in a manner that supports team development
- Play an active role in architecture, designing and developing required features
- Interact with other developers, infrastructure, application services and other technical leaders to understand subsystem and component specifications and recommend changes to facilitate efficient and effective development
- Perform Build Master duties, schedule and manage code reviews, and prepare deployment packages for multiple environments
- Participate in the modification of software applications or architecture to resolve issues and plan for future growth

Education/Licensure/Certification:

- Bachelor's Degree in Computer Science or Information Systems; or equivalent combination of education and relevant experience; Master's degree preferred
- Industry certifications in software, systems, network or project management disciplines, preferred
- Microsoft Certified Technology Specialist (MCTS) in ASP.NET, Web Applications or Visual Studio Team Foundation Server, preferred
- Microsoft Certified Professional Developer (MCPD), preferred

Experience (Minimum Required):

- 5-7 years' .NET technologies (VB.NET/C#/ASP.NET) experience
- 5-7 years' MS-SQL writing stored procedures and database schema design
- 5-7 years' developing enterprise-wide software solutions

Experience (Preferred):

- 5-7 years' Microsoft operating systems experience
- 5-7 years' developing and delivering custom business computer applications
- Business Intelligence, Big Data, or analytics
- Education industry or with education data
- Advanced experience with client-side technologies such as JavaScript, CSS, DHTML and others
- Deploying web applications, in Microsoft Windows Server 2008 and IIS 7
- Database tools and development environments such as AdeptSQL Diff, RedGate SQL Toolbelt, Microsoft Visual Studio for Database Developers or Microsoft Business Intelligence Development Studio
- Thorough knowledge of technology solutions for the Internet, handheld devices, personal computers and networks

USER EXPERIENCE/USER INTERFACE (UX/UI) DESIGNER

The User Experience/User Interface (UX/UI) Designer translates business requirements, and other considerations as well as user research and stakeholder feedback into site maps, user flows, customer journey maps, wireframes, mockups and prototypes for both consumer-facing and internal-facing applications. Creates dev-ready designs and interactive user interfaces that meet the organization's vision and bring the application to life. Essential functions include:

- Gather and evaluate both business and user requirements in collaboration with the marketing team, subject-matter experts, and the broader organization to create engaging UX/UI designs that achieve the desired user actions
- Collaborate with the project team in prioritizing functional requirements and developing design solutions with a focus on usability and engagement
- Make deliberate design decisions to translate user needs and business requirements into thoughtful user journeys, site maps, storyboards, process flows, interactive prototypes, and wireframes that effectively achieve the stated goals and product vision Perform resizing and manipulation of images
- Keep up with industry trends and maintain a competitive edge against competitor products
- Present design concepts and deliverables to internal and external stakeholders
- Incorporate changes recommended by stakeholders or Art Manager into final UX/UI design
- Proactively identify design problems or opportunities for improvement
- Ensure that all designs meet WCAG accessibility standards
- Define and adhere to digital design system, including fonts, colors, design elements and images
- Assist Art Manager and Graphic Designers with layout and design tasks as needed

Education/Licensure/Certification:

- Associate's Degree or equivalent combination of education and relevant experience
- Technical certification in related subject, preferred

Experience (Minimum Required):

- Three (3) years of experience as a UI/UX Designer or similar role
- Strong portfolio showcasing UX and UI skillsets and front-end web design
- Excellent visual design skills with sensitivity to user-system interaction
- Hands-on experience creating site maps, wireframes, prototypes, storyboards, user flows
- Experience using tools such as Sketch, Photoshop, Illustrator, InDesign, Invision, or similar visual design and wireframing tools
- Knowledgeable of accessibility best practices including WCAG
- Understanding of basic front-end languages: HTML5, CSS3, Javascript

