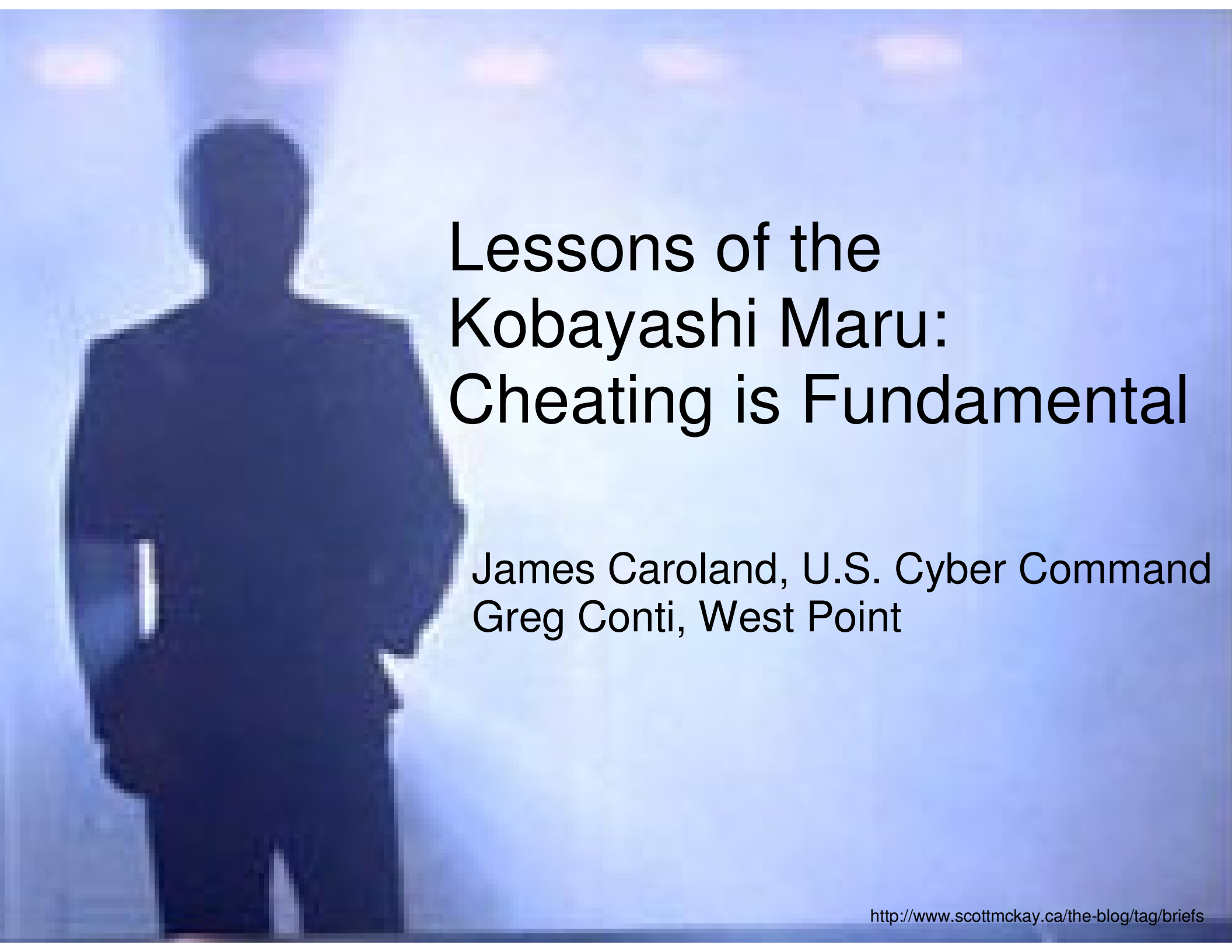
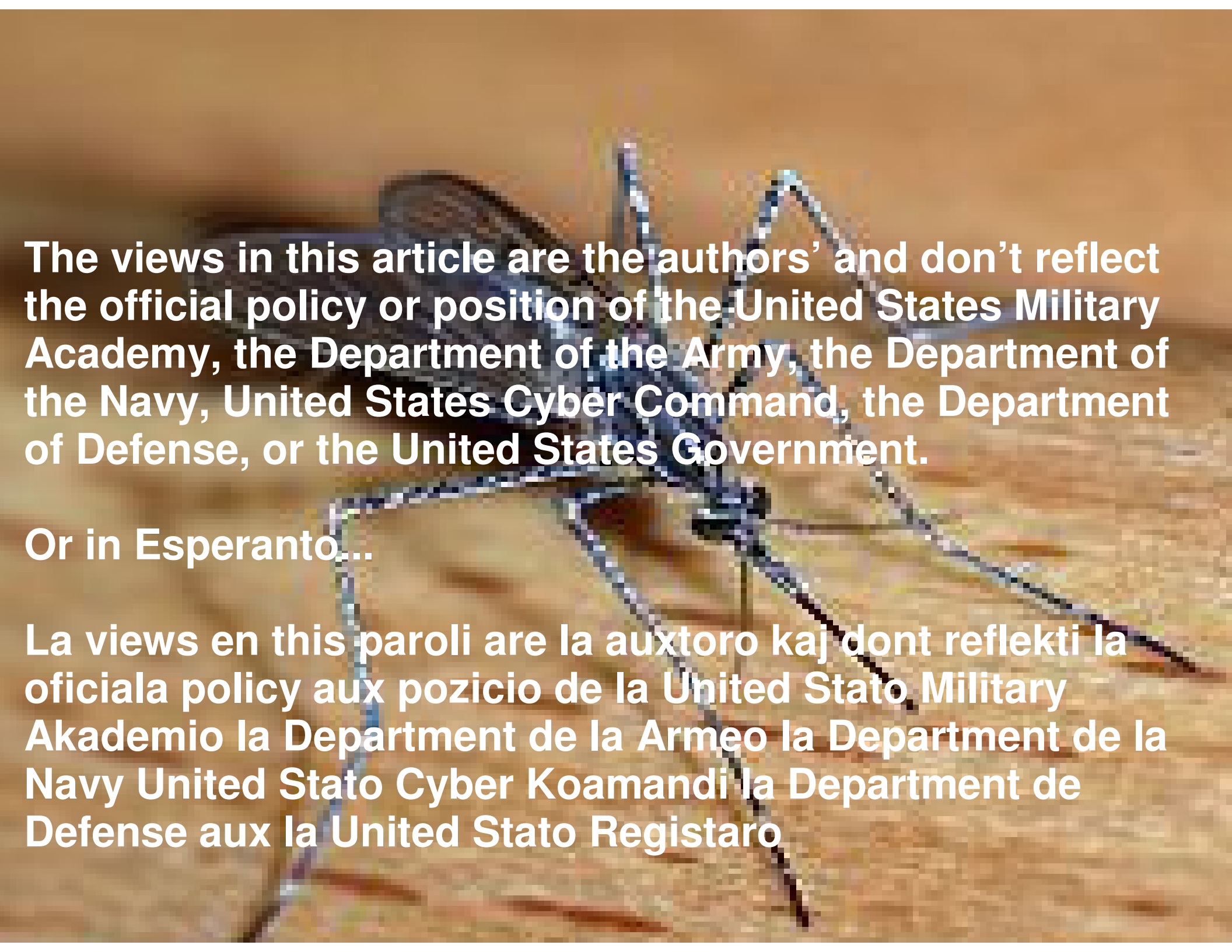




