Ethical Student Hackers

OSINT

The Legal Bit

- The skills taught in these sessions allow identification and exploitation of security vulnerabilities in systems. We strive to give you a place to practice legally, and can point you to other places to practice. These skills should not be used on systems where you do not have explicit permission from the owner of the system. It is VERY easy to end up in breach of relevant laws, and we can accept no responsibility for anything you do with the skills learnt here.

- If we have reason to believe that you are utilising these skills against systems where you are not authorised you will be banned from our events, and if necessary the relevant authorities will be alerted.

- Remember, if you have any doubts as to if something is legal or authorised, just don't do it until you are able to confirm you are allowed to.

- Relevant UK Law: https://www.legislation.gov.uk/ukpga/1990/18/contents

Code of Conduct

- Before proceeding past this point you must read and agree to our Code of Conduct - this is a requirement from the University for us to operate as a society.
- If you have any doubts or need anything clarified, please ask a member of the committee.
- Breaching the Code of Conduct = immediate ejection and further consequences.
- Code of Conduct can be found at https://shefesh.com/downloads/SESH%20Code%20of%20Conduct.pdf

EGM VOTING

https://forms.gle/iaRSeAWqwvYzR9eD9

You MUST be a member to vote.

Voting closes at 7pm.

Results will be announced at the end of the session.

What is OSINT?

Open **S**ource **Int**elligence - collection and analysis of data gathered from open sources (overt sources and publicly available information) to produce actionable intelligence.

Malicious use:

- Cyber criminals
- Marketing

Protection use:

- Data protection
- Cybersecurity defense

Note: <u>Intelligence ≠ Information</u>

Information only becomes Intelligence when we look at it in a critical manner, analysed and given meaning

Famous Failures

Venmo public by default transactions.

Until 2021 all venmo payments were public by default.

This lead to many people accidentally sharing valuable information about themselves. For better or worse.

In 2018 a US congressman paid accused sex offender seemingly for prostitution.

In 2019, a privacy researcher analysed millions of venmo transactions to make detailed profiles of all individuals who had not turned off the setting.

This kind of information can easily be used maliciously

Famous Failures

Strava heatmap failure

In November 2017 more than 3 trillion individual GPS data points were released by Strava (A sports social media) of every single activity - **Even private ones -** as a heatmap.

This was cool, but also terrible for operational security. For example US international bases were easily visible and easy to map due to there being not many other strava users in certain areas e.g Syria, Afghanistan

One cyclist mapped out the whole west side of the famous area 51.

Why use OSINT?

OSINT allows us to monitor everything in real time completely **legally** and **ethically**.

In everyday life the information we empower ourselves with can give us the slight edge in such a media driven world. As well as verifying the authenticity of sources and info given by others.

It equips us decision makers to make better, more informed decisions by monitoring and analyzing public opinions and sentiments.

As ethical hackers we can use OSINT to investigate potential security threats or vulnerabilities to prepare an attack.

It can also enhance traditional intelligence gathering which can prepare us for a social engineering attack and help us make better decisions later on in the attack.

Useful Websites and Techniques

https://archive.org/web/ - A wayback machine that allows us to view previous versions of websites

https://www.192.com/ - A UK based directory of People, businesses, electoral data and property info

Social media + search engines - Information about everyone + everything. Advanced search and filtering options can be particularly useful.

Public records - Whois databases, financial records, government documents

Let’s do some OSINT

DAVID BECKHAM.

1. What primary school did he attend
2. Where did he meet his partner?
3. Where was he on the 27th of March 2023?
4. What date + time did he purchase his website?

Shodan

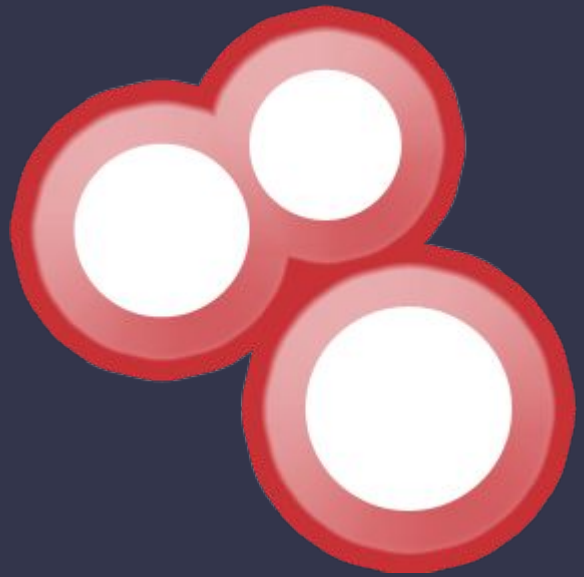
The world's first search engine for Internet-connected devices

