Bug Bounty

Khael Kugler

I am always

TWO BUGS AHEAD

989 Chick-fil-A Spicy Deluxe Chicken Sandwiches (with Pepperjack Cheese)

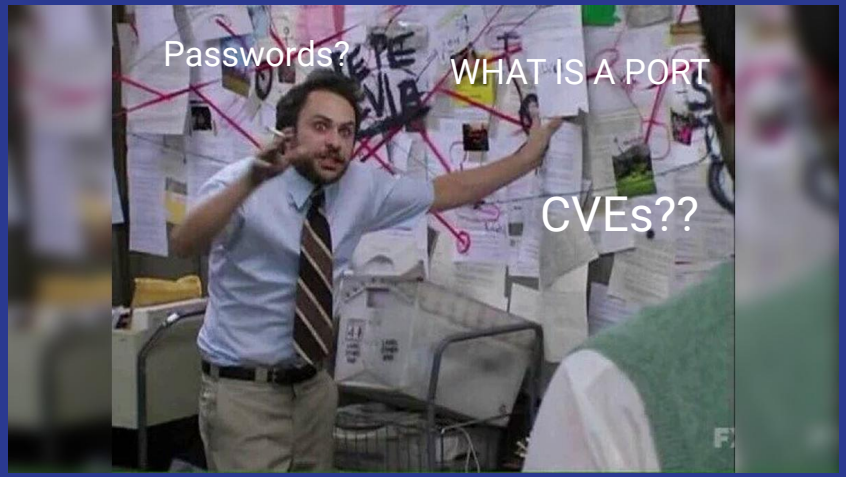
← 989????

989 Chick-fil-A Spicy Deluxe Chicken Sandwiches (with Pepperjack Cheese)?????

(Did you attend the wrong talk?)

(probably)

How????



MONEY

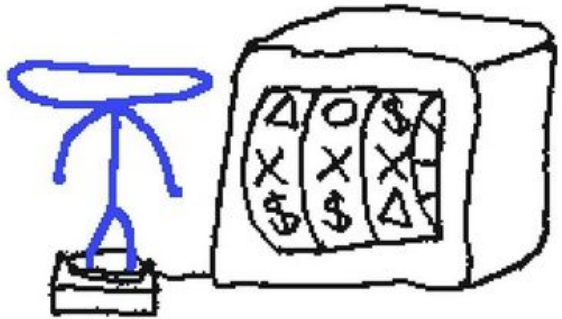
$4.27 billion (I’m not kidding)

UT’s annual budget

UT’s annual security budget
(enlarged)

The 3-step Get Rich Quick ~~Scheme~~ Technique:

1. Scope UT’s infrastructure
2. Investigate said infrastructure
3. Hack said infrastructure



1. Scoping out UT’s Infrastructure

What is actually in-scope?

hackerone

Asset name	Type	Coverage	Max. severity	Bounty	Last update	Resolved Reports
146.6.0.0/16	CIDR	In scope	High	Eligible	Apr 8, 2022	0 (0%)
172.16.0.0/12	CIDR	In scope	High	Eligible	Apr 8, 2022	0 (0%)
10.0.0.0/8	CIDR	In scope	High	Eligible	Apr 8, 2022	0 (0%)
129.116.0.0/16	CIDR	In scope	High	Eligible	Apr 8, 2022	0 (0%)
128.83.0.0/16	CIDR	In scope	High	Eligible	Apr 8, 2022	0 (0%)
*.utexas.edu	Wildcard	In scope	High	Eligible	May 15, 2023	161 (101%)
*.utdirect.utexas.edu	Wildcard	Out of scope	None	Ineligible	Mar 14, 2024	0 (0%)

