**Annual Report of the**

**ACM Committee on Computers and Public Policy (CCPP)**

**For the Period 1 July 2012 to 30 June 2013**

**Submitted by Peter G. Neumann, Chairman**

Date: June 30, 2013

PURPOSE OF CCPP

The ACM Committee on Computers and Public Policy (CCPP) seeks to

 \* aid the ACM with respect to a variety of internationally relevant

 issues pertaining to computers and public policy, and

 \* help make the ACM even better recognized worldwide.

Its most visible project is the ACM Forum on Risks to the Public in Computers and Related Systems, established in August 1986 in response to Adele Goldberg's ACM President's message in the February 1985 issue of the Communications of the ACM (CACM). It has also served as a hands-on review board for the Inside Risks articles in the CACM, since July 1990.

CCPP PERSONNEL

The Chairman of the ACM Committee on Computers and Public Policy (CCPP) is Peter G. Neumann. During the reporting year, the committee consisted of Steve Bellovin, Peter Denning, Virgil Gligor, Jim Horning (until his passing), Kevin Hu (new member), Nancy Leveson, David Parnas, Jerry Saltzer, and Lauren Weinstein. This body exists as an expert advisory group rather than a membership organization, and has considerable impact worldwide even though it maintains a relatively low profile. I am extraordinarily grateful to them for their continued long-standing participation and their incisive reviewing of CACM Inside Risks columns and helping resolve occasional potentially sticky issues relating to the ACM Risks Forum. The intellectual memory span and diversity of interests that they represent and are contributing is extraordinary, and have greatly improved the quality of the Inside Risks content and kept the ACM Risks Forum on track. I continue to value their incisive contributions on many issues that require insight and wisdom. Although their oversight efforts regarding Inside Risks are often not visible to readers, some of the CACM columns have led to intense interactions with the authors that occasionally escalated to coauthorship.

CCPP internal interactions generally involve e-mail, with occasional telephone calls and in-person discussions. Many constructive interchanges have occurred during the year, as in the past.

There is some overlap with other ACM committees. For example, Horning was for many years active in USACM, and Neumann still is. Although there is some commonality of problem areas, the charters of CCPP and USACM are quite different. USACM has a specifically U.S.-centric focus, whereas CCPP tends to consider problems more generally with a global perspective. For example, Neumann remains active in risks related to election systems, which is a common interest of USACM and CCPP -- respectively with primary domestic and more international scope.

CCPP Efforts

CCPP has several manifestations, including

 \* RISKS online: The ACM Forum on Risks to the Public in Computers as a newsgroup

 (a digest by e-mail, and distributed as comp.risks via USENET). See Item 1 below.

 \* RISKS highlights in ACM Software Engineering Notes (SEN):

 Edited and distilled from the online ACM Risks Forum. See Item 2 below.

 \* The CACM Inside Risks tri-yearly columns. See Item 3 below.

 \* RISKS: The Book, Computer-Related Risks. See Item 4 below.

Neumann has been highly visible in those efforts, but other CCPP members have also been active participants. Additionally, some other efforts have been undertaken, and CCPP members have continued to be active in ACM advisory roles and in computer policy issues, either directly related to CCPP or otherwise.

Neumann contributes many hours each week pro bono, moderating RISKS, responding to queries, engaging in individual dialogues with readers, and distilling the RISKS highlights for SIGSOFT's Software Engineering Notes (SEN). From the feedback we receive, RISKS appears to be one of the most widely read and most useful of the moderated on-line digests relating to computer technology. It serves a real educational purpose.

Despite its high profile and the occasionally controversial nature of some of the material, RISKS has been a relatively noninflammatory operation; this reflects the fact that Neumann takes his moderator's role quite seriously. (The advisory members of CCPP are invoked as informal reviewers whenever a potentially controversial contribution must be considered. In addition, each member of the committee has typically played an advisory role during the year on various sensitive issues.)

CCPP represents an extraordinary collection of creative thinking ability and resources for ACM, and its members are invoked as appropriate.

RELEVANT ACTIVITIES DURING THE REPORTING YEAR

Following is a list of CCPP-relevant activities. Almost all were done essentially pro-bono, and in my case with the considerable blessing and computer support of SRI International's Computer Science Lab -- for which I am hugely grateful.