Lessons of the Kobayashi Maru: Cheating is Fundamental

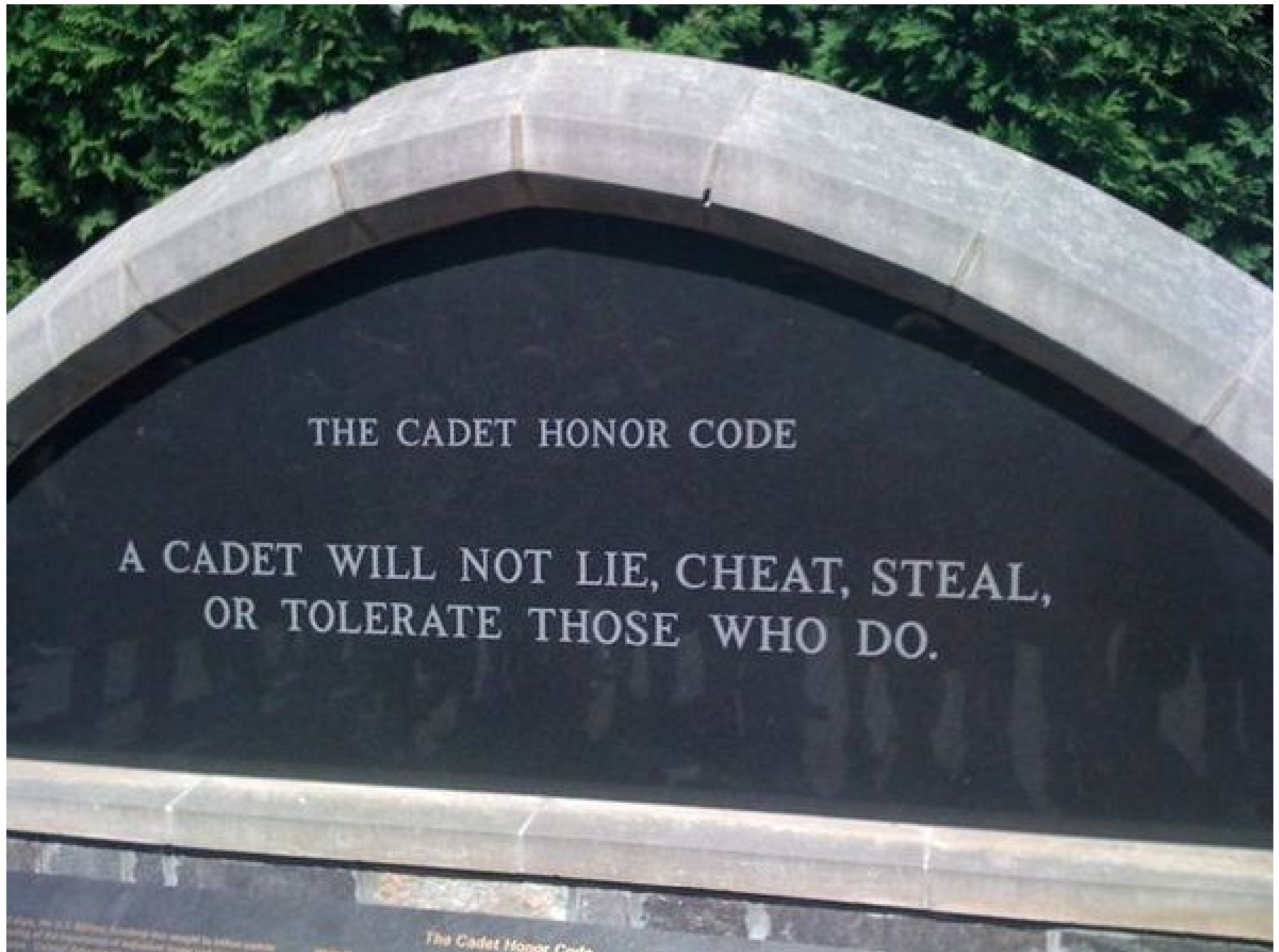
James Caroland, U.S. Cyber Command
Greg Conti, West Point



