Position: Senior Research Developer (HCI)

DEPARTMENT: Psychology

IMMEDIATE SUPERVISOR: Project Director, NASA program

POSTING DATE: September 26, 2017

CLOSING DATE: Posted Until Filled

SALARY: Commensurate with degree and experience
Full time (40 hours/week)
Benefited

EXEMPT STATUS: Exempt

GENERAL NATURE OF POSITION:

Do you want to help support NASA’s missions, but don’t want to go through astronaut training camp? Do you like making a difference in the world and help progress the vision of NASA? We are a group of developers and designers working in contract with NASA under the Human Computer Interaction (HCI) Research Group to make Mission Assurance Software. We work for the San Jose State University Research Foundation in a partnership with NASA through grant funding.

The research is centered on the development, design and testing of next-generation mission ground-systems for NASA’s space explorations missions. You will work with people across NASA, hear about upcoming missions and how we help support them.

The position of Senior Research Developer is a blend of Software Development, Database Design, and Reliability Engineering. Your experience will guide us to the next level of high-availability and performance as we grow as a team and provide our HCI research-based software to NASA. With expertise in critical environments, you will advise us on ways to accomplish our production goals and give our users a seamless experience.

Our work environment is very open, collaborative and welcoming to others. We are a diverse and tight-knit team who enjoys off-site team building events and activities. We believe that having a comfortable environment for everyone is important! Our team values a healthy approach to the workplace, from providing adjustable desks to maintaining a balanced work-life schedule. You will contribute to our wide diversity of skills and incorporate new ideas into our environment.

ESSENTIAL DUTIES & RESPONSIBILITIES:

1) Troubleshooting and monitoring production systems to ensure the highest uptimes are maintained.
2) Collaborating with HCI researchers, designers, developers, system administrators, and other team members to architect and implement a high-availability database solution.
3) Providing guidance in best practices for MySQL/Percona configuration and optimizations.
4) Support Cross-Program data integrations to ensure the ability for distributed and highly-available data queries.
QUALIFICATIONS:

1) **Education and Experience**
   
   a) A Bachelor’s degree in an HCI-related field such as Computer Science, Cognitive Science, Psychology, or Design.
   b) Education in Human Computer Interaction methodologies
   c) A minimum of five years direct experience supporting databases in a high-availability environment.
   d) At least three years’ experience in troubleshooting and monitoring multi-site services.

2) **Knowledge, Skills and Abilities:**
   
   **Required**
   
   a) Strong experience with MySQL or similar database clustering solutions in a multi-master configuration (MySQL Cluster, MariaDB Galera Cluster, Percona XtraDB Cluster, etc.)
   b) In-depth knowledge of Linux-based operating systems like RedHat Enterprise (RHEL7), CentOS, or Ubuntu.
   c) Database Administration including adding new users, modifying schemas, creating triggers, creating performance baselines.
   d) Experience with server kernel tuning for optimization and security.
   e) Strong experience in MySQL database performance tuning and optimization, including normalization, slow query log, debugging, performance schema, and monitoring.
   f) Strong in scripting languages such as Python, Perl, or PHP.
   g) Ability to logically troubleshoot through problems to identify the root cause in time-sensitive situations.
   h) Work with the developers to profile and improve performance of suboptimal SQL queries.
   i) Flexibility to work altered schedule to correspond to major deployment times and occasional after-work time if critical outages occur. (This is very minimal/infrequent)
   j) A positive attitude and willingness to help others is highly valued!
   k) Enjoy problem solving with a team and coming up with creative solutions based on your experiences.

   **Desired:**
   
   a) Technical writing, including the ability to document processes and create diagrams for presentation of ideas.
   b) Exposure to the AWS platform
   c) Experience with monitoring tools such as Nagios, Zabbix, Splunk, WebHooks.
   d) Work well in a team environment but can also work well without extra oversight: self-driven.
   e) Exposure to fullstack support, in order to help troubleshooting of problems (React, NodeJS, Nginx, etc) This does not mean you have to know the languages to develop anything!
   f) Familiarity with load-balancers such as F5 BIGIPs (GTM) or HAProxy
   g) Security-minded and exposure to standards organizations like NIST.

3) **Physical requirements**
   
   a) Occasional travel to other NASA sites may be required.
   b) Located at NASA Ames Research Center. Therefore, the employee must meet security qualifications for entrance to the Center, including an Agency background check.
   c) Employee must be a US citizen or Permanent Resident
d) The location is equipped for full accessibility

4) **Complexity of Duties**

- Exercises independent judgment in the management and completion of a diverse set of tasks.

5) **Benefits**

   a) Ten Health Insurance Plans to choose from, plus free dental and vision for employee and family
   b) Paid Federal & State Holidays
   c) Retirement Plan: 403 (b) employee contribution plan component and a 403 (b) employer contribution component
   d) Vacation and separate sick plans
   e) Employee Discounts
   f) Paid Training and Conferences
   g) Increases based on merit (performance)

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**INTERPERSONAL CONTACTS:**

Reports to the Project Director. Interacts with NASA Ames civil service and Foundation research staff, including student assistants, on a daily basis.

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**SUPERVISORY RESPONSIBILITIES:**

None, though may be called upon for advice and direction by others.

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**APPLICATION PROCEDURE**

To apply for this position, you may submit a letter of interest and a resume or an application. An application and other information, including the job description, may be obtained from the Research Foundation through its web site at [http://www.sjsu.edu/researchfoundation/open/index.html](http://www.sjsu.edu/researchfoundation/open/index.html). You may also obtain information in person by visiting the Research Foundation, located at 210 North 4th Street, 4th Floor, San Jose, CA (corner of St. James and North 4th Streets). A formal application for employment will be required of all candidates who are selected for a personal interview. Please address your letter of interest and resume or application directly to:

San Jose State University Research Foundation  
Attn: HR/Job Code SRD HCI  
210 North 4th Street  
San Jose, CA 95112  
E-mail: foundation-jobs@sjsu.edu

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federal government, and other public and private entities. With annual revenues totaling over $65 million, programs managed through SJSURF cover a rich diversity of applied research, public services, and educational related activities.

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The SJSURF has implemented California State University Executive Order 1083 (http://www.calstate.edu/eo/EO-1083.pdf). By policy, all SJSURF employees are mandated reporters for suspected child abuse or neglect and are expected to undergo formal training in accordance with the directives of the Executive Order.

The SJSURF has also implemented California State University Policy Memorandum HR 2015 – 08 (http://www.calstate.edu/HRAdm/pdf2015/HR2015-08.pdf).

A background check (including a criminal records check) must be completed satisfactorily before any candidate can be offered a position with the SJSURF. Failure to satisfactorily complete the background check may affect the application status of applicants or continued employment of current SJSURF employees who apply for the position.