COLBY REINHART

Software Engineer

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CAREER

Sherwin Williams – Contractor

April 2024 to present

Highlight Projects

Master product system API development

- Single-handedly developed multiple critical internal product information APIs using spring boot and hibernate.
- Implemented and tested automated deployment processes using docker, k8s and github actions.
- Conducted and documented a robust testing suite to ensure proper functionality, efficiency and stability.

Vendor Catalog API Client

- Improved catalog update process speed by up to 10x by multithreading IO operations.
- Reworked existing data structures to accommodate for new data requirements and improve extensibility.
- Analyzed incoming data, identified potential issues, tested to determine the source of the discrepancies, and developed a hand-written report describing the current status of data discrepancies and identifying possible solutions.

Order capping automation software

- Worked alongside various teams from different business divisions to identify a problem domain, formulate a solution, and specify implementation details.
- Using existing documentation and information provided by stakeholders, developed a map of a solution to implement, formulated questions and action items, and worked alongside my manager to come up with solutions.
- Implemented an automated data ingestion, processing, and reporting software showing real time progress and reporting detailed execution results.
- Structured an extensible implementation architecture which trivialized implementations of changing requirements and unforeseen requests without compromising maintainability or development time, despite only having worked with the associated programming languages for 2 months prior.

De-coupled backend of online master product system features

- Built an independent product information API using spring boot and hibernate to better de-couple critical product information sources and allow use from other applications.
- Restructured implementation architecture of a critical master product system maintenance tool to instead consume this new API instead of retrieving this data itself.
- Without being asked, identified potential issues with the proposed authentication scheme, researched and proposed a solution, and scheduled a meeting with the lead developer of another team to elicit advice and potential standardization opportunities.

Education and Academics

Bachelors of Computer Science
Minor in Economics
Kent State University
4.0 GPA / Summa Cum Laude
Honors College Member
2x Choose Ohio First Annual Research Symposium Award Winner (2021 and 2022)
Computer Science Tutor

Proficiencies

Programming languages: C/C++, Java, Javascript/typescript, Python, Bash, IBM RPG/CL, PHP, PL/SQL, Rust, C#, JSP, HTML/CSS

Technologies and frameworks: Spring/spring boot, jakarta servlet API, hibernate, SQL (IBM DB2, sqlite, MySQL, Oracle SQL), Unity3D, React, Oracle Application Express

Tools: Visual studio, vs code, git, gradle, maven, GNU debugger, linux, make/cmake, Apache Tomcat, NGINX, general GNU shell utilities

Personal Projects

Webserver from Scratch
https://github.com/ColbyReinhart/webserver-from-scratch
A simple web server supporting serving files over the HTTP protocol written from scratch using only raw UNIX sockets, system calls, and the C standard library.

Paper De-shredder
https://github.com/JMANN240/deshredder
Capable of consistently reconstructing strip-shredded papers of up to 50 pieces using image processing and computer vision. Written and presented at Choose Ohio First 2023 research symposium as part of a research project which aimed to identify and address the threat modern computing poses to information security.

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Discount Drug Mart – Junior Software Developer

Internship June 2020 - August 2020
Internship June 2021 - August 2021
Internship June 2022 - August 2022
Full time June 2023 to April 2024

Highlight Projects

Internal item lookup and processing system

- Replaced legacy IBM CL application with a mobile web application using the java servlet API, Jakarta server pages and vanilla javascript.
- Developed all necessary data models and persistence APIs without the use of a persistence framework.
- Implemented flexible use case support by dynamically changing the presented interface based on authorized user permissions.

Shelf tag and ad sign printing system

- Wrote a shelf tag / ad sign generator and customizer framework using java PDFBox.
- Implemented automatic preview, customization and printing functionality controlled via a mobile web interface.
- Interfaced with scanning capabilities of employee handheld devices to create a fully automated “scan-to-print” pipeline.

New internet-enabled gift card support

- Researched e-commerce security concepts to propose new internally managed gift cards which circumvent past security flaws and enable safe online use.
- Completely re-wrote **all** gift card business logic on our customer-facing website, cash registers, and various business interfaces to support a new gift card standard which utilized a much larger card ID space and a scratch-off security PIN.
- Fully implemented and tested gift card functionality within “Buy Online Pickup In Store” transactions within all relevant software actors.

Added POS support for AI-8112 mobile coupons

- Researched and implemented the AI 8112 internet-enabled coupon standard on all store cash registers.
- Read and documented protocol specifications to ensure proper functionality of critical financial processes.
- Developed an API client on the cash register to automatically validate, consume and commit online coupons provided and managed by the 8112 coupon authority.
- Identified discrepancies and issues with the coupon authority API implementation, contacted and advised the representatives of the issue, met with the lead developer to explain the discrepancies and intended functionality according to their documentation, and assisted in testing their fixes.
- Implemented automated report generation and EDI transmission for coupon clearing purposes.

Roku Remote
https://github.com/ColbyReinhart/roku-remote
Control your Roku TV with your phone via a web interface! Uses a raspberry pi intermediary client to circumvent CORS restrictions and allow for customizable and automatic routines and actions.

Wall Golf
https://github.com/ColbyReinhart/wall-golf
A fully complete small puzzle game made with Unity3D. It is almost entirely written by myself with asset creation, level design, and testing done by the two other contributors.

Lightbox
https://github.com/ColbyReinhart/lightbox
A custom 3D-printed lithophane box containing a micro-USB powered ESP-8266 microcontroller connected to an internal RGB light strip. The microchip connected to a self-written webserver which allowed the colors of the lights within the box to be controlled from anywhere in the world. Initially came with a web interface that I have since lost.

Netpong
https://github.com/ColbyReinhart/netpong
A terminal-based multiplier game of pong. Players can host and/or connect to a game which is complete with player names, a scoreboard and win condition controls. Requires both players be connected to the same remote machine.

FlightPath
https://github.com/ColbyReinhart/flightpath
Written during the Kent State University 2021 SkyHack Hackathon. Enables easy navigation of complex spaces, such as airports, using geolocation and augmented reality features to display a real-time waypoint-based navigation system between any two predefined points within a real location, right on your phone screen!

SHA3-256 Python Implementation
https://github.com/ColbyReinhart/cns-project
An implementation of the SHA3-256 hashing algorithm, directly from the official specification, in python. This repo also includes test suites for collision, determinism and randomness.