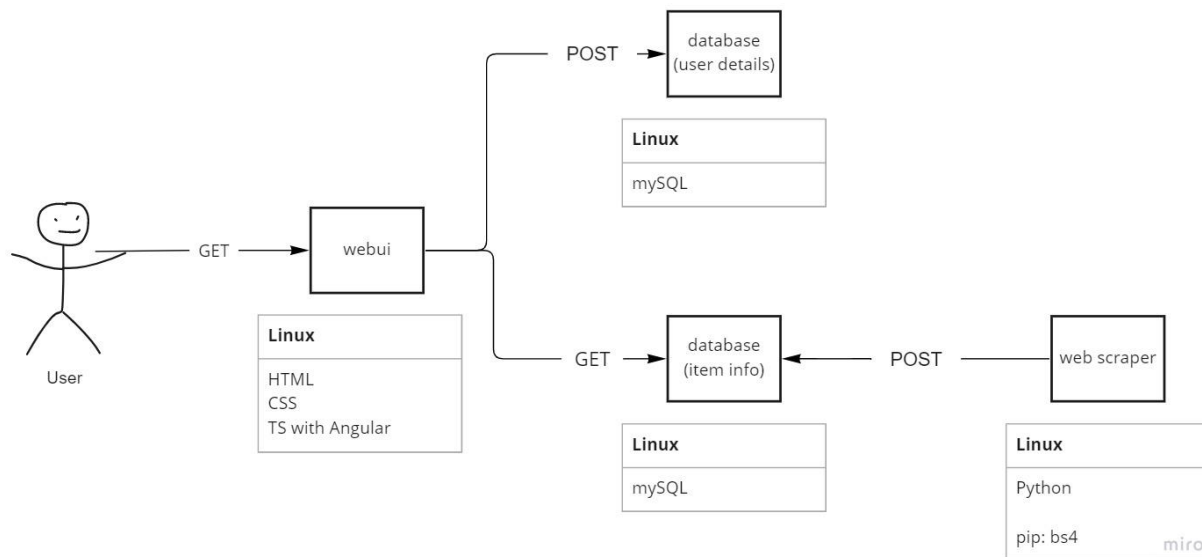# GPUTracker

Dylan Aegbuniwe, Justin Baksi, Justin Ching,
Shaun Derstine, Shepherd Shenjere

Summary

This project is meant to serve as a price checker and lister for products found on Newegg.com. A user interface will ask users to sign into an account or make an account to be able to access the product finder. Products from Newegg will be findable through this, listed through a MySQL database. Users will be able to make lists of items they want to keep an eye on for future visits to monitor prices and those will be saved to their profile name.

Chapter 1

Chapter 2

Our group's mission is to deploy a WebUI interface that permits the user to create login information if they haven't made one already, or log back into an account with a username and password that they have already created. The individual usernames and passwords submitted would be saved to a MySQL database to permit future access to the same account and to also allow multiple users to operate from the same machine should one log out. With these created profiles, users would be able to make lists of searched items gotten through our webscraper for future reference. The webscraper is a Python-created script that runs, finds, and updates prices of items found on Newegg.com. If the user wishes to save an item to a list so they can monitor the price, they would be able to save it to a list which would save to a MySQL database attached to the profile that that can be accessed again later. User input is the main driving force of the user-interfaced webscraper. User input is necessary for the login to see the webscraped items from Newegg and the ability to save items to a specified list tied to that account.

Chapter 3

So far in our efforts, we have gotten a webscraper in Python up and running that saves and updates data over to a MySQL database. Each item is saved line by line with different variable information like name and price attached to it. We also have preliminary workings of the WebUI interface worked out in angular that is still being developed for the project. With the webscraper, currently it is only grabbing the names and prices of GPUs from Newegg and sending them to the MySQL database. We're currently unsure if we will change this or rebrand the webscraper to be done as a GPU price checker since that is more relevant to computer users who build PCs or are looking to change out parts in their own systems. We're also still trying to determine the best course of action for deploying everything up for docker/Kubernetes. As we continue to develop what we have, we feel as though the implementation into docker/Kubernetes will come more smoothly. This also goes for the MySQL databases used for storing login information

through WebUI interface input. It is not fully setup yet, though it will come together once we have a bit more information to work with in a more complete WebUI structure.