BUSINESS ANALYST

The Business Analyst translates business and system needs into requirements for Designers, developers and Testers to consume and Engagements in work efforts at various scales ranging from minor defects fixes and enhancements to assistance with development of new applications, various types of solution approaches (custom development, page implementation, etc.) and solution domains (business applications, data warehouses, web services, infrastructure, etc.). Knowledge of the software development lifecycle and AGILE methodology preferred. Essential functions include:

- Develops requirement documentation translating business needs into requirements that can be understood by the solution development team
- Participate in IT design reviews ensuring compatibility and interoperability of computing systems
- Develop a knowledge of system capabilities and functions of assigned application software
- Recommend optimal solutions to business requirements that best leverages the product
- Manage special projects as assigned by IT management
- Provide advice and recommendations on emerging IT trends
- Ensure that proposed system features and requirements meet user needs and satisfy business objectives and initiatives
- May assist in creation and implementation of test plans that are mapped to documented requirements
- Perform and coordinate User Acceptance Testing (UAT) and/or BETA presentations as required on department related projects Create training and system documentation, conduct training sessions as necessary

Education/Licensure/Certification:

- Bachelor's Degree in Business Administration, Computer Science, Finance, Education, or Information Systems; or equivalent combination of education and relevant experience
- Industry certifications in business analysis, software systems, network or project management disciplines, preferred
- CBAP® (Certified Business Analysis Professional) Certification, preferred

Experience (Minimum Required):

- 3 years' experience as a business analyst or similar system/business support role and/or Five years' experience with internal systems, such as VSA Suite and LMS
- 1 year experience and proficiency with knowledgebase, defect tracking, and requirements related software systems (such as ServiceNow, IBM Rational RequisitePro, JIRA, etc.)
- Three years' experience and proficient with core software applications, including Microsoft applications (Word, Excel, PowerPoint, Visio).
- Some experience with design and implementation of technical environments using various technologies and languages.
- Knowledge of importing data for use in report software, spreadsheets, graphs, and flow charts
- Experience with business and technical requirements analysis, modeling, verification and methodology development
- Knowledge of system testing and software quality assurance best practices and methodologies
- Proven analytical, mathematical, communication, and creative problem-solving skills
- Ability to utilize solution modeling to represent requirements information in graphical forms that augment textual representations in natural language

GRAPHIC DESIGNER

The Graphic Designer develops and implements the creative direction for FLVS marketing and communication print collateral, signage, space advertisements, promotional items, and digital assets, including initial design options, concepts, layouts, font choices, graphics and final file integrity. The Graphic Designer also supports the graphic design work for the organization. The Graphic Designer oversees the design and production workload, schedules, and deadlines. Essential functions include:

- Develop initial concepts for creative collateral (brochures, flyers, catalogs, web, etc.)
- Oversee complete design workload as directed
- Assign workload to freelance graphic designers when needed
- Oversee production schedules and deadlines
- Coordinate design and delivery of large-scale projects
- Contribute suggestions for copyediting
- Work with Marketing & Communications team to develop solutions that meet customer needs
- Initiate and revise all design files as needed to reflect changing markets and new data--includes customized outputs for target markets
- Produce final approved file outputs for print and digital projects, meeting all final deadlines
- Develop and maintain an assets archive with native and PDF files, digital images, and art files
- Provide final approved files for all space advertisements to publications by insertion deadlines-- includes ensuring that all ad specs are met (working with appropriate Marketing Specialist)
- Serve as liaison to all printers, confirming printing specs, paper choices, color and coating options, and delivery needs
- Provide cross-department design direction and support
- Work with the FLVS creative agency of record to develop brand guidelines and creative deliverables for campaigns
- Oversee photo shoots providing art and design direction as needed
- Work with other members of the Marketing & Communications team to recommend visual solutions for communicating messages more effectively
- Explore new graphic design applications and offer recommendations for workflow updates
- Oversee and ensure brand adherence of all graphic content and recommend updates to FLVS Graphic and Visual Identity Standards as needed
- Create PDFs and graphics for the Web as Section 508 compliant, according to the Web Content Accessibility Guidelines (WGAC)
- Work cooperatively on a team to design and implement solutions to achieve organizational goals