146.16.0.0 -> 146.6.255.255

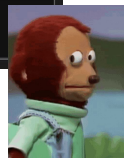
172.16.0.0 -> 172.31.255.255

10.0.0.0 -> 10.255.255.255

129.116.0.0 -> 129.116.255.255

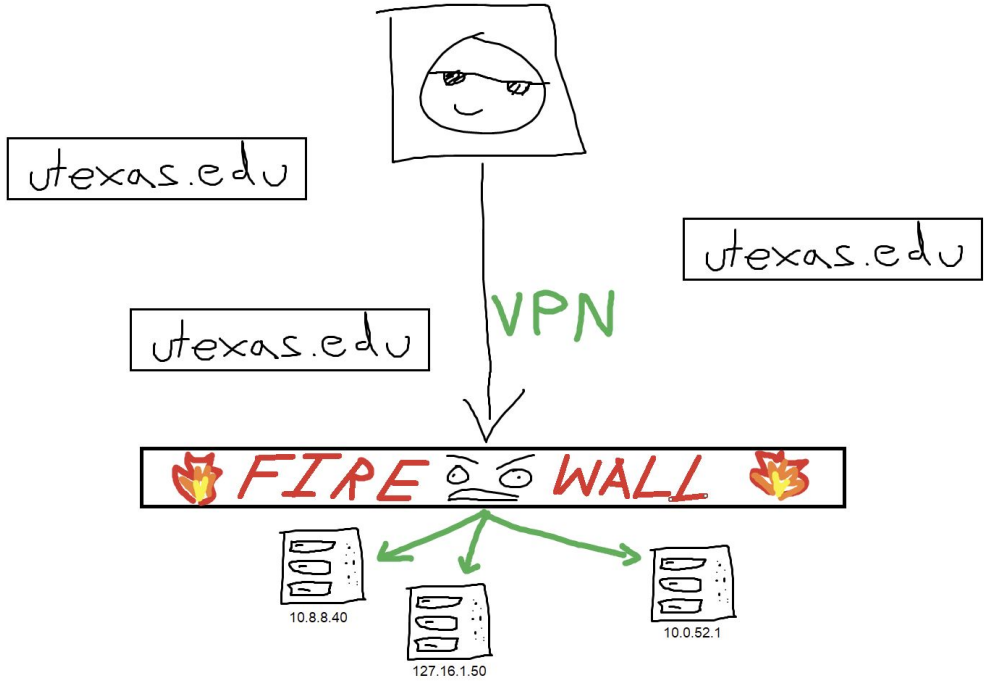
129.116.0.0 -> 129.116.255.255

{anything}.utexas.edu



But how am I supposed to access internal IPs?

The UT VPN allows you to get past the firewall and into the internal UT network



And how can I enumerate these IP ranges?

NMAP!!

- This tool is your best friend once on the UT VPN

Enumerating these IP ranges and searching for ports

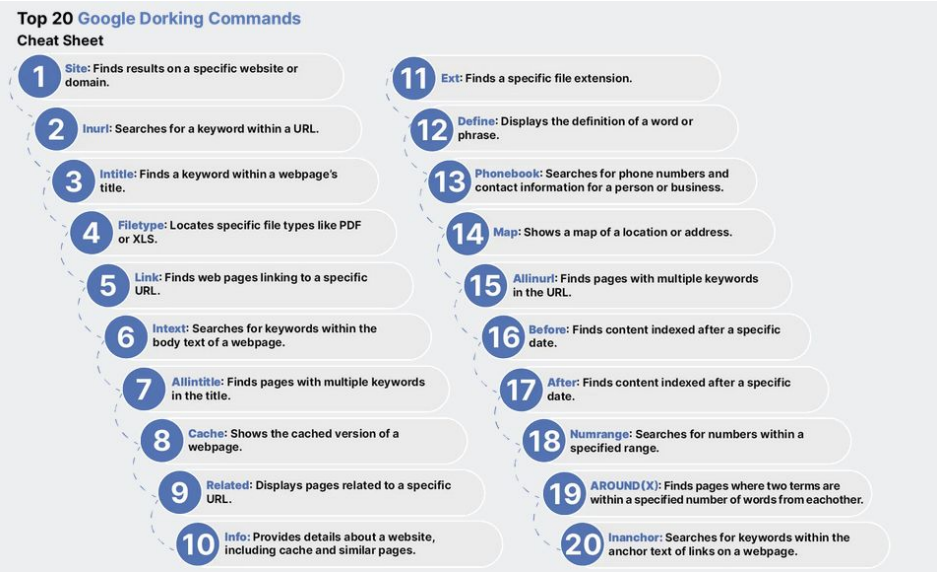
- `nmap 172.16.0.0/16 –p 80,443,8000,8080,8443`
  - Checks for the most commonly open web ports coming from any 172.16.x.x IP