Chapter 4

As we reached the final stages of the project with the time we had, we were able to get a containerized webscraper paired with an accessible MySQL database that stored the names, prices, and stock of GPUs gotten from newegg.com. This was a successful part of the project as we also had the database show only the top 36 listed GPUs to a user at one time. It was also possible for a user to sort by price, or by if the GPU was in stock or not. We got this to run with docker compose as well that ran the scraper and built the database automatically. Along with this, we also had a functioning WebUI created for our service run on a localhost made with Angular and Flask API. This WebUI was simple as it displayed the title of the service on top with a purple background behind it. Below the title was a dropdown menu with a list of all scraped GPUs gotten from newegg.com. Once one was selected, the price would display underneath of it.

Unlike the containerized webscraper that was used in conjunction with the MySQL database to display name, price, and stock, the WebUI was not containerized by the time we had reached our deadline. We were all new to front-end development and didn't get that aspect of the project fully completed in time. We were unable to connect these parts of the project together in Kubernetes before the deadline of the project. In self-reflection for the group, we had a more difficult task than initially thought when we switched from a machine-based text learning service to the GPUTracker service. While the concept was enough for us to understand and develop parts of, the full implementation of it proved difficult for the group even after we put our heads together on what was the first extensive coding group project that we'd had together. There could have been moments where we tried different tactics to make the project work as intended, however our attempts didn't succeed before the project deadline, thus making our efforts not fully realized. It proves to be something that can be returned to in the future and edited to fully implement our visions as a personal project, should any of us decide to do so.

As a group, we split up work into different sections. Aegbuniwe and Derstine focused on the creation and implementation of the Python-based webscraper and the MySQL databases along with containerization of the project's elements using Docker. Baksi, Ching and Shenjere put their focuses on the webui creation and Kubernetes/Jenkins deployment of the project, which the latter got focused on by the entire group once we realized that we were having troubles getting everything together to work properly. Attempting to figure out exactly how to get these pieces to connect was the main issue that we had during our process. We had our containerized scraper and one version of the MySQL database on a separate system than the WebUI and MySQL database that we had, which created a disconnect that that wasn't yet mended. Attempting to find the correct coding and files for implementation through Kubernetes was difficult for the entire group. Even after going through the hands-on projects in class on our own times and using online resources as an aide, it proved difficult to understand the proper deployment of Kubernetes for Angular projects. It was also difficult to connect the containerized portions of our projects together as another step. We also made a goal to cut down the portions of the project to produce a more functional product, as the initial plans we had of a login screen and saved usernames and passwords were removed from our final product due to time constraints. We were unable to put the final project together as we initially envisioned when first designing the project, and we were unable to meet all of the required parts of this project before our deadline was reached.

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EDUCATION

West Chester University of Pennsylvania
College of Sciences and Mathematics • Bachelor's Degree in Computer Science
Applied Statistics Minor
Computer Security Certification
Expected Graduation: May 2022 • Current GPA: 3.515

SKILLS

- Adobe Premiere Pro, Acrobat, After Effects
- Microsoft Office 365 (Word, Access, PowerPoint, Excel, Outlook, OneDrive)
- OBS studio, Stream Labs, Audacity
- JGrasp, NetBeans, Visual Studio code, PowerShell Scripting, GitHub
- C Programming, Java, Python, Linux, Bash scripting, Ubuntu server, Virtualization, VMware
- Linux Administration
- Videography, Film, Video editing, Sound Engineer
- Team Management

EXPERIENCE

Rutter's • Loganville, PA • *Team Member – Deli* • June-October 2017
- Made and prepared food in the deli

Team Member – Retail
- Provided quick customer service and performed maintenance
- Performed on the store, cleaning areas of the shop the store floor and bathrooms

