Matthew Scanland

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Technical Skills

Programming Languages:	CSS, Javascript, Java, JQuery, PHP, Python, SQL
Tools:	Apache, Docker, ElasticSearch, Git, Linux, MariaDB, phpCAS, REST API, Windows, and experience with Vue, AWS (EC2, S3, RDS)

Relevant Work Experience

Center for Power Electronics Systems (CPES), Virginia Tech   Blacksburg, VA
Webmaster and Digital Content Specialist   April 2019 - Present

- Work unsupervised on designing and developing web applications for the external and internal websites. Including iterating through the entire lifecycle of an application and coordinating necessary workloads.
- Improved upon custom-built PHP framework by modifying SQL queries and data retrieval algorithms.
- Work with a small team to deploy and maintain Docker containers, Apache web servers, and SharePoint cloud storage.
- Restructured and normalized existing MySQL schema to optimize performance and space requirements.
- Created several bash scripts to automate LAMP server file structure and database backups.

Significant Projects

Full Stack Internal Website Rebuild   https://portfolio.matthewscanland.com/rebuild/

Spin up a new web server and move all pre-existing HTML and Google Apps Script to a LAMP stack with a custom PHP framework.

- Rebuilt all pre-existing applications from an Apps Script environment to a custom PHP MVC framework.
- Implemented a multi-factor phpCAS login system for greater security.
- Built admin pages and subsections with route protection and permissions.
- Implemented a MySQL database, focusing on interaction between contained applications.
- Created a local REST API to ease application communication.
- Cleaned up existing core code to improve readability, algorithm speed, and functionality. Focusing on code scalability.

Lab Validation System   https://portfolio.matthewscanland.com/validations/

Complete build of the internal Lab Validation System. This system tracks and calculates billing totals using student hours, accounts, holidays, vacations, and other facets.

- Created a SQL database schema that allows for future modifications and quick retrieval of data.
- Streamlined the validation process for all faculty, staff, and students. Cutting the validation timeframe to $\frac{1}{4}$.
- Using the single page app, staff can quickly view and edit information including; statistics, missing signatures, export data as a CSV, and view activity in a FullCalendar UI.
- Integration of the student vacation system automates the process of inputting the same data into separate systems.

Purchasing/Reimbursement Systems

Internal purchasing and reimbursement apps to coordinate the status of requests.

- Automated the purchasing and reimbursement process which allowed staff to work on more important matters.
- Created a structured order of approval for requests for more organized communication.
- Users can store personalized information for easy re-ordering and customized requests.
- Queries large datasets in near realtime.

Education

Virginia Tech   Blacksburg, VA
BS Computer Science   Jan 2019