Scoping external websites

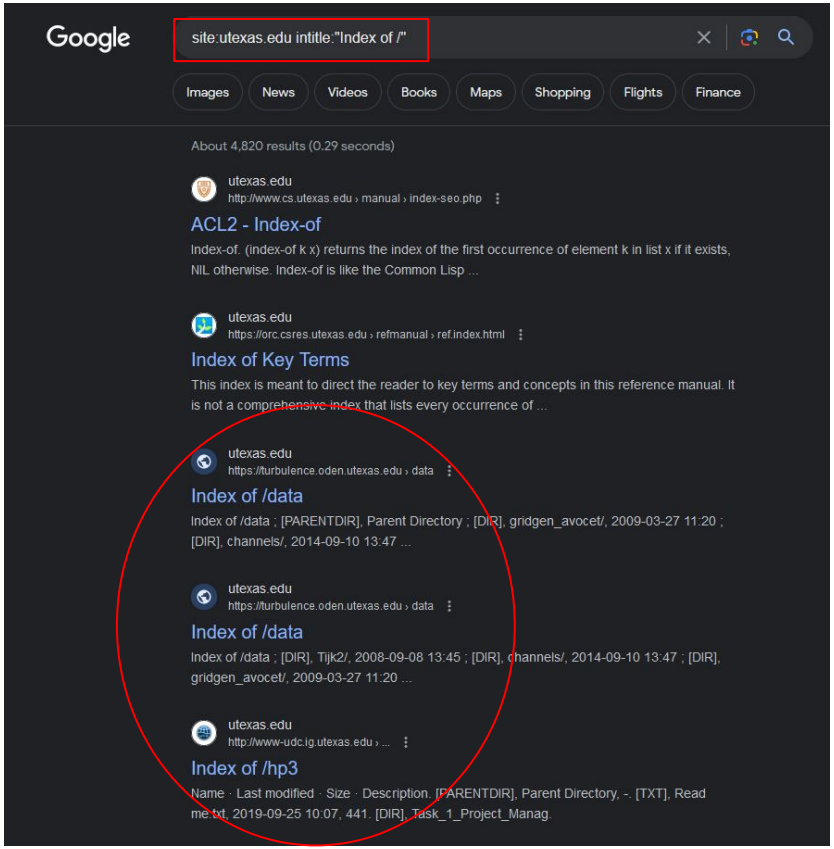
- Google Dorking
  - Searching for insecure sites indexed by Google
  - Very, very, (very) useful
- Exploring feature-rich webpages
  - Sites with lots of functionality, like the UT RecSports page or library pages
  - The attack surface is large, giving more chances for cracks
- Compiling a list of ALL webservers
  - https://khaelkugler.com/misc/subdomains.html
  - I used crt.sh to compile a list of thousands of UT subdomains, which were then checked for a website

Google dorking utexas.edu

- Search for PDFs with passwords!
  - Filetype:pdf site:utexas.edu intext:password
- Search for admin PHP pages!
  - Filetype:php site:utexas.edu inurl:admin
- Search for outdated software!
  - Intext:"Apache/2.2.15" site:utexas.edu
- There are tons of resources giving good dorking payloads
  - “Top 20 Google Dork Payloads” is great



