

## Job Description

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<b>Job Title:</b>	Senior Software Developer
<b>Department:</b>	Office of Advancement
<b>Reports To:</b>	Associate Director, Systems
<b>Jobs Reporting:</b>	None
<b>Salary Grade:</b>	USG 11
<b>Effective Date:</b>	January 2019

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### **Primary Purpose**

The Senior Software Developer is responsible for providing a range of software development and technical services to support the Office of Advancement, the broader campus advancement community, and the broader global advancement alumni and donor constituency. The primary focus of the role will be to provide software design and development, systems analysis, programming, reporting, database development as well as ongoing technical support.

### **Key Accountabilities**

#### **Software application design, development, and support**

- Conduct systems analysis and requirements gathering to develop solutions for the department using best practice software development methodologies
- Design system architecture, databases, design components, business processes or concepts for software or technical solutions developed
- Perform full-stack development and maintain custom-developed software programs for both front and back-end for desktop, client/server, and/or web environment
- Test and debug software programs using best practice QA techniques
- Perform code maintenance and versioning using department revision control tools
- Document requirements, design, analysis, programs, processes, and testing results for all software development project
- Develop and deliver training for software development projects
- Participate in the evaluation and selection of software development languages and tools
- Support of production systems in terms of problem analysis, solution development, and maintenance of existing software programs or applications supported by the Systems team
- Keep informed on the latest software development practices and vendor product enhancements through workshops, webinars or attending vendor conferences as appropriate

#### **Database development, maintenance, and administration**

- Design, develop and support databases used with department applications, custom-developed programs, including; database architecture, table design, indexing, script development, ETLs, or automated jobs for SQL based database environments
- Perform ongoing database maintenance and data mining database query languages and tools
- Document database architecture, design, and data dictionaries
- Administration of databases including installation, tuning, performance monitoring, user setup, and upgrading
- Review quality of donor database data periodically or on request to determine database health and perform routine data maintenance tasks as necessary

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<ul style="list-style-type: none"><li>• Work with universities Information Systems and Technology teams to maintain and upgrade server infrastructure or database platforms as necessary</li></ul>
<b>Custom report development and data analysis</b> <ul style="list-style-type: none"><li>• Conduct end-user interviews and analysis to develop specifications for reporting or report modifications</li><li>• Design and develop custom reports through custom programming, department report writing tools, business intelligence, or data visualization tools</li><li>• Use department business intelligence tools (such as SSRS and SSAS) to develop advanced reporting using data warehouses or analytical OLAP cubes</li><li>• Perform data analysis on department donor databases to support business unit programs, projects, and business program reporting</li><li>• Where appropriate, work with Report Developers to create reports based on specifications developed</li></ul>
<b>Projects, requests, and operational tasks</b> <ul style="list-style-type: none"><li>• Participate and/or lead system or department projects that may include performing assigned project tasks, project planning, documenting, communicating, scheduling, organizing, or attending meetings</li><li>• Participate in acquisition and implementation of new computer systems or software, including product research, product demonstrations, and RFP development</li><li>• Complete departmental requests and ongoing operational tasks that include; data extracts, data cleanup, database coding, data exchange, reporting, and technical support</li></ul>
<b>Other Duties</b> <ul style="list-style-type: none"><li>• A backup resource to other team members where appropriate</li><li>• Provide general technical support for departments computing environment as required</li><li>• Provide direction for work-study or Coop students as required</li><li>• Other tasks and responsibilities as assigned</li></ul>

*\*All employees of the University are expected to follow University and departmental health and safety policy, procedures and work practices at all times. Employees are also responsible for the completion of all health and safety training, as assigned. Employees with staff supervision and/or management responsibilities will ensure that assigned staff abide by the above, and actively identify, assess and correct health and safety hazards, as required.*

