BIODIVERSITY
OUTREACH
NETWORK

Job Title: Typescript Software Developer

Location: Remote

Duration: Contract position. Until project is complete (6 months -1 year; see pay below)

Start date: As soon as possible

Pay Rate: Competitively negotiable. $40,000 available to complete the project.

Job Description:

You will finish building the Symbiota2 (https://demo.symbiota2.org/) platform, which is a fundamental restructuring of Symbiota (https://symbiota.org/), an online platform that allows natural history collections to share data, including images, for millions of biological specimens. You will use typescript to build new platform features and APIs that will expand the ways users can interact with the database platform. **You must be experienced and proficient in typescript for this position. Familiarity with Symbiota would be an advantage.** The code you will be working with is available to view on GitHub (https://github.com/Symbiota2/Symbiota2/).

The purpose of Symbiota2 (S2 for short) is to improve the usability and accessibility of the SCAN database. SCAN currently includes data for more than 37 million specimens from almost 800 collections that will be copied to S2 for greater specimen data versatility. The changes, including providing new web services and creating a plugin architecture, were driven by feedback from current users. S2 seeks to increase the platform's digital specimen records, expand its use by researchers, and collaborate with other biodiversity-related platforms that serve data (https://www.gbif.org/) or promote informatics (https://www.lightningbug.tech/)

This is a fully remote position, however you will need to make yourself available weekly progress report meetings held during PST business hours. All project communication and reporting must be in English. A reliable computer and stable internet connection is essential for this position.

Job Responsibilities:
- Develop server-side application code for various Typescript micro-services.
- Configure, optimize, and deploy various back-end technologies (relational databases, AWS S3, Redis, Elasticsearch, etc.).
- Complete the build of a fully functional S2 database system.
- Monitor, and in the event of failure, diagnose and restore web application services.

Required Qualifications:
- BS/BA degree in Computer Science, Software Engineering, or equivalent 3-4 years of experience
- Must be proficient and have experience working with:
    - Typescript, Node.js
    - GitLab
    - ELK Stack/Elasticsearch
    - Relational database experience, preferably MariaDB, alternatively MySQL
    - HTML5, AngularJS, TypeORM, SQL, CSS
    - RESTful APIs

Desired Qualifications:
- Databases that handle biological data, such as Symbiota, are complex systems that contain highly interrelated dependent and independent components. As such, candidates with knowledge of biological organisms, the types of data typically associated with biological specimens, and/or an understanding of how these pieces relate to each other would be beneficial and facilitate successful completion of the project.
- AWS experience would be a plus.

Compensation:
This is a contract position funded by the National Science Foundation with a non-negotiable set monetary fund available for completion of the project. We have set project components and tasks that must be completed for the software to be fully functional and considered a success. Each component will be paid for upon completion and proof of viability/functionality. You will not be paid by the hour, as such you can set your own work hours (with the exception of weekly progress update meetings) as long as the project components are completed upon the agreed upon dates. Approximate timeframes for each component to be completed and assigned pay will be discussed with the successful candidate beforehand and modified as necessary. Components and tasks will have a set order they need to be completed in based on estimated importance.

Examples of tasks currently needed for the project:
- Create/make functional: User permissions page
- Create/make functional: Occurrence page Linked resources and Admin page
- Create/make functional: Items related to Occurrence search - collections, search criteria, results, details, etc.
- Occurrence page Main

- Merge/transfer existing compatible code into all S2 portal instances
- Start data uploads and make sure data is mapped to appropriate places (you will be provided mapping)

Total compensation for completion of this project = **$40,000** (USD). There might be up to an additional $30,000 (USD) for continued development after the initial project deadline.

Please note, this project is funded by National Science Foundation (Award#:1759966; 1759965). As such we can only make payments to bank accounts or addresses within the United States, whether or not you live in the US.

Job Structure:
Project PIs: *Neil Cobb, Will Pearse, Mary Barkworth, Curtis Dyreson*

- Primary supervisor (who you report to):   Neil Cobb
- Project manager/technical advisement: Curtis Dyreson
- Administrative management: Erika Tucker

About the Project:

Symbiota2, or S2, is an open source content management system for curating specimen- and observation-based biodiversity data. It is based on Symbiota (https://symbiota.org) but is designed to be more flexible and easier to enhance. Symbiota itself is being used by hundreds of natural history collections in North America organized in over 30 portals. Jointly these portals have served more than 40 million collection records. The records can be linked to other resources such as images, tissues, DNA sequence data, and other taxonomic information. S2 is designed to have increased flexibility, be easier to develop, and have a responsive interface. Both systems are based on an SQL database, but S2 usesTypescript, Elastisearch, Logstash, and Kibana to achieve its goals. Much of the core functionality is available in the demo versions, as are some of the new abilities requested by potential users. Our goal is to be able to have two fully functional demo sites available by April, 2023.

To apply:
Please send your resume to Erika Tucker (emtuckerlab@gmail.com).

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