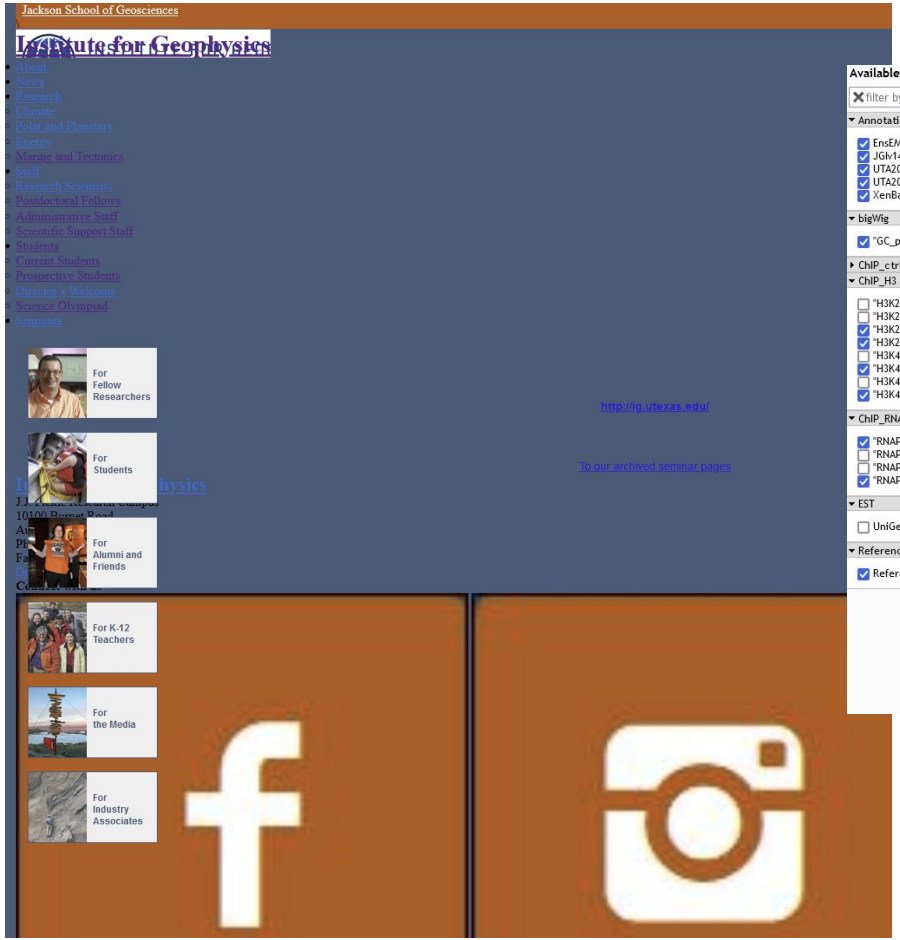
The possibilities are
E N D L E S S



Index of /

Name↓	Last Modified:	Size:	Type:
ALMNH/	2020-Dec-01 12:21:32	-	Directory
Blanton/	2016-Nov-10 14:01:10	-	Directory
CAS/	2020-Jul-16 13:39:36	-	Directory
field/	2018-Mar-28 05:02:35	-	Directory
GSAF/	2016-Dec-06 19:56:07	-	Directory
ICA/	2017-Jan-25 13:26:38	-	Directory
irods-web/	2017-May-19 16:17:53	-	Directory
isobank/	2021-Jul-01 16:13:20	-	Directory
KNewman/	2016-Nov-13 06:44:58	-	Directory
MDACC-DIP/	2016-Nov-16 20:25:29	-	Directory
MOST/	2017-Oct-04 00:25:16	-	Directory
MSB/	2016-Nov-16 16:56:23	-	Directory
MVZ/	2020-Mar-20 15:54:35	-	Directory
OneKP/	2016-Nov-14 03:33:26	-	Directory
oplontis/	2019-Jun-16 20:39:17	-	Directory
PetroSpect/	2017-Jan-25 14:29:26	-	Directory
sharing/	2020-Dec-04 15:39:30	-	Directory
Texas_Politics/	2017-Jan-25 14:30:12	-	Directory
TNSC/	2016-Nov-22 14:30:01	-	Directory
TWDL/	2016-Nov-18 15:29:29	-	Directory
UAF/	2018-Mar-05 17:00:28	-	Directory
UCM/	2021-Jul-14 15:27:16	-	Directory
UTEP/	2017-Dec-05 14:21:45	-	Directory
UWBM/	2020-Mar-20 15:48:28	-	Directory
UWYMV/	2018-May-22 12:55:25	-	Directory
XALT/	2017-Jan-06 15:03:29	-	Directory

