NISK 2016 Travel Report

NOVENBER 28 - 30, 2016

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What are NIK, NOKOBIT, NISK and UDIT

NIK: Norwegian Informatics Conference

NOKOBIT: Norwegian Conference on the use of IT in organization

NISK: Norwegian Information Security Conference

UDIT: Norwegian Conference on Didactics in IT education

All these conferences are Norwegian, academic conference in the field of computing and IT. This year, all four conferences are united as one conference with paralleling programs. (http://nikt2016.hib.no/nb/) This time, this was hosted in Bergen, Norway.

General Impression of the Conference

NOVEMBER 28

COINS PhD Student Seminar: I happened to participate the second day of COINS PhD seminar that day. A simulated PhD defense. The simulated evaluation committee of the defense composites with both people from industry and academic research. Questions are from very specific to very general questions.

This event makes me more familiar with the defense process, which I made a conclusion as following chart. Especially, PhD defence composite of 30 minutes introduction of thesis and result and further discussion between PhD one by one.

Submit Thesis

Build Evaluation Committee

Trial Lecture

Done?

PhD Defence

Thesis Published

Board Meeting: I joined one part of board meeting as one of student representatives to discuss the status of COINS, planning of winter and summer school. Then I realized there are bit amount of detail things behind each event organized by COINS and student can contribute opinions to the topic of summer school or winter school.

NOVMBER 29

It started with a UDIT invited talk by Michael Kölling, who is the creator of BlueJ and Greenfoot which are widely used JAVA programming learning tools for beginners. This presentation is about the design idea and principles behind creating software to teach introductory programming.

I followed the NISK track of conference afterwards. COINS PhD student Sergii Banin presented memory access patterns for malware detection. Their work detect zero day intrusion by analyzing memory access sequence (menmtraces). Specifically they record the sequences of write and read operation in memory level and using machine learning to detect abnormal. Flowed presentation is a proposed mechanism against Man-in-the-Browser (MitB) attack by using Trusted Platform Malware (TPM) to verify the integrity of screenshot of transaction with bank. In the afternoon, the topic is about intrusion detection. One paper is using constrains of approximate search instead of exact search for decreasing false and positive alarms. Next presentation is using data fusion process to classify big amount of IDS events.

NOVMBER 30

After the fantastic invited talk about the history of computations and cryptology by Leif Nielsen, the first session is about cellular network security. The first presentation is the survey of security mechanisms and threats of mobile communications. After invited talk about personal experience of staring a game company in Bergen, it followed by a paper about proposed virtual framework for interconnected virtual network domains. Christian presented a survey about the current trends in low-level exploitation. Afterwards, Martin presented a secure decryption protocol for Norweigian Internet voting project.

Impressive Parts for me

Invited Talk by Michael Kölling about Developing Educational Software

Since many Chinese universities in China use BlueJ for teaching JAVA at beginning, so I was very exciting to meet Michael Kölling and even talked with him face to face. Actually, I did not notice BlueJ is developed by Michael Kölling himself, but it is developed all by himself during his PhD. It is amazing that making a product by one person but it being used by millions of people. Michael mentioned about different user psychology of different age group. BlueJ targets at the bachelor juniors major in computer science. That means these students already interested in programming since their major choice. However, Greenfoot which is another product he developed face younger users who may won't select computer science in the future. This means the content and design of these two programs are different. Designing the programs like game, but also don't lose the reality in case if they want to learn JAVA in the future, and choosing block program or syntax program and etc. Making educational software is interdisciplinary and challenging job.

Invited Talk by Fredrik Sundt Breien about Experience of Starting a Game Company

Fredrik talked about his experience of as entrepreneur in game industry for 10 years. Their company has developed many games, and some are developed for science museum in Bergen. He quit his PhD for starting his own company from scratch. He learnt lessons of not making big and interactive online game at very beginning and don't make changes before present to customers and sponsors. From very beginning at survival status, disagreement with other partners and until now, his company can focus on building cool product without worrying about financing problem too much, he suffered and learnt a lot from failures.

Overall

NISK 2016 full of interesting topics and covers many area in security field, from coding theory to intrusion detection and mobile framework. Invited talks are amazing and not only limit to security which broads my vision of IT in different industry. By this event, I also met many friends from COINS. I recommend NISK conference to every IT student.