### **Required Qualifications**

<b>Education</b> <ul style="list-style-type: none"><li>• A University degree or College diploma preferably in computer science, software engineering, software development, or a related information technology area of study.</li></ul>
<b>Experience</b> <ul style="list-style-type: none"><li>• 7+ years extensive experience developing software applications and/or full-stack development using software development methodologies (SDM) and practices such as prototyping, rapid application design, agile or waterfall for system architecture, with experience conducting requirements gathering, testing, and code design</li><li>• 5+ years experience developing .Net based windows or client/server applications using Microsoft Visual Studio and using VB .net or C# .net programming language and/or experience developing web-based applications using ASP .Net / MVC architecture, HTML, CSS, and JavaScript</li><li>• 4+ years experience designing and maintaining SQL databases, such as Microsoft SQL Server and Access databases. Experience with using database tools such as SSIS, and developing Extract Transform and Load scripts (ETLs) for data migration.</li><li>• Experience developing custom reports programmatically or using report-writing tools, such as SSRS</li></ul>

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- Experience developing web applications or supporting Windows or Linux Server operating system platforms would be an asset using current web programming languages
- Proven experience documenting requirements, functional specifications, test results, and processes
- Experience providing technical support for Microsoft Windows operating systems, the desktop environment, Intel-based PC hardware, Linux OS, and networking
- Familiarity with developing data visualizations or dashboards would be an asset
- Experience working with higher education institutions and/or fundraising donor databases would be an asset

### **Knowledge/Skills/Abilities**

- Strong interpersonal, organizational, communication, analytical, and problem-solving skills
- Ability to handle multiple tasks, and work in teams or independently
- VB. net or C# .net with Microsoft Visual Studio to develop Windows Forms / WCF or web-based forms. ASP .Net and MVC architecture would be an asset.
- Basic web development using HTML, CSS, JavaScript, JQuery, and knowledge of SOAP or REST APIs
- Microsoft SQL Server (2012 or newer) database development, Microsoft Access, SQL management studio, T-SQL query language (or similar), and XML
- Microsoft SSIS (integration services) for data and ETL's
- SQL server reporting services (SSRS)
- Microsoft Power BI or Tableau data visualization tools would be an asset
- Knowledge of VBA macro language for Excel would be an asset
- Microsoft Windows 7/10 operating system and Microsoft Office Suites of products, such as Excel
- Red Hat Linux OS, Microsoft Windows Server 2012, PHP, Python, PERL. MySQL and PostgreSQL databases would be an asset
- Experience with Blackbauds' Raisers Edge Enterprise, iModules EnCompass, Crystal Reports 11, Drupal, Confluence, GIT, or MS Team Foundation would be an asset

### **Nature and Scope**

- **Contacts:** The position will work collaboratively with team members, individual staff, and/or teams within the broader Office of Advancement (i.e. faculties, colleges, or departments). They will interact closely with department staff during requirements gathering, testing, or completing assignments. As needed, they will also work with individuals or teams outside the department, such as IST, to complete tasks or participate in various projects as assigned.
- **Level of Responsibility:** The position is responsible for software development activities including requirements gathering, systems analysis, database development, custom reporting, and programming solutions for a desktop, client-server, or web environment. The position is specialized with minimal supervision and is required to complete assigned requests, operational tasks, project tasks, and other technical support tasks. The position may also play a lead or significant role in the execution of new projects. The role is required to report issues or status to the Associate Director, Systems as needed, participate in team-oriented meetings and activities.
- **Decision-Making Authority:** The position is specialized and is required to make independent decisions regarding the completion of tasks within their scope of expertise, assigned tasks, or project-related work. Where appropriate, the position will consult and/or defer decisions to their direct manager or appropriate colleagues.
- **Physical and Sensory Demands:** The incumbent will be exposed to extensive sitting and possible distractions in an open concept work area. They will need to be focused on attention to detail in many of their tasks.

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- **Working Environment:** This role is situated in a comfortable office environment with some distractions due to the open concept nature of the office. Some travel to other buildings on campus may be required.