The views in this article are the authors' and don't reflect the official policy or position of the United States Military Academy, the Department of the Army, the Department of the Navy, United States Cyber Command, the Department of Defense, or the United States Government.

Or in Esperanto...

La views en this paroli are la auxtoro kaj dont reflekti la oficiala policy aux pozicio de la United Stato Military Akademio la Department de la Armeo la Department de la Navy United Stato Cyber Koamandi la Department de Defense aux la United Stato Registaro









Everyone starts with 10 points.

Example 1. If you answer all questions correctly you will keep your 10 pts.

Example 2. If you miss/fail 3 test questions, your final score is 7 points.





Joint Advanced Cyber Warfare Course (JACWC)

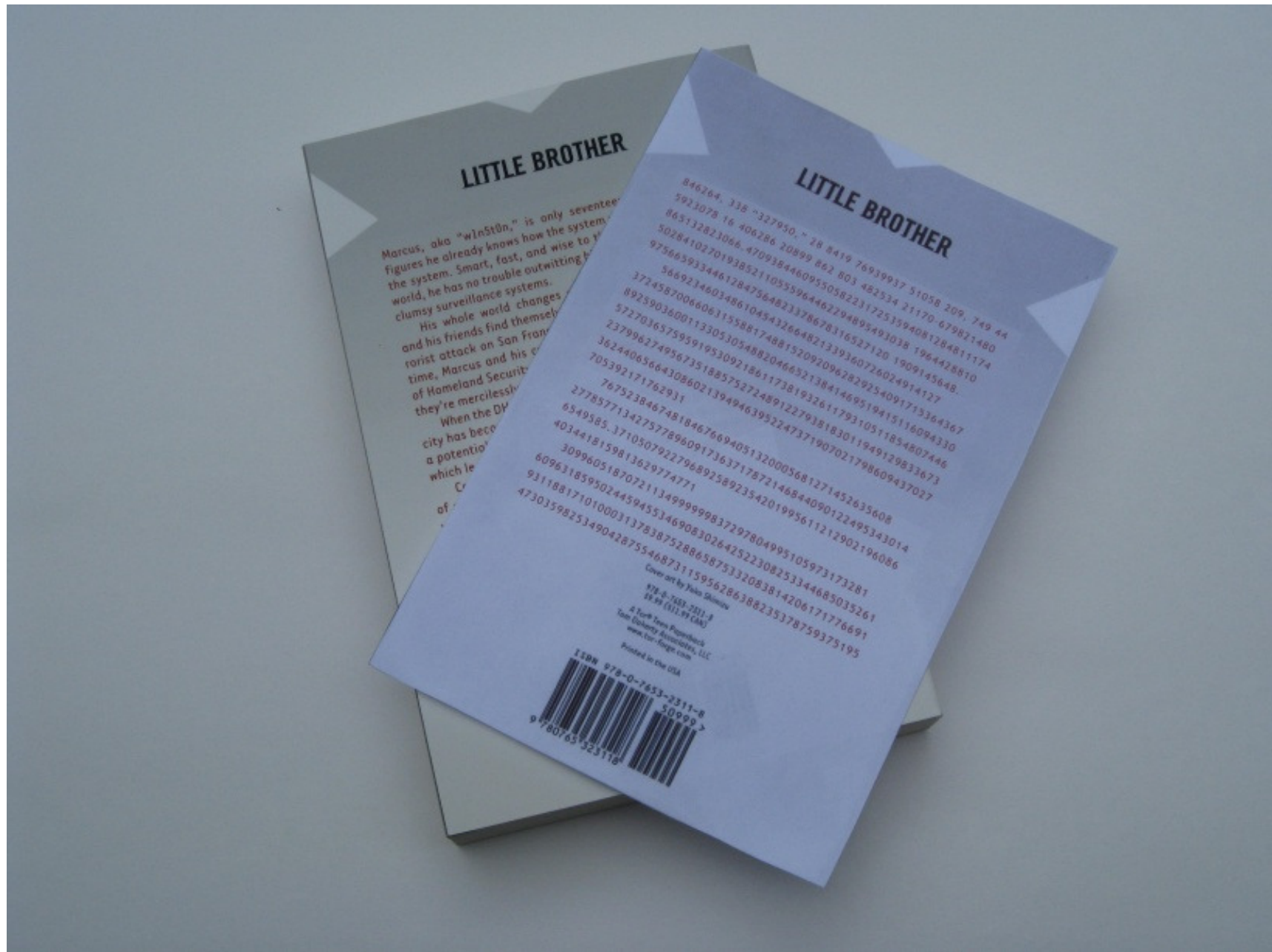
Setup of "Test"