Education/Licensure/Certification:

- Bachelor's degree in Graphic Design or Art with a specialization or concentration in Graphic Design; or equivalent combination of education and relevant experience
- Experience (Minimum Required):***
- Three years' graphic design experience with the marketing, advertising, or education industry
 - Extensive experience in print, web, and multimedia design and creation
 - Experience in creating space advertisements to meet publication specs and deadlines

Quality Assurance Engineer

Quality Assurance Engineer ensures that Information Technology (IT) products and services are delivered in a manner that meets expectations and achieves the highest level of customer satisfaction and value possible. Provides support throughout the entire Product Development department for software, networking, reporting, and security. Required to take ownership of projects and keeps abreast of new technologies and industry trends and incorporates as appropriate. Provides internal updates to co-workers, team leads, and management within the IT department. Essential functions include:

- Create and execute test strategies for FLVS products that verify enhancements meet business requirements and user expectations
- Identify and effectively communicate quality risks and mitigation strategies so the appropriate measures can be taken by the product team
- Detect and catalog defects with appropriate detail so they can be resolved quickly and effectively
- Create and run manual tests on our product to assure any new functionality does not negatively impact the end user experience
- Create and execute tests to assure adherence to new and existing Web Standards, Web Content Accessibility Guidelines(WCAG), Section 508 compliance, responsive design, and/or mobile design, and browser compatibility among the various FLVS related applications
- Execute automated tests that have been created by the development and automation teams
- Provide feedback on existing automated tests, as well as requests for the creation of new tests, as part of the automation plan for development and QA
- Test validation and data analysis for non-UI elements utilizing SQL queries, API testing tools, and more
- Collaborate with the QA team in developing a QA testing strategy for the FLVS product suite, determining the appropriate balance of manual and automated tests, as well as the types of tests (end-to-end, UI, API, integration, and performance)
- Review software documentation and user stories for testability and to ensure consistency with software features and performance
- Participate and actively contribute to daily agile meetings, requirements review meetings and design reviews
- Proactively engage in professional learning regarding the QA and Software Testing industry, FLVS tools and user base to strengthen individual contribution to the team
- Collaborate with Software Development, Business Analysts, Project Management, and support teams to verify FLVS products retain a high-quality standard among our users
- Review and provide meaningful feedback on work products from the SDLC including product design specifications and project requirements
- Document and communicate test results to project team and management to facilitate a decision for release

Education/Licensure/Certification:

- Bachelor's Degree in Liberal Arts and Sciences or Computer Science; or equivalent combination of education and relevant experience

Experience (Minimum Required):

- Three to Five years of quality assurance experience, preferably testing web or desktop applications, or equivalent experience with data warehouses, student information systems, learning management systems, or other education related applications
- Three years of experience using test case management and defect tracking tools (JIRA, ServiceNow, Azure DevOps, etc.)
- Two years of direct hands-on experience using database tools, such as Microsoft SQL Server 2014 or higher
- Three plus years' experience with QA documentation, developing and executing test cases and/or user acceptance testing in an Agile environment
- Experience working with virtual machines (VMs) as part of a test/integration infrastructure, preferred
- Two plus years of hands-on experience in at least one of the following: API testing tools, such as Postman, Automation testing tools, such as Selenium Performance testing tools, such as JMeter, Report building and visualization tools, such as Power BI

Experience (preferred)

- Understanding of cloud-based services (AWS, GCP, or Azure)
- Direct hands-on experience in supporting mobile platforms (iOS and Android)
- Understanding of contemporary quality management principles and practices and the ability to apply them to a wide variety of projects in a fast-paced business environment
- Knowledge of software development methodologies, such as Agile or Waterfall

