



TechSec

Second Generation

Who are we?

TechSec 1st gen



TechSec with Lab RATs at DEFCON



IAP course

Why is security cool?

feat. Ray Wang (TechSec founder)

What do we do?

- **Lecture**
 - 6:30pm - 7:30pm every Wednesday
- **Hands-on Experience**
 - 7:30pm - 8:30pm every Wednesday
- **CTFs**
 - Every other weekend!

Tentative Schedules (Fall 2018)

Date	Topics	Speakers
Sept 19	Assembly/Hardware Basics	Leah G.
Sept 26	Cryptography	TBD
Oct 3	Intro to Web Security	Cattalyya N.
Oct 10	Web Security II	Andrew Fasano
Oct 17	Machine Learning Security	Tony W.
Nov 7	Reverse Engineering	Cattalyya N.

What's CTF: Capture the Flag?

a cybersecurity competition for finding and exploiting
(and fixing) security holes

Goal: find secret strings “flags” `CTF{Flag Is H3re}`

which proves that you solved a challenge.

Typically there's one flag per one challenge.

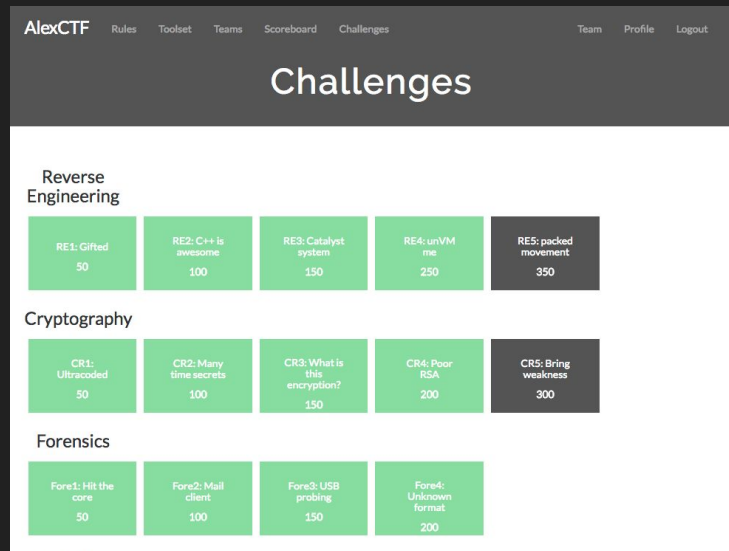
Game Formats

1. Jeopardy-style

- ~ Puzzle Hunt
- Each chall has one flag

2. Attack/Defense

- Every team has a machine
- Find vulns in services run in other machines: “Exploit”
- Fix vulns in your services: “Patch”



Jeopardy-style Challenge Categories

Category	Given	Common Goals
Web	Web page(s)	Exploit vuln front/backend
Crypto	Encrypted msg / Flawed crypto service	Decrypt secret message
Reverse	Local binary	Understand binary, determine correct key or password
Pwn	Remote service	Pop shell, gain root access
Forensics	Packet dump	What happened in traffic?

TechSec miniCTF

<https://techsec.club/>

Challenges: 2 Cryptos, 1 Misc, 1 Web, 1 Reverse

Flag format:

```
TechSec{ . . . . . }
```

complete survey: [`https://bit.ly/2N8uJw5`](https://bit.ly/2N8uJw5)

Example from TechSec Mini-CTF

The easiest crypto challenge

Do you like salad?

AljoZlj{Ulc3y_BzL_Jhlz@y_j1wOLY}

Solution

Do you like salad?

AljoZlj{Ulc3y_BzL_Jhlz@y_j1wOLY}

It turns out to be a Caesar (salad :P) cipher. Encoding shifts each character in the message by the same number of positions down the alphabet.

So we use Caesar decoder online tool: <https://www.dcode.fr/caesar-cipher>

and get a flag: **TechSec{Nev3r_UsE_Caes@r_c1pHER}**

TechSec Exec Team (Fall 2018)

President: Cattalyya Nuengsigkapan (cattalyy@mit.edu)

Secretary: Tony Wang (twang6@mit.edu)

Treasurer: Saroja Erabelli (erabelli@mit.edu)

Officers: Belinda Shi (beeshi@mit.edu), Sharon Lin (sharonl@mit.edu), Philip J Murzynowski (philipm@mit.edu)

Thanks everyone for coming!