- Provide virtually no notice
- Choose "unfair" problem
- Tell students don't want them to study... we want them to cheat
- Collaborative cheating was encouraged, but this exercise wasn't a blanket license to cheat throughout the course

3 . 1 4 1 5 9 2 6 5 3 5 8 9
7 9 3 2 3 8 4 6 2 6 4 3 3 8
3 2 7 9 5 0 2 8 8 4 1 9 7 1
6 9 3 9 9 3 7 5 1 0 5 8 2 0
9 7 4 9 4 4 5 9 2 3 0 7 8 1
6 4 0 6 2 8 6 2 0 8 9 9 8 6
2 8 0 3 4 8 2 5 3 4 2 1 1 7
0 6 7 9 8 2 1 4 8 0 8 6 5 1
3 2 8 2 3 0 6 6 4 7 0 9 3 8
4 4 6 0 9 5 5 0 5 8 2 2 3 1
7 2 5 3 5 9 4 0 8 1 2 8 4 8
1 1 1 7 4 5 0 2 8 4 1 0 2 7
0 1 9 3 8 5 2 1 0 5 5 5 9 6
4 4 6 2 2 9 4 8 9 5 4 9 3 0

Examples

The False Book Cover



The Everyday Object



The Ceiling Tile



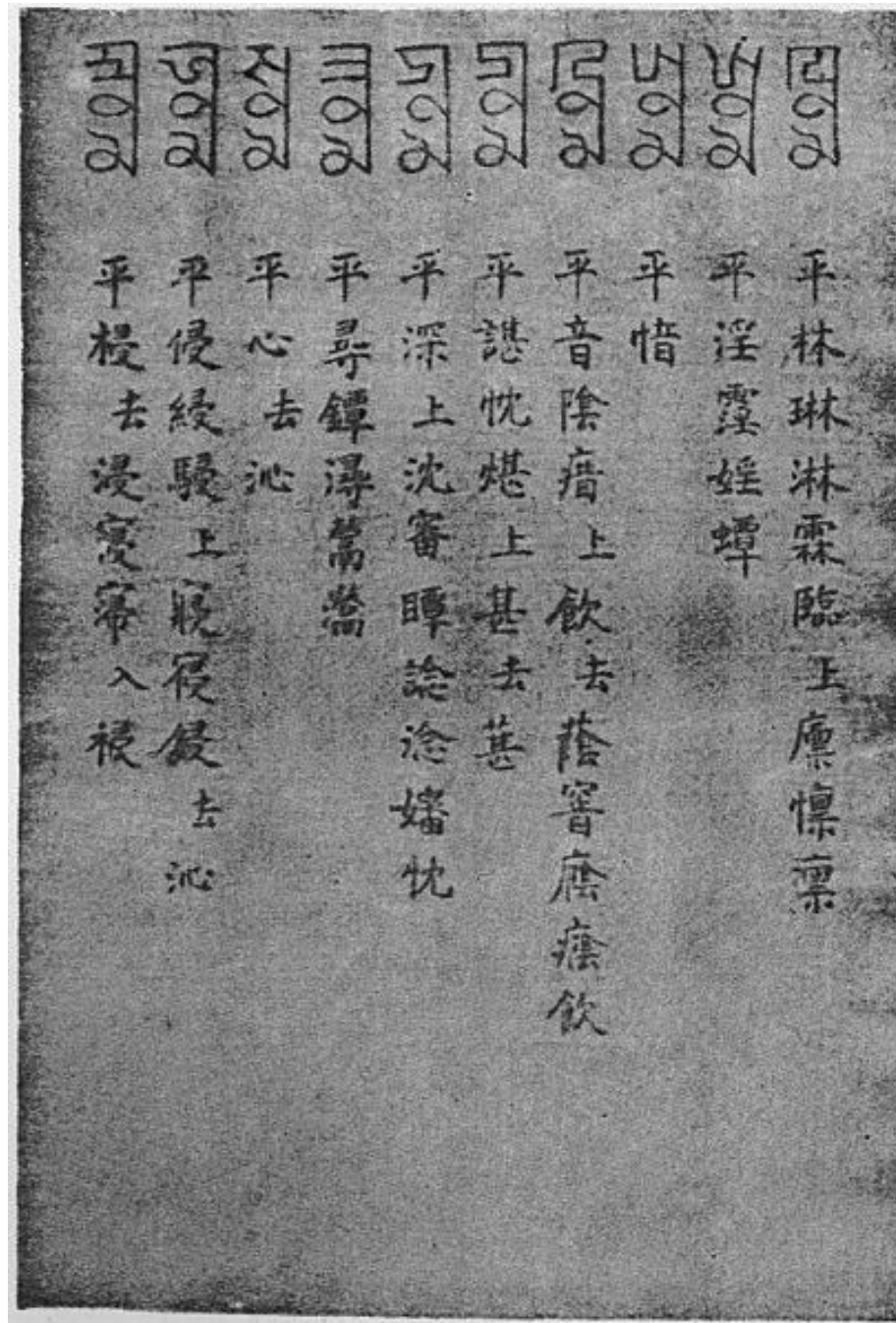
Hiding in Plain Sight



Prepositioned Answers



Alternate Encoding



Morse Code

**October 30, 2011 -
November 05, 2011**

October 2011							November 2011						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
						1			1	2	3	4	5
2	3	4	5	6	7	8	6	7	8	9	10	11	12
9	10	11	12	13	14	15	13	14	15	16	17	18	19
16	17	18	19	20	21	22	20	21	22	23	24	25	26
23	24	25	26	27	28	29	27	28	29	30			
30	31												

	30 Sun	31 Mon	1 Tue	2 Wed	3 Thu	4 Fri	5 Sat
7 am					Travel via Bus (Group	Travel	

Story Encoded

NOW I DEIFY A TENET GALLANTLY OF CIRCLE CANON LAW THOSE
INTEGERS IMPORTING CIRCLES' QUOTIENTS ARE, WE SEE, UNWIELDY
LONG SERIES OF COCKLE BURS PUT ALL TOGETHER, GET NO CLARITY,
MNEMONICS SHAN'T DESCRIBETH SO REFORMED CREATING, WITH A
GRAMMERCY PLAINLY, A SONNET LIBERATED YET CONFORMED. STRANGELY
THE QUEEREST RULES I MANIPULATE BEING FOLLOWED, DO

The Classic



Precompiled Answer