- Knowledge of functionality, compatibility, usability, and exploratory testing practices
- Ability to create and execute QA and testing processes on software applications
- Ability to perform quantitative data analysis to gauge effectiveness and efficiency of processes, customer satisfaction and product/service quality
- Experience with defect tracking tools
- Understanding of database concepts and good knowledge of SQL and relational databases required
- Familiarity with industry standard version control tools (i.e. TFS, Git, VSO, Sourcesafe, etc.)
- Familiarity with CI/CD development and deployment processes
- Familiarity with a mix of the following (required skillset would be project dependent):
API testing (SOAP and/or REST) and UI testing, Executing, and/or providing insight on automation/regression scripts, automation tools (Selenium, TestCafe, etc.), and concepts Data Warehousing concepts and tools SSIS, SSRS, SSAS (ETL)

Software Architect, Information Technology

The Software Architect defines business system architectures and the subsequent designing, building, modifying, upgrading, extending, and supporting of custom applications and third-party product integrations. The Software Architect has a deep understanding of business goals, objective and business outcomes, business capabilities, value-streams, and business processes. Essential functions include:

- Provide technical direction and leadership for internal software development efforts
- Identify and implement technology solutions to support Research & Development initiatives including data interchange systems, security frameworks, and business intelligence systems
- Plan and architect integration layers between internal applications that manage school and student information and external partner systems, including Learning Management Systems (LMS), Curriculum Services/Courses, and Physical School based systems
- Design and develop new software products or major enhancements to existing software
- Acts as highest-level technical expert, addressing problems of systems integration, compatibility, and multiple platforms
- Performs feasibility analysis on potential future projects to management
- Work across internal development teams to deliver system performance and architecture improvements
- Work with leadership to identify and evaluate new technologies
- Exhibit excellent communication skills to earn trust, persuade, motivate, and mentor
- Assist in the establishment and maintenance of vendor relationships
- Work with leadership to document and present technology roadmaps and strategies
- Work together with peers and functional groups to ensure consistent approach and maximum value for development initiatives and business platforms
- Produce architectural documentation as required by the Software Development Life Cycle (SDLC) using industry standards; maintain and evolve software architecture documents based on evolving system requirements and industry trends and technologies

Education/Licensure/Certification:

- Bachelor's Degree in Computer Science or Information Systems; or equivalent combination of education and relevant experience
- Certified Scrum Master or Product Owner, preferred

Experience

- Eight (8) years of software and systems architecture/development experience
- Ability to design large scale, enterprise-wide systems, optimized for performance utilizing appropriate industry technologies and best practices
- Microsoft Visual Studio.NET Development - C#, .NET, Microsoft MVC, Single-page Web Applications, RESTful Web APIs required
- Experience with PowerShell, preferred
- Microsoft Frameworks - ASP.NET, ASP.NET Web API required, Experience with .NET Core, Microsoft Identity Platform and Framework, Entity Framework, or EF Core, preferred
- Development Patterns, Methodologies and Tools - Design Patterns, DevSecOps/DevOps, Agile Development, Story Management Applications like TFS/Azure DevOps, Code Repositories like Git/GitHub
- Front-End Development - JavaScript, HTML 5.x, CSS required, Experience with Angular, Vue.js, or React, preferred
- Service Oriented Architectures - High -traffic and -volume Distributed System Design required, Experience with Microservices or Service Bus Technologies preferred
- Message Brokers like RabbitMQ, Kafka, Azure Service Bus
- Data Storage and Persistence - SQL server/MySQL required, Experience with Azure SQL, Azure Cosmos DB, Mongo DB, Redis, or Azure Key Vault, preferred
- Experience with Cloud Storage like Azure Container-based Architectures like Docker or Kubernetes, preferred
- AI and Machine Learning with tools like Azure Cognitive Search, Azure Machine Learning, Azure Cognitive Services or Azure Bot Services, preferred
- Experience with analytics like Azure Data Lake Storage and Analytics, Azure Databricks or Azure Open Datasets, preferred