Works by randomly finding IPs and testing a random port

Used by defenders to understand what's publically available

Shodan interacts with only services running on the devices

Helps identify vulnerable services



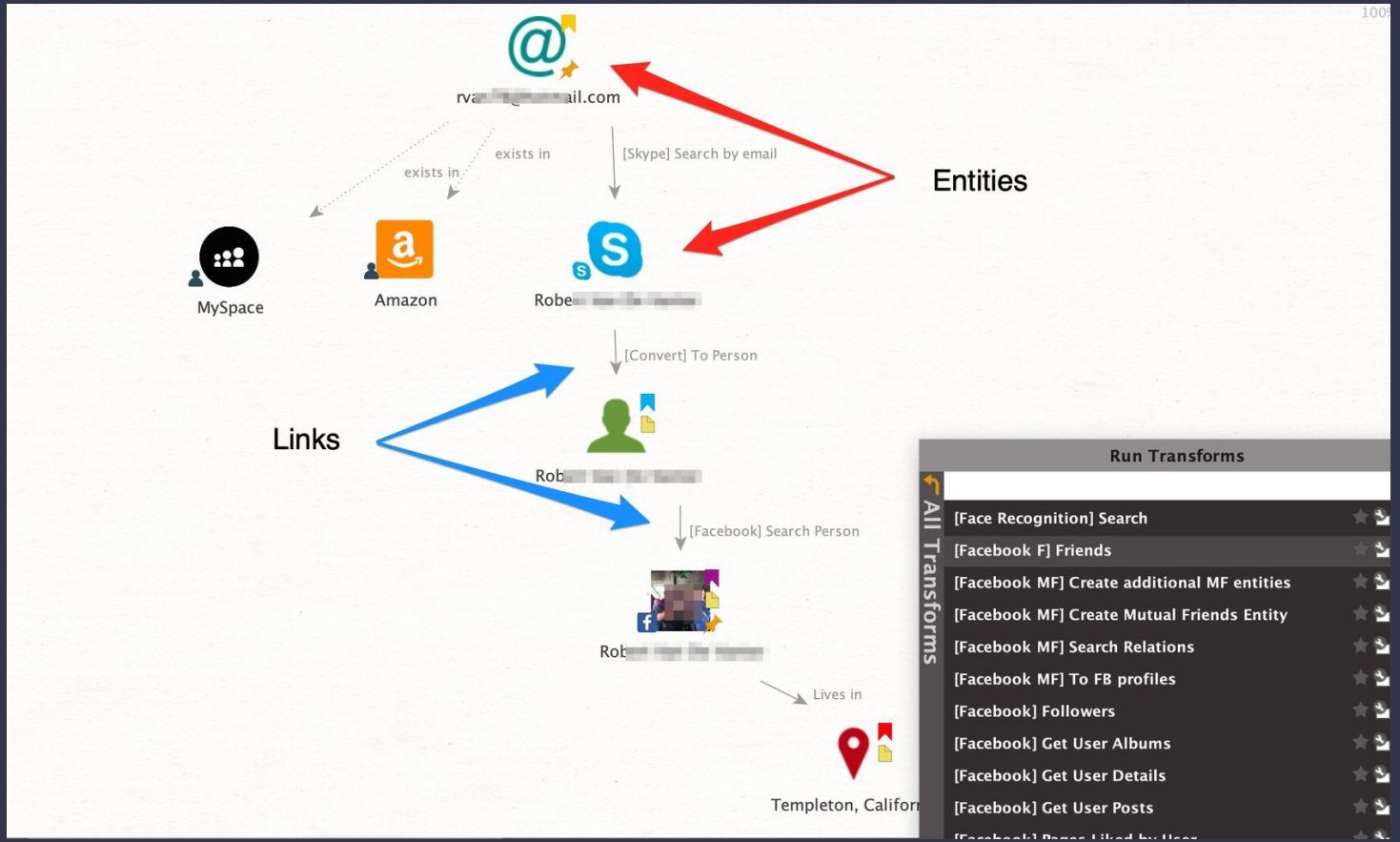
```
Copyright: Original Siemens Equipment
PLC name: S7_Turbine
Module type: CPU 313C
Unknown (129): Boot Loader           A
Module: 6ES7 313-5BG04-0AB0  v.0.3
Basic Firmware: v.3.3.8
Module name: CPU 313C
Serial number of module: S Q-D9U083642013
Plant identification:
Basic Hardware: 6ES7 313-5BG04-0AB0  v.0.3
```

Maltego

- Gathers data on an entities and **graphically represents relationships**
- Run functions on entities
- Create your own manually
- Found on Kali Linux distributions.