Begin your essay on this page. If you need more space, continue on the next page.

In today's "Global Community" it is ever more important that human beings, as a species, solve problems that not only affect people in their immediate communities, but also solve those problems which affect the nation as a whole. As Kate Thomas, Tom Clancy's book ^{Red Alert} said "Together we can improve the future in which we live in but divided we shall be destroyed." The most obvious example of the benefits of a united nation solving problems together is China. Similarly philanthropist Bill Gates also believes in solving problems of the United States.

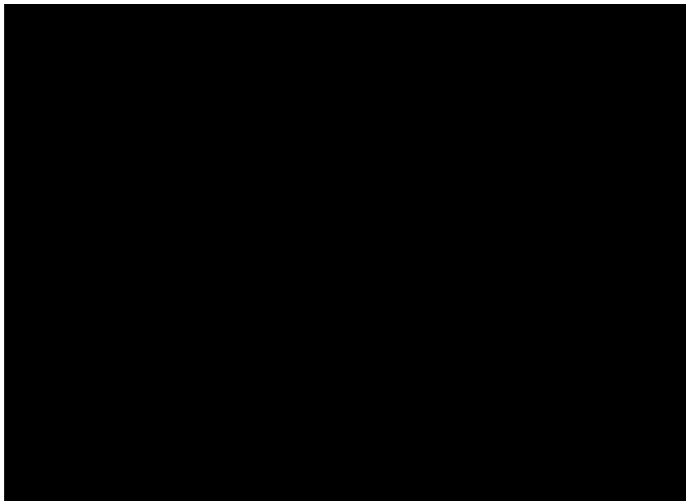
When people hear the words "People's Republic of China," they think Tiananmen Square massacre, Forbidden City, Communism, etc. Unfortunately, those people do not see the clear coherent group of people cooperating and solving problems of their nation together. Every town has a vote and people are allowed to vote on national issues only. Should China allow Intel to establish their factories in China? Six years ago, the people of China voted yes on this issue. Should we pass environmental law 23 which bans the use of DDT in China? Again the people voted yes. Together, once yearly basis, the people of China get together to solve problems which can affect their nation economically and environmentally. Today, people in the United States can see how strong and powerful China has become through the work of its people. After that visit on China, I will turn to the United States where Bill and Melinda Gates are two people on a mission to solve the nation's problems of poverty and hunger here in the United States.