Wal-Mart • East York, Pennsylvania • *Front-End Host* • June 2018-January 2020
- Provided customer service and checked out customers at cash registers and self-checkout registers in one of the largest Wal-Mart stores in Pennsylvania
- Trained front-end hosts

EXTRA-CURRICULAR ACTIVITIES

Dallastown Football • 2013-2016 • Offensive and Defensive Lineman
Dallastown Boys Volleyball • 2015-2018 • Defensive Specialist, Libero, and Manager
- Assisted coaches and players with practice and supported the team before, during, and after games throughout each year

Dallastown Video Club • 2016-2018 • *Member*
- Videographer and Sound Engineer
- Fundraising Coordinator and Event Planner

Dallastown Link Crew • 2016-2018 • *Leader*
- Led group sessions on life skills and tips

West Chester University Computer Security Club • 2019-Present • *Member*
- Participated in meetings learning about different topics in the field of computer security

Justin Baksi

Aston, PA
215-908-4626
JB904055@WCUPA.edu

Education

West Chester University   West Chester, PA
Bachelor of Science, Computer Science   Graduation: May 2022
Dean's List, GPA: 3.5

Experience

Prime Technologies Inc. / Software Engineer Intern
October 2021 - PRESENT, Exton, PA

- Maintain AWS web application using Java and Grails with Gradle.
- Deploy client software on EC2 instances.
- Set up Route 53 domains for each client.

Technical Skills

- Proficient Object-Oriented Programming in Java, Python, C#, Groovy.
- Familiar with C/C++, SQL.
- Machine Learning in Python.
- Big Data Engineering with Python.
- Experience with AWS (EC2, Route 53, SSH).
- Windows, Linux.
- Git

Projects

- Used Support Vector Machine to predict survivors of the Titanic (Kaggle dataset) with 75% accuracy.
- Used min-hashing algorithm to determine similarity between presidential speeches.

Relevant Coursework

Data Structures and Algorithms, Software Engineering, Advanced Topics in Object-Oriented Programming, Computer Systems, Database Management, Big Data Engineering, Cloud Computing (Spring 2022)

Hobbies/Activities

WCU Computer Science Club, Vice-President of the WCU Outdoors Club, building gaming PCs, investing, guitar playing, astronomy, golf, ice hockey

Justin Ching

justinching03@gmail.com • (484) 949-4591 • Downingtown, PA

WORK EXPERIENCE

West Chester University IS&T Help Desk   **May 2021 – Present**
Help Desk Consultant   *West Chester, PA*

- Provided assistance to students, faculty, and staff with technology-focused services, such as resolving network and software errors, providing students with the necessary information for transcript requests, aiding faculty and staff with equipment loans and purchases, and installing various software and tools onto approved devices.
- Performed basic troubleshooting and repairs for faculty and staff with university-provided equipment, primarily working with Lenovo ThinkPad laptops, MacBook Airs and MacBook Pros, Lenovo ThinkPad docking stations, and a variety of monitors.

Next Generation Technologies, Inc.   **May 2019 – August 2019**
Intern   *Philadelphia, PA*

- Updated the user interface of the company's website using PHP in conjunction with Joomla, while adding additional functionality to domain purchases and DNS name changes by integrating OnlineNIC API.
- Maintained the company's database using JDatabase and SQL, reorganizing how data was stored and what information could be read from the various databases.

Target Corporation   **Sep. 2019 – Present**
Guest Advocate   *Exton, PA*

- Assisted customers with locating products within the store, processing returns, exchanges and online orders, pushing new items from the storage area and backstocking any items that had no store location or was unable to go within their designated area.
- Trained new team members across the various front of store roles, focusing on getting new members adjusted to the store's service desk, where item exchanges, returns, and online orders occur, and guiding those with night shifts with the store's closing procedures.

