JOB ANNOUNCEMENT

Title: cyberSW Developer/Manager

Qualifications: Bachelor's/Master's degree in Computer Science-related field with practical experience *or* M.A./Ph.D. in Anthropology or Archaeology with extensive coursework and experience in programming, database development, and GIS. Degrees must be completed by December 31, 2018.

Start Date: January 31, 2019

Annual Salary: $60,000 to $80,000 (depth and breadth of experience will determine starting salary)

Benefits: Paid Time Off, health insurance, 401k plan with 20% employer match, life insurance, short term and long term disability insurance.

Job Status: Full-time, permanent

Archaeology Southwest seeks a creative individual with the skillsets and commitment to help develop, and ultimately manage and utilize cyberSW. cyberSW is a large research database and analytical toolkit. It includes various classes of archaeological information from the U.S. Southwest/Mexican Northwest as well as applications to analyze those data. Applicants must either have: 1) an advanced degree in Archaeology/Anthropology and strong computer skills/experience (see below), *or* 2) a Computer Science-related degree and job experience with strong humanities or social science interests. Applicants should also have the knowledge and personal skills to be able to participate in collaborative efforts in regional archaeological synthesis in the U.S. Southwest and Mexican Northwest and demonstrate at least a 5-year commitment to this position. Finally, key elements of the cyberSW database will be available to the general public, so this position requires a willingness to communicate with both public and professional users.

Archaeology Southwest, a Tucson-based nonprofit organization established in 1982, has been a leader in building large-scale databases for over thirty years. The Coalescent Communities Database (CCD), developed in partnership with the Museum of Northern Arizona, provided the foundation for reconstructing population change across the Greater Southwest during the late pre-Hispanic period. The CCD generated regional hypotheses regarding both migration and population decline across the southern Southwest.

Subsequent research efforts in partnership with the University of Arizona and funded through multiple National Science Foundation (NSF) grants have added ceramic, obsidian sourcing, and architectural data to the CCD in the western U.S. Southwest to create the Southwest Social Networks (SWSN) database. The SWSN database has allowed for the reconstruction of social networks in late pre-Hispan-

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ic Arizona and western New Mexico as well as to the Chaco World. These projects have transformed regional-scale analyses in U.S. Southwest archaeology. A bibliography of this research and other materials related to this positon can be found at **www.archaeologysouthwest.org/projects/networks/** and **www.southwestsocialnetworks.net/pubs.html.**

Currently, a $1.7 million grant from NSF's Resource Implementations for Data Intensive Research (RIDIR) program is dramatically expanding the CCD and SWSN databases to create cyberSW in partnership with the University of Arizona, Arizona State University, and University of Colorado-Boulder. The University of Arizona's Management Information Systems (MIS) department is playing a key role in designing the database, data ingestion and analytical tools, the GUI, and website. cyberSW is expanding the SWSN database to cover the entire U.S. Southwest in a graph database format. cyberSW is also developing methods and tools to ingest data at the intra-site level that will permit regional and temporal comparisons of other artifact classes at fine-scale resolution available from CRM and academic excavation projects. Archaeology Southwest will take over the management and maintenance of cyberSW following the completion of the NSF grant at the end of 2020.

Specific Qualifications and Expectations

The selected candidate will work intensively with the cyberSW team to become familiar with and contribute to the development of the cyberSW software system. By the end of 2020, the selected candidate will have the skills, motivation, and dedication to maintain, grow, and manage cyberSW and participate in ensuing collaborative synthetic research.

Required Skills and Qualifications:

- Experience with Java and Python or other similar programming languages
- Experience developing and maintaining relational or non-relational databases
- Practical understanding of the Model-View-Controller (MVC) design pattern
- Comfortable working in a Unix-like environment
- Basic knowledge of Geographic Information Systems
- Ability and willingness to learn new technologies, especially graph databases (e.g., Neo4j)
- Ability to work with stakeholders of various levels (researchers, general public, etc.) and integrate their feedback into the cyberSW system
- Long-term commitment to cyberSW and establishing fulltime residence in Tucson
- General interest in U.S. Southwest/Mexican Northwest Archaeology

Desired Skills:

- Bachelor's degree (or higher) in Computer Science or similar degree (Software Engineering, Math, etc.
- Upper level degree in Archaeology or Anthropology
- Experience in working with archaeological datasets obtained from fieldwork and museum collections and knowledge of the unique problems associated with such data
- 3+ years of experience developing full stack web application using RESTful API and/or MVC frameworks
- Extensive experience in Geographic Information Systems

- Extensive experience designing and maintaining relational or non-relational databases with good working knowledge of graph databases such as Neo4j
- Experience developing RESTful APIs with Java and the Spring framework
- Experience with hosting and deploying web applications using Apache Tomcat
- Familiarity with version control systems
- Familiarity with virtual machines

To Apply:

Send a cover letter, current resume, and names and email addresses of three potential references to:

Kamillia Hoban, Director of Operations
applications@archaeologysouthwest.org

Application review will start on November 19, 2018.

Date of job posting: October 25, 2018