Bill and Melinda Gates, well... what can one say about that philanthropic couple? From the numerous soup kitchens this famous couple has personally set up to the Bill and Melinda Gates foundation, these two people have donated much of their income to good causes. This couple has touched thousands of people and continue to do so everyday. They have earned themselves the good will of the

rand()

3.1415926535 + 90 random digits

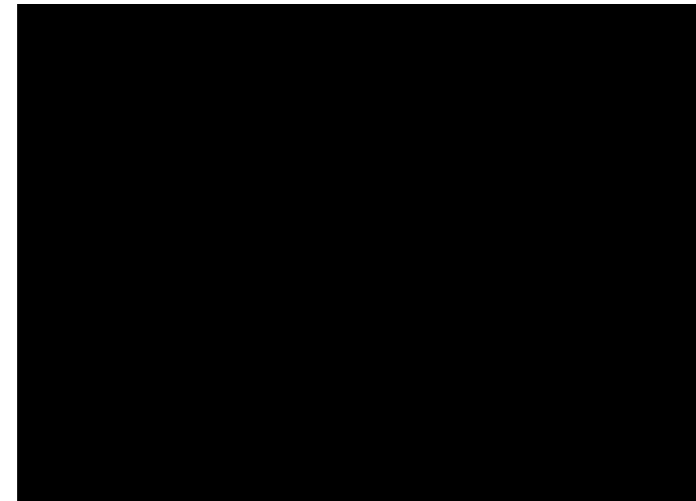
Power Point



Slide 1

3 . 1 4 1 5 9 2 6 5 3 5 8
7 9 3 2 3 8 4 6 2 6 4 3 3
3 2 7 9 5 0 2 8 8 4 1 9 7
6 9 3 9 9 3 7 5 1 0 5 8 2
9 7 4 9 4 4 5 9 2 3 0 7 8