EDUCATION

West Chester University   **Current Student**
Pursuing Bachelor's Degree in Computer Science   *West Chester, PA*

- 3.83/4.00 GPA

SKILLS

- **Skills:**
  - **Technical Skills**
    - Proficient with: Java • C++ • JavaScript with Node.js and MongoDB • Microsoft Office Suite (Excel • Word • PowerPoint)
    - Familiar with: Python • C • PHP • SQL • HTML • CSS5
  - **Soft Skills**
    - Public Speaking • Written communication • Resourcefulness • Troubleshooting

Shaun Derstine Undergraduate Computer Science Student

West Chester, PA   (267) 772-9418   shaunderstine@gmail.com

Career Objective

Graduating computer science student at West Chester University looking to learn new skills and improve upon existing ones through hands on experience in the industry.

Education

West Chester University of Pennsylvania | West Chester, PA
Bachelor of Science in Computer Science, May 2022
Minor in Applied Statistics
GPA: 3.679, *Dean's List 5 semesters*

Relevant Coursework

- Data Structures & Algorithms (Java)
- Operating Systems (C and Unix)
- Programming Languages & Paradigms (Haskell)
- Software Engineering (Agile Methodologies)
- Intro Cloud Computing (Deployment on Cloud Infrastructures)

Work Experience

Busser | September 2021 – Present
Cheesecake Factory | King of Prussia, PA
- Coordinate with servers and other bussers to manage the floor efficiently

Computer Science Tutor | January 2020 – May 2020
West Chester University of Pennsylvania | West Chester, PA
- Organized regular meetings and review sessions via email, text, and phone call
- Created personalized plans for each session
- Led both individuals and groups of up to five students

Projects

Develop and deploy full-stack application on cloud infrastructure (in progress) | Create a web app that enables users to track price history of products listed on newegg.com
- Created and launched compute instance on OpenStack
- Configured web server using nginx
- Built web scraper to track products using Python
- Use HTML, CSS, and JavaScript to create interactive web UI
- Create database with mySQL

Machine Learning Project (in progress) | Retrain VGG16 to recognize ASL and test model to see its effectiveness
- Build, train, and evaluate VGG16 model using Tensorflow

Technical Skills

- Java
- Python
- Haskell
- C
- Linux/Unix
- Git

Soft Skills

- Leadership and management qualities
- Collaborative team skills
- Excellent written and oral communication
- High level problem solving abilities
- Strong attention to detail
- Creativity

Certifications

Computer Security (in progress)
West Chester University
Expected Completion: May 2022

SHEPHERD SHENJERE

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Folsom, PA

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EDUCATION

West Chester University
West Chester, PA

Bachelor of Science in Computer Science   May 2022
Cumulative GPA: 3.63

NSA Cyber Security Certificate   May 2022

Delaware County Community College
Media, PA

Associate in Applied Science, Network Engineering   May 2019
Cumulative GPA: 3.50

RELEVANT COURSEWORK

Computer Science III
Data Structures & Algorithms
Computer Security & Ethics
Cloud Computing
Software Engineering
Computer Systems
Data Communications & Networking
Programming Language Concepts/Paradigms

SKILLS

Programming Languages: Python, Java, Haskell, Html, CSS
Certifications: Certified Test Out Server Pro 2016: Install and Storage, Install and Configure
Tools: Microsoft Excel, Microsoft Word, Outlook, Microsoft PowerPoint, Visual Studio, IntelliJ, Dia

EXPERIENCE

Randstad at Vanguard
Malvern, PA
Financial Processor   September 2019-June 2021
- Processed client's transaction requests and reviewed transactions for accuracy, completeness, and adherence to all internal and external regulations
- Partnered with Vanguard Associates in working through complex processing issues to ensure timely completions
- Developed a working knowledge of Vanguard's processing systems, group policies and procedures

TEKsystems at Wallingford School District
Wallingford, PA
Helpdesk Support Specialist   June 2019-September 2019
- Troubleshot issues for school-approve software packages including Exchange and Google Apps for Education
- Software installations and upgrades, firmware updates, virus scans, end-point updates
- Identified, researched, and resolved technical problems quickly and efficiently

Delaware County Community College
Media, PA
Helpdesk Support Intern   January 2019-May 2019
- Provided remote troubleshooting through diagnostic techniques and pertinent questions
- Imaged computers, installed and updated new software
- Assembled new machines and disassembled old machines
- Provided accurate information on IT products or services