lighttpd/1.4.55


Jackson School of Geosciences
Institute for Geophysics
About
News
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Marine and Tectonics
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Postdoctoral Fellows
Administrative Staff
Scientific Support Staff
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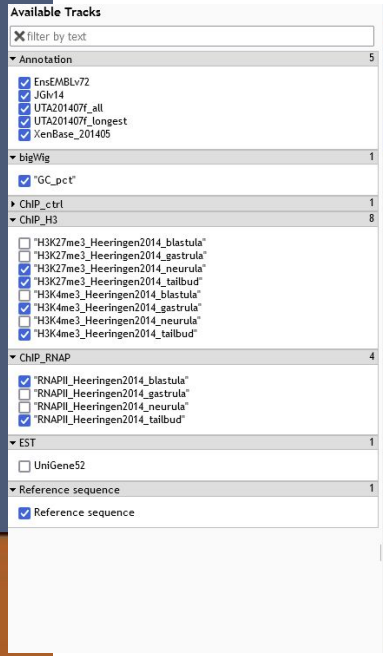
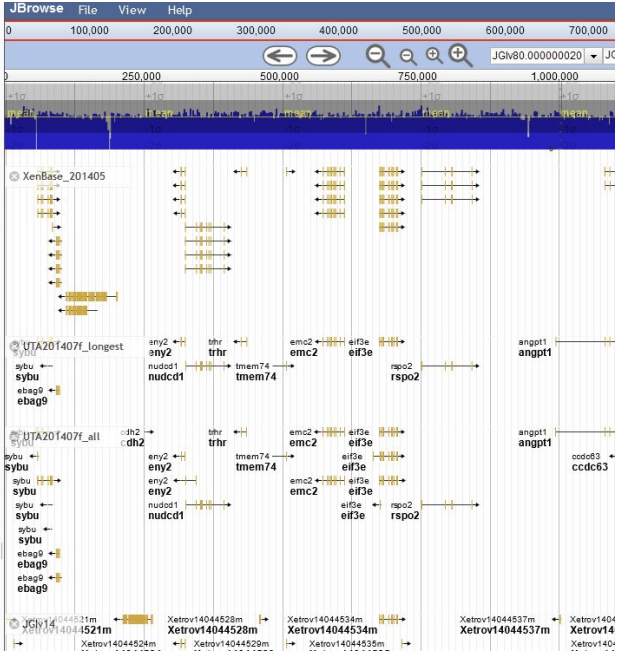
Prospective Students
Director's Welcome
Science Olympiad
Seminars
For Fellow Researchers
For Students
For Alumni and Friends
For K-12 Teachers
For the Media
For Industry Associates
http://ig.utexas.edu/
To our archived seminar pages

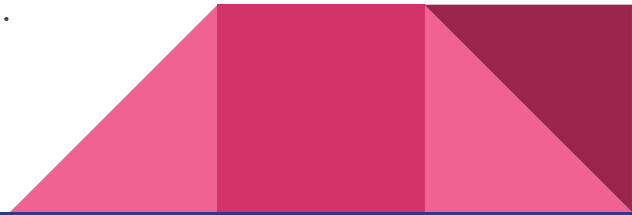

Available Tracks
filter by text
Annotation 5
EnsEMBLv72
JGIv14
UTA201407f_all
UTA201407f_longest
XenBase_201405
bigWig 1
"GC_pct"
ChIP_ctrl 1
ChIP_H3 8
"H3K27me3_Heeringen2014_blastula"
"H3K27me3_Heeringen2014_gastrula"
"H3K27me3_Heeringen2014_neurula"
"H3K27me3_Heeringen2014_tailbud"
"H3K4me3_Heeringen2014_blastula"
"H3K4me3_Heeringen2014_gastrula"
"H3K4me3_Heeringen2014_neurula"
"H3K4me3_Heeringen2014_tailbud"
ChIP_RNAP 4
"RNAPII_Heeringen2014_blastula"
"RNAPII_Heeringen2014_gastrula"
"RNAPII_Heeringen2014_neurula"
"RNAPII_Heeringen2014_tailbud"
EST 1
UniGene52
Reference sequence 1
Reference sequence


JBrowse File View Help
XenBase_201405
UTA201407f_longest
UTA201407f_all
JGIv14
sybu
ebag9
nudcd1
tmem74
emc2
eif3e
rspo2
angpt1
ccdc63
Xetrov14044521m
Xetrov14044528m
Xetrov14044534m
Xetrov14044537m