Slide 2



Slide 3

Hash marks



Obscured by wholesome goodness



Ubiquitous Coffee



Ubiquitous Coffee

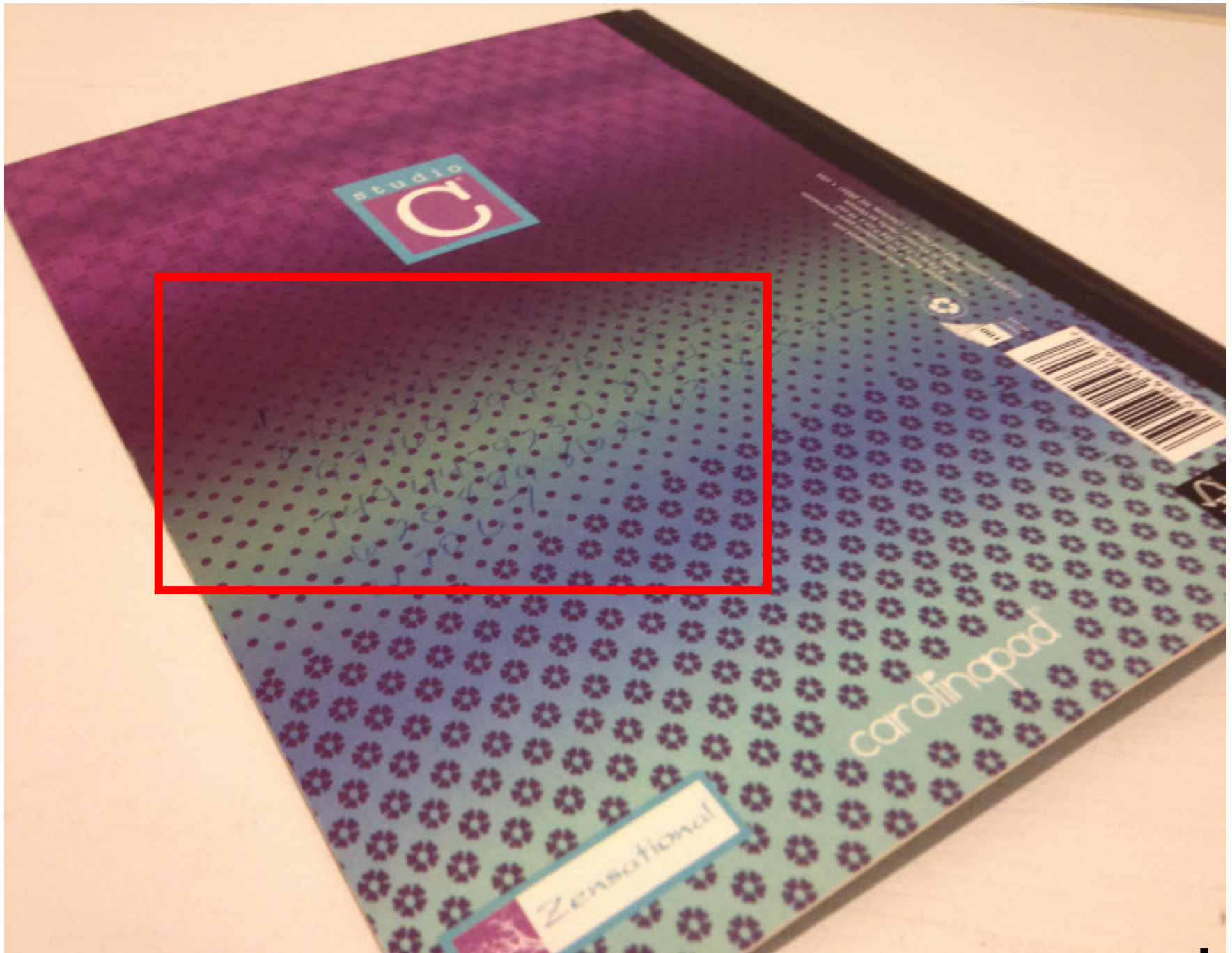


demo

Notebook Camouflage

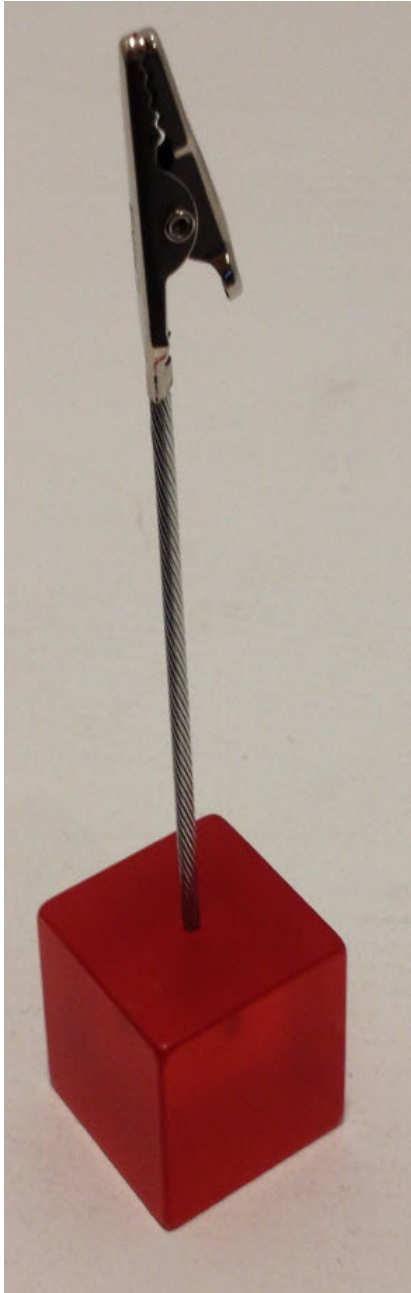


Notebook Camouflage



demo

Roach clip engraving



Fake Barcodes

EN1



EN2



EN3



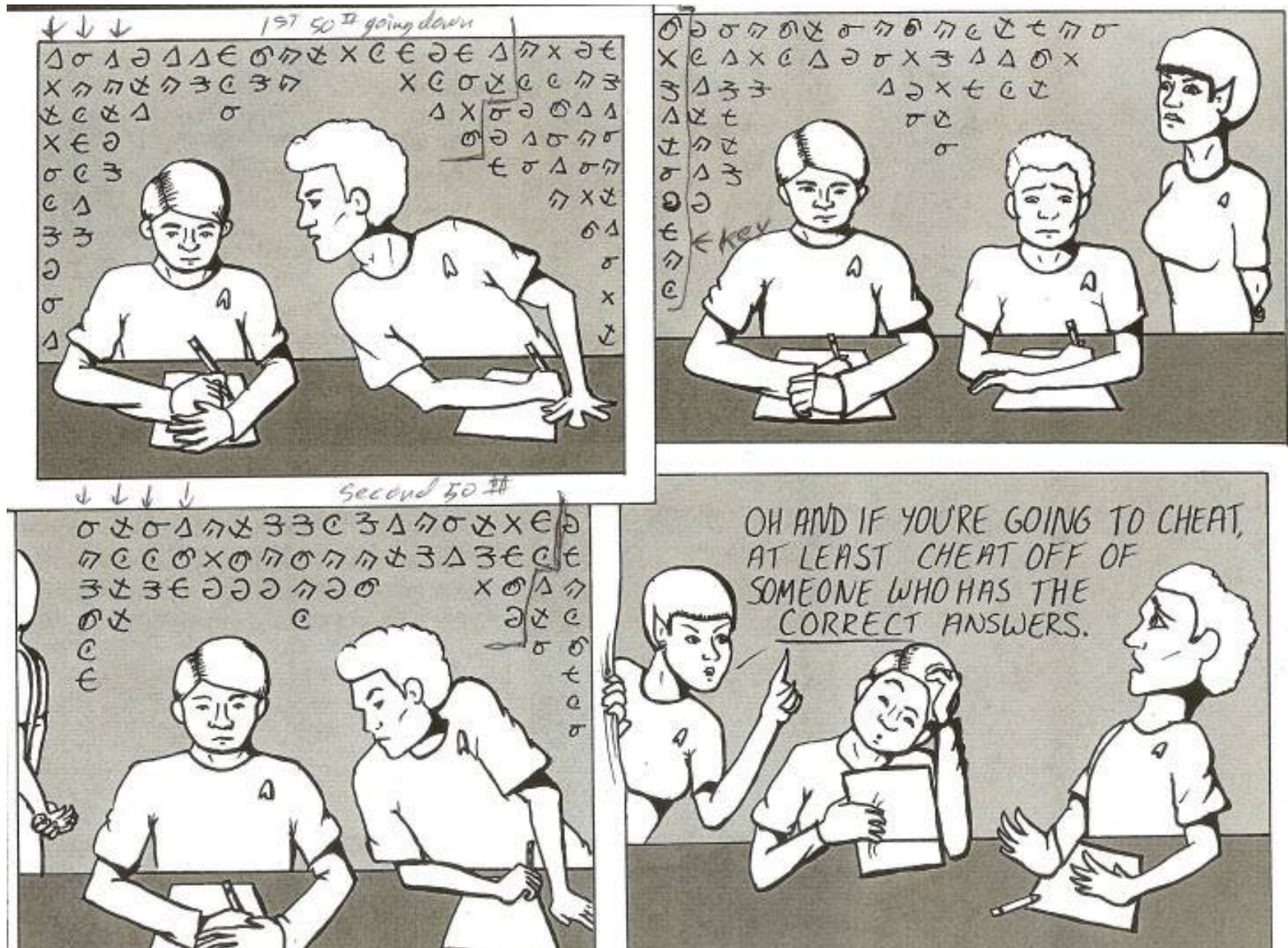
EN4



Customized jewelry



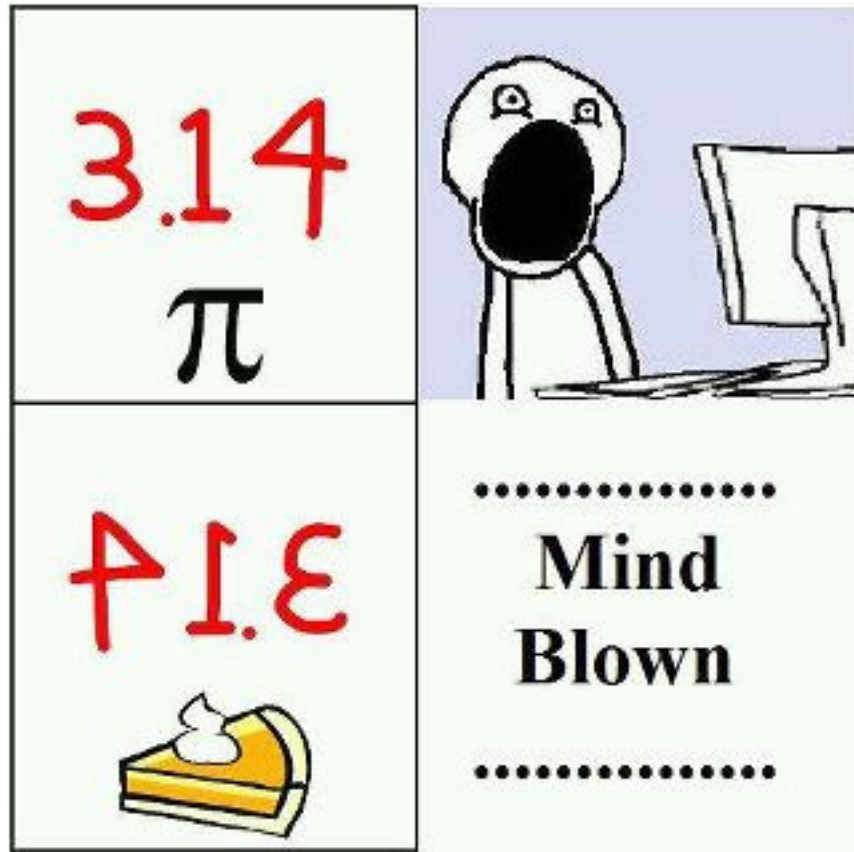
Artist daughter + code



Security Lessons Learned

- Most people are pretty darn good at cheating
 - Especially the quiet ones
- Cheaters...
 - Exploit explicit and implicit trust
 - Exploit laziness
 - Exploit predictability
 - Exploit limitations of human and machine senses
 - Use everyday objects
 - Look where no one else is looking
 - Use uncommon skill sets
 - Have backup plans

Acknowledgements



We'd like to thank...

Mudge, TJ White,
Eric McKissick, Mark Moss, and
all the JACWC students.

See also...

Gregory Conti and James
Caroland. "Embracing the
Kobayashi Maru - Why You Should
Teach Your Students to
Cheat." IEEE Security and Privacy,
July/August 2011.



Questions?

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Teach yourself, your friends and your
co-workers to cheat.

Our adversaries already do.