Malicious Website Detection

Effectiveness & Efficiency Issues

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- uncover vulnerabilities (browser, plugins, webapp, server), initiate attack
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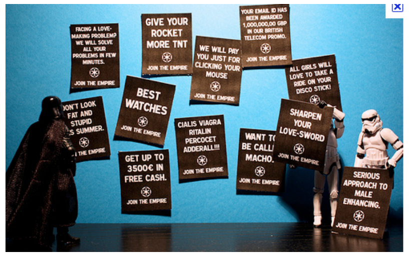
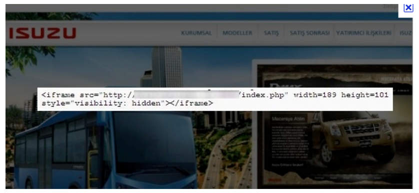

FACING A LOVE-MAKING PROBLEM? WE WILL SOLVE ALL YOUR PROBLEMS IN FEW MINUTES. JOIN THE EMPIRE
GIVE YOUR ROCKET MORE TNT JOIN THE EMPIRE
YOUR EMAIL ID HAS BEEN AWARDED 1,000,000,00 GBP IN OUR BRITISH TELECOM PROMO. JOIN THE EMPIRE
WE WILL PAY YOU JUST FOR CLICKING YOUR MOUSE JOIN THE EMPIRE
ALL GIRLS WILL LOVE TO TAKE A RIDE ON YOUR DISCO STICK!
DON'T LOOK FAT AND STUPID THIS SUMMER. JOIN THE EMPIRE
BEST WATCHES JOIN THE EMPIRE
CIALIS VIAGRA RITALIN PERCOCET ADDERALL!!! JOIN THE EMPIRE
WANT TO BE CALLED MACHO. JOIN THE EMPIRE
SHARPEN YOUR LOVE-SWORD JOIN THE EMPIRE
GET UP TO 3500€ IN FREE CASH. JOIN THE EMPIRE
SERIOUS APPROACH TO MALE ENHANCING. JOIN THE EMPIRE



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<iframe src="http://[redacted]/index.php" width=189 height=101
style="visibility: hidden"></iframe>
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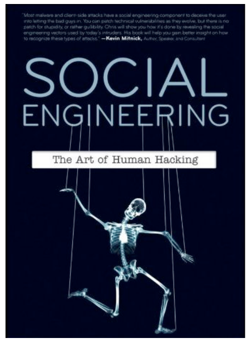

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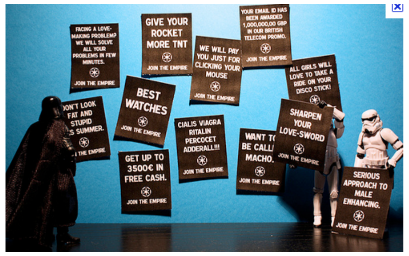
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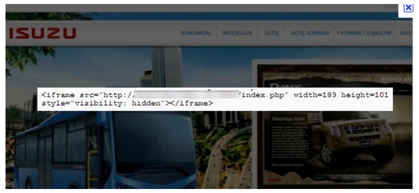

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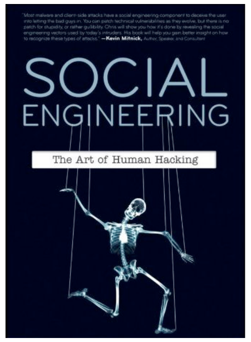

- 111.4% rise [2009-10], 79.9% malicious legitimate sites [2010], WebSense’10
- 310,000 unique malicious domains, 4.4m average monthly malicious pages, July 2009-June 2010, Symantec’10
- 70 / top 100 reputable websites host malicious content/ have luring redirections to other malicious websites, Symantec’11

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2. Current approaches are biased to a single prominent attack (partial snapshot=>false signals!)
3. Page features are evolving continously(completeness, semantics, selection => outdated models!)

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- How and when to update models when page features change?
- Which features to select when there are many candidate feature sets?

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  - Genetic Algorithms for feature evolution (cross-over and mutation)

Thank You!