Privacy and security in the Future Internet

Assistant Professor George Stergiopoulos

Who am I?

- Finished my PhD in Athens Univ. of Economics and Business (AUEB)
- Postdoc in AUEB, UNIPI
- eail: g.Stergiopoulos@aegean.gr
- My researcher interests
  - Cryptography
  - Network security
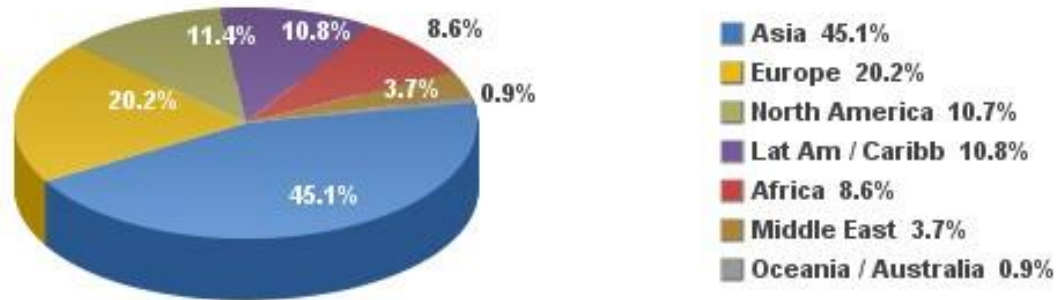 - Industrial systems
  - Privacy
  - Hacking

A success Story

Internet is one of history's great success stories

INTERNET USAGE STATISTICS
The Internet Big Picture
World Internet Users and Population Stats

WORLD INTERNET USAGE AND POPULATION STATISTICS December 31, 2013						
World Regions	Population (2014 Est.)	Internet Users Dec. 31, 2000	Internet Users Latest Data	Penetration (% Population)	Growth 2000-2014	Users % of Table
Africa	1,125,721,038	4,514,400	240,146,482	21.3 %	5,219.6 %	8.6 %
Asia	3,996,408,007	114,304,000	1,265,143,702	31.7 %	1,006.8 %	45.1 %
Europe	825,802,657	105,096,093	566,261,317	68.6 %	438.8 %	20.2 %
Middle East	231,062,860	3,284,800	103,829,614	44.9 %	3,060.9 %	3.7 %
North America	353,860,227	108,096,800	300,287,577	84.9 %	177.8 %	10.7 %
Latin America / Caribbean	612,279,181	18,068,919	302,006,016	49.3 %	1,571.4 %	10.8 %
Oceania / Australia	36,724,649	7,620,480	24,804,226	67.5 %	225.5 %	0.9 %
WORLD TOTAL	7,181,858,619	360,985,492	2,802,478,934	39.0 %	676.3 %	100.0 %

Another view

**Internet Users in the World
Distribution by World Regions - 2013 Q4**

11.4% 10.8% 8.6%
20.2% 3.7% 0.9%
45.1%

- Asia 45.1%
- Europe 20.2%
- North America 10.7%
- Lat Am / Caribb 10.8%
- Africa 8.6%
- Middle East 3.7%
- Oceania / Australia 0.9%

Source: Internet World Stats - www.internetworldstats.com/stats.htm
Basis: 2,802,478,934 Internet users on Dec 31, 2013
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What's next?

 What's the Future (of the) Internet

What's next?

- New technologies
- More ubiquitous
- Everything will be connected

Security and privacy at stake !!

Lecture goals

- Understanding the security issues in the FI
- Study existing security solutions
- We're still discovering many of the security issues. Ypu must be able to
  - Identify a security problem in FI technologies
  - (Ideally) Develop your own solution

Main topics

- Crypto Currencies –the blockchain infrastructure
- Privacy and PETs
- AI and ML security
- Big data security
- Cloud Computing
- IoT security

Assessment

- Written Exam (50%)
- Project 1and presentation (50%)

Material

- Lecture Presentations
- Electronic edition of books and papers per topic

Tools

- Lectures platform
- E-class
  - https://eclass.icsd.aegean.gr/
- Contact via the platform
- Email:
  - g.stergiopoulos@aegean.gr