Example Functions

- Facebook search , Facebook friends
- whois lookup
- DNS lookup


rva[redacted]ail.com
exists in
exists in
[Skype] Search by email
Entities
MySpace
Amazon
Robe[redacted]
[Convert] To Person
Links
Rob[redacted]
[Facebook] Search Person
Rob[redacted]
Lives in
Templeton, Califor
Run Transforms
All Transforms
[Face Recognition] Search
[Facebook F] Friends
[Facebook MF] Create additional MF entities
[Facebook MF] Create Mutual Friends Entity
[Facebook MF] Search Relations
[Facebook MF] To FB profiles
[Facebook] Followers
[Facebook] Get User Albums
[Facebook] Get User Details
[Facebook] Get User Posts

Google Advanced Search

Taking advantage of advanced search features on google to find vulnerables indexed websites.

Examples:

Intitle:’login’

filetype:’.mp4’

Find .env files, password files, etc.

List of commands of exploit db

```
intitle:index.of jpg
```

Finds sites image directories

DON’T BREAK THE LAW

( )	Group a set of words/operators separately (gun | pistol) ammo
-	Exclude results including this word chicago baseball -cubs
$	Search for a certain price “apple watch” $299
cache:	Most recent cached version of a domain cache:boston.gov
filetype:	Only search for specific filetype, ext: works the same filetype:pdf “confidential” or ext:pdf “confidential”
related:	Search for sites related to a domain related:sony.com
intitle:	Find pages with a term in the page title intitle:sabotage
inurl:	Find pages with a term in the url inurl:private
around(x)	Find pages with terms in X words proximity of each other microsoft (7) surface
info:	Sometimes shows related pages, cache date etc. info:chicago.gov

Images - Location

- Reverse image search to find the image
  - https://tineye.com/
  - https://images.google.com/
- Find similar images
  - Google lens
- Look for clues in the image
  - Signs
  - Buildings
  - Terrain
- Location **Metadata**

Images - Metadata

- What is metadata
- Types of data
  - How
  - Where
  - When
- Tools
  - Properties in photo viewer
  - Special tools (exiftool etc.)
  - Online tools

Practical

https://shefesh.com/rp/picture_challenge_1.jpg - Where was this taken?

https://shefesh.com/rp/picture_challenge_2.jpg - Where was this taken?

https://shefesh.com/rp/picture_challenge_3.jpeg - What software was used to edit this?

https://shefesh.com/rp/picture_challenge_4.jpeg - When was this taken?

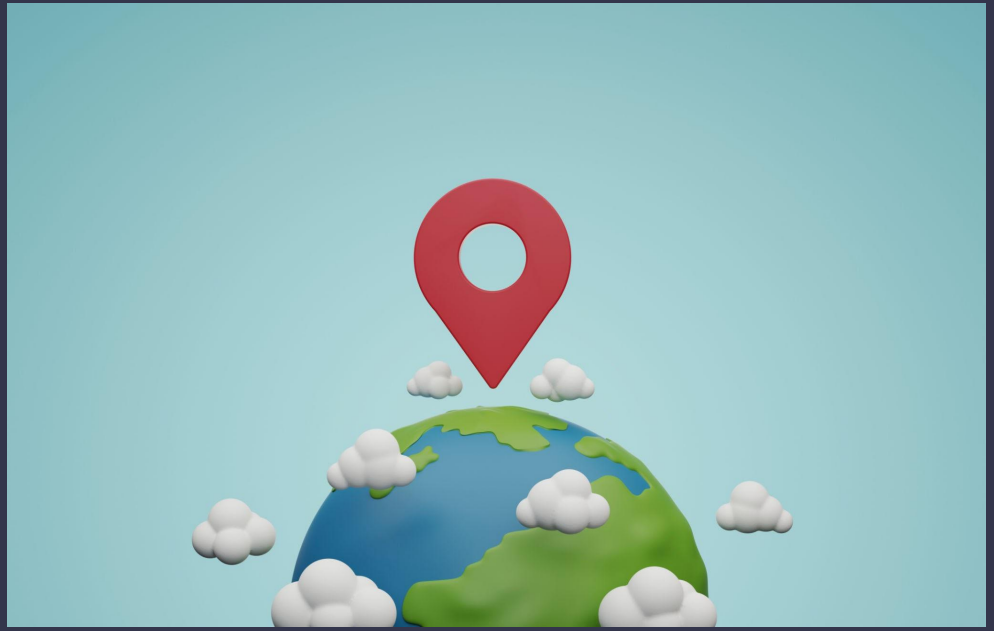
https://shefesh.com/rp/passport.png - What is the redacted information?

https://shefesh.com/rp/medical_form.pdf - What is the redacted information?

OpenGuessr

Now for some GeoGuessr (we are using OpenGuessr instead cause its free!)

GO TO: https://openguessr.com/multiplayer/join



Useful resource

https://www.osintdojo.com/resources/

Upcoming Sessions

What's up next?

www.shefesh.com/sessions

Password Cracking - 20th October - 6:00 PM

Any Questions?

www.shefesh.com

Thanks for coming!