Application Developer (Backend)

Summary

Reporting to the Manager, Research Infrastructure & Development and working closely with members of the Infrastructure & Development and Heritage Services teams, the Application Developer designs, implements, tests, deploys and maintains tools and features for both internal staff and public end users. The Application Developer engages in a range of full-stack web development activities, with a particular focus on application logic, backend tools, database design and data architecture. The Application developer also designs and develops data structures, APIs and middleware for the administration, manipulation, discovery, and retrieval of CRKN’s digital content.

The Application Developer is an active member of a dedicated team operating within an agile framework to develop and maintain the Canadiana collections, a combined preservation and access platform supporting over 63 million pages (143 TB) of Canadian documentary heritage. The Application Developer defines and scopes projects, gathers and elaborates requirements, and executes project plans in active collaboration with CRKN staff, member institutions, and the communities that use the Canadiana collections. An understanding of, or experience in Gallery, Library, Archives and Museums (GLAM) technical sector practices and technologies is a significant asset.

Duties and Responsibilities

Backend Software development and systems optimization (50%)
- Write, test, debug, and document software to meet functional requirements and specifications
- Deploy applications to testing and production servers
- Develop or implement API access to systems to support the administration, manipulation, discovery, and retrieval of CRKN’s digital content
- Implement, test, deploy and verify bug fixes and solutions to problems
- In collaboration with CRKN systems staff, ensure that appropriate backend systems (eg. PostgreSQL, CouchDB) are properly configured and optimized

Analysis and design (45%)
- In collaboration with CRKN staff, member institutions and communities, develop requirements and technical specifications for CRKN software
- In collaboration with other CRKN application developers and systems staff, design appropriate data structures and data architecture to support the Canadiana collections
- Test and refine system design with CRKN staff, member institutions, and other end-users
- Research software development tools and practices for integration into the overall development direction of the organization

Other (5%)
- Keep current in standards, practices and technologies in the GLAM technical sector by attending talks or webinars, and by engaging in self-directed research
- Provide input and reports to the Preservation and Access Committee and Platform Technical Task Group
- Other duties as required

In a small team environment, every individual is expected to work towards overall CRKN goals and at times a team effort is required that may involve taking on tasks outside the normal or expected scope of their role. Other duties may be assigned as required.

Qualifications:
The ideal candidate has a degree in computer science and at least five years of software development experience. An equivalent combination of education and experience is also acceptable. Skills and experience particularly relevant to this position include:

- Experience in designing, developing, tuning, optimizing, deploying and updating NoSQL and SQL databases (such as CouchDB and PostgresSQL)
- Experience in following secure development practices (both in developing secure code, and in maintaining secure environments)
- Knowledge of RESTful programming and the OpenAPI specification
- Experience designing microservices and microservice based architectures
- Programming in server-side JavaScript runtimes (such as with Node.js)
- Programming using a variety of other server-side programming languages (knowledge of Ruby and Python being an asset)
- Ability to work with XML/JSON applications and documents
- Working in and developing for Linux/Unix environments
- Excellent verbal and written communication, especially relating to documenting code and specifications
- Able to work collaboratively with team members
- Knowledge of code management using revision control systems
- Familiar with test-driven and agile development practices
- Understanding of the Galleries, Libraries, Archives, and Museum (GLAM) community and its metadata standards and practices, including technologies and development practices related to this space, would be a significant asset
- Experience with object storage such as S3 or Swift Stack would be an asset
- Principles and practices of digital preservation and digital object management would be an asset

Responsibility:
An individual in this position:

- Reports to the Manager, Research Infrastructure & Development
- Operates with significant discretion and minimal supervision
- Works closely with internal and external stakeholders, with the organization’s strategic goals always in mind
- Has access to sensitive and confidential information
- Has control over business-critical services and infrastructure
- Makes technical decisions based on personal judgment and experience

Salary scale
This position falls within CRKN’s Professional 2 category with a salary range of $80,000-$95,000.

Term
Full-time, Permanent

Location
The CRKN office is located in Ottawa, Ontario, however, the team works primarily in a virtual environment. Applications are welcome from candidates anywhere in Canada, however occasional travel to Ottawa is required.

To Apply
Please send a letter of application and resume via email to:

Canadian Research Knowledge Network
Attn: James MacGregor, Manager, Research Infrastructure & Development
Email: hr@crkn-rcdr.ca

Please reference “Application Developer (Backend)” in the email subject.
Closing date: December 15 2023

CRKN welcomes and encourages applications from all qualified individuals, including but not limited to women, members of Indigenous, Black, and racialized communities; Two-Spirit, non-binary, trans, lesbian, gay, bisexual, and queer people; people with disabilities; and members of other equity-deserving groups. All qualified candidates are welcome to apply; however, priority will be given to Canadian citizens and permanent residents.

CRKN is committed to an inclusive, accessible and welcoming hiring process that provides reasonable accommodation to all applicants. Please advise should you require any accommodation to participate in this posting, recruitment, selection and/or assessment processes.

We thank all applicants for their interest in CRKN, however only those candidates selected for an interview will be contacted.