ERS

INTRODUCTION

Our Asset Security Scanner is used to display all public facing devices on network. By Providing any number of IP addresses, an API connection to Censys allows results to be stored in a local database and displayed on created dashboards through Grafana. Roles: Eric – Infrastructure Engineer Jalan – Database Administrator JT – Software Engineer

Tanner – Software Engineer Tim – Grafana Administrator

Drew – Web Developer

PROBLEM STATEMENT

Assets are being deployed and exposed to the internet unintentionally and/or without IT knowledge, exposing companies to hackers and malicious actors.

Customers

- Trine University
- Texas A&M
- IN,gov



The design of this application starts with a web UI that allows the user to input Censys credentials and select what IP addresses to scan. After the scan is prepared and executed, a custom python application calls the Censys API and queries the scan. It then stores the data in database that is displayed through a Grafana instance.

The database features two tables that house different information. Once the scan is finished, a set of SQL Views are generated with Grafana, and the data is displayed through Grafana dashboards

- Application - Python - Censys Library - Dash Database MYSQL - Grafana Infrastructure **ESXI** Hypervisor - Ubuntu Server OS

- - Docker Containers

Asset Security Scanner

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DESIGN CONCEPTS

TECH STACK

FINAL DESIGN

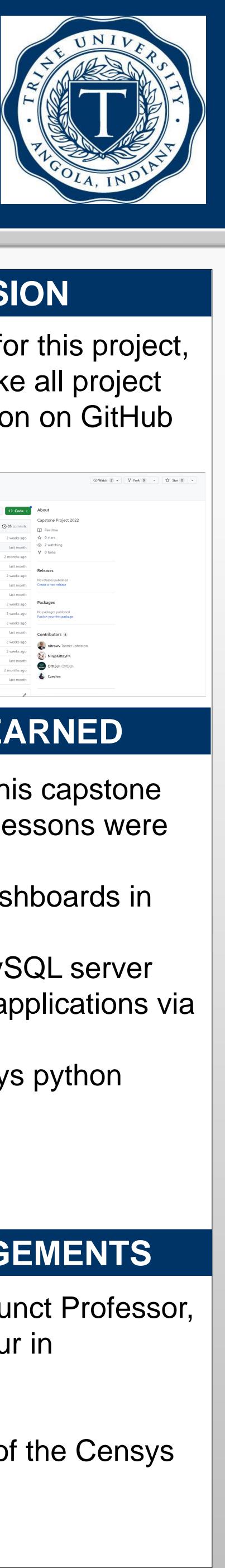
Users interface with this application through a web UI that allows the user to input IP addresses individually, as a network, or from a file. After the scan is executed, a custom python application calls the Censys API and inputs the data into a MySQL database. A Grafana instance displays the data comprehensively on a webpage that the user is redirected to after the scan is run.

SysGuar Between	nd Asset N	⁄lanager	SysGuar	rd UI Vers	sion: 0.8.	0
LOAD IPS C	LEAR IPS					
SCAN						

FUTURE WORK

After publication, the group would like to add features and future improvements.

- Future Items
- Custom Highlighting options for returned data
- General Remediation Steps
- Customized dashboards
- Ability to handle larger datasets



	☆	${igardown}$	മ ≡
LOGIN Login To CensysAPI			
LOGIN PS Tap 10 Processes (CPU)			
%CPU %MEM CMD PID PPID 5.0 0.5 python ./SysWebUI.py 1 0 2.8 0.6 /usr/local/bin/python /code 8 1 0.0 0.0 /bin/sh -c uptime 24 8 0.0 0.0 /bin/sh -c ps -eo %cpu,%mem 25 8 0.0 0.0 uptime 28 24 0.0 0.0 ps -eo %cpu,%mem,cmd,pid,pp 30 25 0.0 0.0 head 31 25			
Uptime System Uptime			
23:05:53 up 10 min, 0 users, load average: 2.12	, 0.63, 0.26		
Logs SysWebUl Logs			
		<	●7 >

CONCLUSION

In finalizing the work for this project, the team plans to make all project files and documentation on GitHub public.

A Offt3ch / Capstone-Project Private												
<> Code 💿 Issues 11 Pull requests 💿 Actions 🖽 Projects 🕕 Security 🗠 Insights												
🐉 main 👻 🎗 branches 🛇 0 tags		Go to file Add file -	<> Code -	About								
Czechrs Merge branch 'main' of https:	//github.com/Offt3ch/Capstone-Project	de9b90e 2 weeks ago	35 commits	Capstone Project 2022								
assets	Styling updates	2 weeks ago	s ago 🖒 0 stars									
🖿 grafana	Added Grafana to the docker-compose.		last month	2 watching 9 0 forks								
mysql_scripts	Configured MySQL container to start with sche	ma.	2 months ago	* UTORS								
🗅 .dockerignore	Added Grafana to the docker-compose.	last month	Releases									
🗅 .gitignore	Merge branch 'main' into containerization-testi	2 weeks ago										
DBConnect.py	Moved from .env to YAML, documentation over	rhaul.	last month	Create a new release								
Dockerfile	Dockerfile Moved from .env to YAML, documentation of											
🗅 IP.txt	KERMIT SWERSL-	2 weeks ago	Packages									
C README.md	Update README.md		3 weeks ago	No packages published Publish your first package								
SysWebUI.py	Merge branch 'main' of https://github.com/Off	2 weeks ago										
TestReport.py	Ip Gathering Maybe?	last month	Contributors 4 (R) nitrowv Tanner Johnston (NinjaKittayPK (I) Offt3ch Offt3ch (I) Czechrs									
🗅 amIPS.txt	Here do be the IPs	2 weeks ago										
docker-compose.yml	Added volumes	2 weeks ago										
🗋 example-config.yml	Moved from .env to YAML, documentation over	last month										
🎦 jsonparse.py	Database connection can now be made without	2 months ago										
🗋 requirements.txt	Moved from .env to YAML, documentation overhaul.		last month	Czechrs								
i≡ README.md			P									

LESSONS LEARNED

Over the duration of this capstone project, the following lessons were learned

- Development of dashboards in Grafana
- Management of MySQL server and connecting to applications via queries
- Usage of the Censys python libraries and API

ACKNOWLEDGEMENTS

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Censys Inc. - Owner of the Censys network scanner