2. Investigating the Infrastructure

What to look for in a webpage

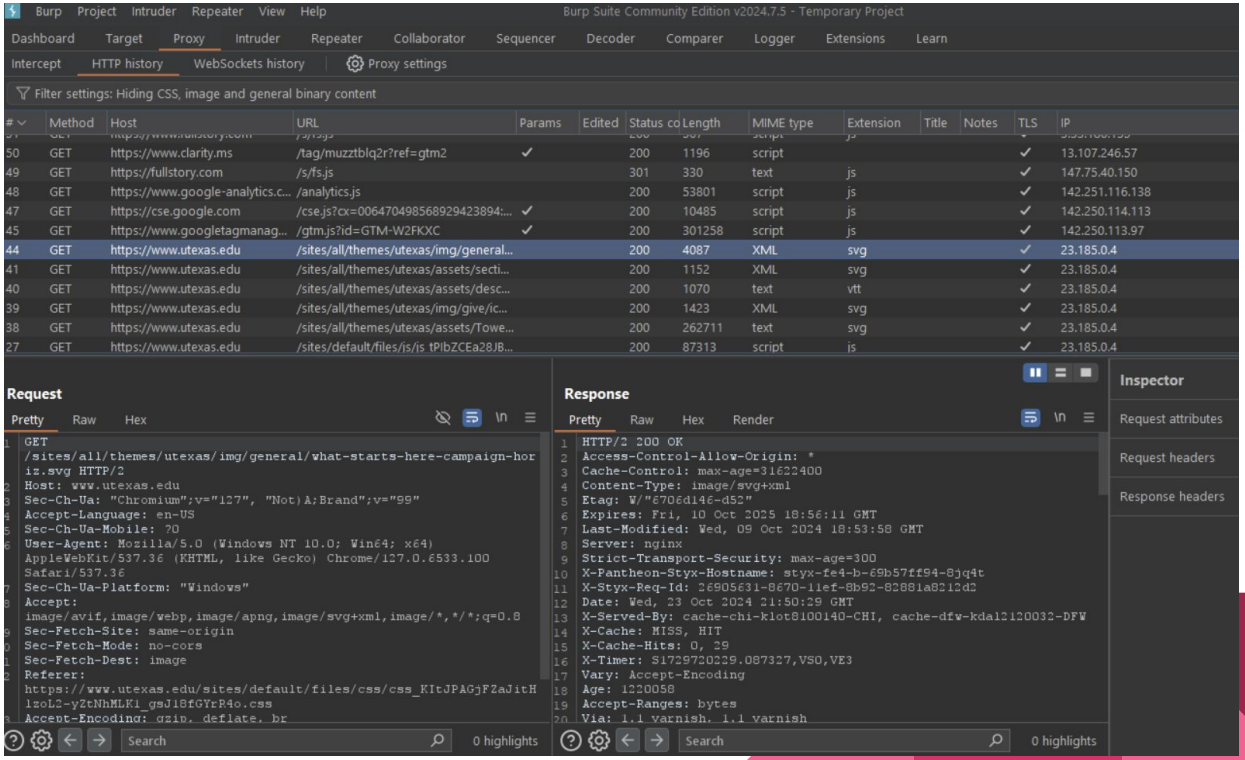
- Any and every source of user input
  - In these fields, I like to put the string `..//'"</>${};`
  - See what breaks
- Odd/custom functionality
  - Generally, templated UT pages are pretty static and boring
- Outdated software (e.g. really old Apache/Wordpress)
  - There are usually premade exploits out there (cvedetails.com)
- Login fields
  - If you find a 3rd party login page, lookup the default credentials. Also just try admin/admin, admin/password, root/root, and other common combinations.
- Administrative/configuration pages



3. Hacking UT’s Infrastructure

Modifying Web Requests - Burp Suite

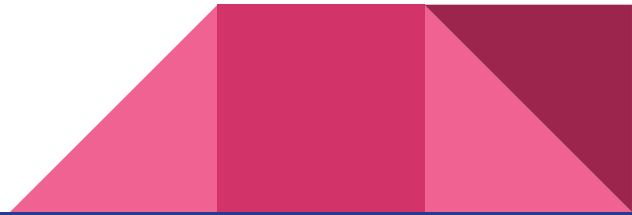
- Free!
- Used to catch and replay HTTP traffic
- Has an ez-use built in browser
- Has other awesome features



You’ve already learned about common web vulns

You just gotta apply them! The most common vulns I’ve found on UT are:

- XSS. It’s everywhere. Literally everywhere.
- Default/weak credentials
- SQL injection
  - Less common, but surprisingly still around
- File upload vulnerabilities
  - Upload malicious HTML pages with XSS! Upload webshells! Overwrite other files!



A side note: UT’s Wiki

The UT Wiki is a gold mine. An actual, real life infinite money glitch.

Searching for “password” is a big one, but other things like “AsPlainText”, “Authorization: Basic”, “root”, “ssh”, “passwd”, “logins” will also work

Look around, try to find stuff you shouldn’t see

UT Bug Bounty

What you'll look for

Find all kinds of bugs on UT's domains

- Cross-site scripting (XSS) $$$
- SQL injection
- Weak/default passwords
- File upload vulnerabilities
- Authorization bypass/escalation
- Sensitive information leaks

What you won't do

- Run automated scans like Nessus
- Leak sensitive data
- Completely ruin things
- Mess with regular business operations
- Run ANY TESTING off of the UT VPN
- Share the vulnerabilities you find

Wanna get started?

Just search "UT Bug Bounty"

Thanks! Questions???

Email: khael.kugler@praetorian.com
Discord: @malfuncti0nal