Eric O'Callaghan

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Personal Projects

Ishar MUD
- Assisted the maintainer of a multi-user dungeon (MUD) game in transitioning the games codebase from use of flat file storage to a MariaDB database, hosted on an Amazon EC2 instance
- Used the opportunity to take advantage of Flask-Login, SQLAlchemy, and WTForms with Jinja2 templating to give players a portal to view information about their characters on the web

Indego Bike Share Python Library
- Created a Python library to interact with the RideIndego.com API to retrieve bicycle and station availability; which is available via PyPi as "indego"
- Built a searchable, dynamic website using my custom library and Flask to display the availability of bicycles and docks at all of the 130+ bike share stations throughout the City of Philadelphia
- Store JSON in PostgreSQL via SQLAlchemy in order to generate charts of historical bicycle availability using jQuery and Highcharts

Amazon Alexa Skill for SeizureTracker.com
- Worked with the founder of SeizureTracker to create an Amazon Alexa skill which allows users to record epileptic seizure activity by voice
- Implemented Bearer Token OAuth via PHP to allow users to associate their Amazon Echo to their SeizureTracker.com account
- Created a small PHP application to interact with the SeizureTracker API appropriately, based upon various voice commands sent as JSON via signed HTTPS POST requests from Amazon

Work Experience

University of Pennsylvania   Philadelphia, PA
Application Development Operations Engineer   October 2022 - *Present*
- Leverage monitoring and alerting tools including Nagios/Thruk, Splunk, New Relic, and Grafana in tracking down sudden issues
- Implement and use various internal HTTP JSON APIs to automate generation of reporting information for numerous large banking partners
- Perform root cause analysis of incidents, while constantly improving and iterating on processes

SigFig   Remote (Philadelphia, PA)
Site Operations Engineer   March - October 2022
- Leverage monitoring and alerting tools including Nagios/Thruk, Splunk, New Relic, and Grafana in tracking down sudden issues
- Implement and use various internal HTTP JSON APIs to automate generation of reporting information for numerous large banking partners
- Perform root cause analysis of incidents, while constantly improving and iterating on processes

Comcast Corporation   Philadelphia, PA
Linux Systems Administrator   March 2020 - February 2022
- Operations team member within the Next Generation Access Network (NGAN) department triaging incidents surrounding the national virtual cable modem termination system (vCMTS)
- Primarily responsible for quickly determining the cause of any service disruption/interruption for both residential and business customers across the nationwide Comcast footprint of rapidly-deployed vCMTS installations
- Worked with and deployed Hewlett-Packard (HP), Opengear, Cisco, Arista, Juniper, and Harmonic software as well video and network hardware, while regularly maintaining vendor relationships

Thomas Jefferson University Hospital (IS&T) Philadelphia, PA
Linux Systems Administrator   April 2018 - February 2020
- Assisted a small team in maintaining the configuration, reliability, and security of approximately 500 very unique Linux servers which hosted research, medical, pharmaceutical and academic data for the hospital and university
- Managed VMware data stores, volumes, and virtual machines on network storage regularly
- Deployed SolarWinds monitoring agents throughout the infrastructure, primarily on Red Hat Enterprise Linux versions 6 and 7

Comcast Corporation   Philadelphia, PA
Linux Engineer   April 2016 - November 2017
- Performed configuration management by writing Ansible roles and playbooks that I ran on nearly 1,000 CentOS servers which hosted one of the top five largest Splunk installations in the world
- Modified sysctl network and disk I/O settings to utilize servers more efficiently
- Set up a Zabbix cluster which monitored over 800 physical Hewlett-Packard (HP) hosts and was used to automatically detect hard disk drive failures before they caused any service interruption
- Created a variety of complex Apache configurations to fit within internal network security guidelines, including implementation of client-certificate authentication as well as reverse proxies
- Regularly tested TCP/IP connectivity between different VLANs, networks, and data centers throughout the country which required opening JIRA tickets to request firewall changes that I would then validate were completed successfully
- Ensured consistency of firewall rules as well as server and network settings across hosts in thirty different data centers

Sidecar Interactive   Philadelphia, PA
Linux Systems Administrator   November 2013 - April 2016
- Maintained multiple database environments that included MySQL replication between co-located Dell and HP hardware, running Ubuntu, and Amazon Web Services (AWS)
- Wrote and tested documentation on the processes necessary to restore internal Percona XtraDB database backups
- Created and open-sourced a Bash shell script that instantly forwards Zabbix alerts to Slack, which I am proud to say is now used by many members of the Zabbix and Slack online communities
- Automated deployment of in-house PHP application via "chatops". In efforts with a co-worker, we set up RunDeck to trigger requests to the Ansible Tower API allowing quick and easy deployment at any time from our teams shared Slack chat

<u>Certifications</u>

• CompTIA Security+, Network+, and Linux+
• Hurricane Electric IPv6 Sage
• Cisco Certified Entry Networking Technician (CCENT)

<u>Education</u>

ECPI University   Newport News, VA
Networking & Security Management (A.A.S.)   September 2008 - May 2010