ITEMS OF IMMEDIATE RELEVANCE to CCPP

1. The on-line ACM Forum on Risks to the Public in Computers and Related Systems. In addition to

 various unofficial mirrored sites on the Internet, including a new feed at panix.com for comp.risks on

 USENET as of May, 2011, the official archives are available by anonymous ftp in the U.S. at

 ftp://ftp.sri.com/risks/ , and in a nicely formatted searchable site in the U.K., courtesy of Lindsay

 Marshall: <http://catless.ncl.ac.uk/Risks/> which is also accessible as <http://www.risks.org>

 The ACM Risks Forum activity involves many tens or even hundreds of thousands of people around

 the world, some of whom are contributing to the CCPP effort through their RISKS submissions. There

 are always many new first-time contributors each year.

 The ACM Risks Forum continues as an institution. Since its first issue on August 1, 1985, its readership

 continues to expand, with a steady flow of new direct subscribers, via USENET newsgroups as

 comp.risks, and through redistribution centers and mirrored websites throughout the Internet.

 It reaches essentially every country that does not censor the Internet.

 During the 2012-2013 reporting year, 44 issues of the Digest appeared (RISKS-26.90 to 26.98, and

 RISKS-27.01 to 27.35). The number of submissions for consideration continues to be considerable, and

 the primarily limitation on the frequency of issues is the scarcity of my time (and having to delete

 hundreds of spam messages daily that are not caught by our filters).

2. Highlights from the on-line RISKS Forum continue to appear six times each year in the ACM SIGSOFT

 Software Engineering Notes. Neumann was SEN's founding editor in 1976. After Will Tracz took over

 as Editor in 1995, Neumann has continued to contribute a RISKS section to essentially every regular

 issue. This is continuing under the new editor, Mike Wing, after Will Tracz became SIGSOFT

 Chairman. (SEN's circulation is one of the larger among SIGs.)

3. P.G. Neumann (ed). Inside Risks began in July 1990 as a monthly one-page item, originally inside the

 back cover of the CACM for 18 years. It is now slated for three longer articles each year, as of 2009.

 We continue to seek diversity among the authors. The following articles appeared during the

 reporting year, as Inside Risks Viewpoints:

Oct 12.228 The Foresight Saga, Redux: Short-term Thinking Is the Enemy of the Long-term Future, PGN

Feb 13.229 More Sight on Foresight: Reflecting on Elections, Natural Disasters, and the Future, PGN

Jun 13.230 Learning from the Past to Face the Risks of Today, Nancy Leveson

Inside Risks articles are available online at <http://www.CSL.sri.com/neumann/insiderisks.html>

4. Neumann's RISKS BOOK ("Computer-Related Risks", ACM Press and Addison-Wesley, 1995), having

 transcended its fifth printing, is now being printed "on demand", and is now available online as well.

 It is also available in a Japanese translation. More recent source material is online in the ACM Risks

 Forum <http://www.risks.org> and culled and excerpted in a topically relevant form bimonthly in

 **SEN** (item 2). AWL's editor, Peter Gordon, has suggested a 20th Anniversary second edition along the

 lines of what Fred Brooks did for The Mythical Man-Month.

5. PGN's Illustrative Risks document provides a topical index for SEN and RISKS. It used to be updated

 periodically, but is fairly complete up to a point. It is available online as

 <http://www.CSL.sri.com/neumann/illustrative.html/>

 <http://www.CSL.sri.com/neumann/illustrative.pdf/>

 <http://www.CSL.sri.com/neumann/illustrative.ps/>

 The task of maintaining the currency of this resource has become more daunting over time, and this

 index is not up to date -- except for recent items on election integrity. However, the search engine at

 risks.org tends to compensate for that.

6. Numerous additional activities of PGN are enumerated in Appendix I below.

7. Lauren Weinstein continues his operation of the PRIVACY Forum and the Network Neutrality Squad

 under the partial aegis of CCPP. <http://www.vortex.com/privacy>

 PRIVACY FORUM: <http://www.nnsquad.org>

 NETWORK NEUTRALITY SQUAD: <http://www.nnsquad.org/>

 The Privacy Forum and related services from People For Internet Responsibility (PFIR, which he co-

 founded with PGN), and his other outreach efforts continue to provide discussions, information, and

 other services that include the many areas of privacy -- which intersect virtually every aspect of our

 lives. The PRIVACY Forum, Network Neutrality Squad, and his other archives are continually

 referenced around the world, and have been listed as major network resources in the links of many

 private, commercial, and governmental entities globally.

 As is the case with PGN, Lauren receives numerous e-mail and telephone contacts from all manner of

 media points, and continues to participate in newspaper and magazine articles, local and network

 radio and television interviews, and similar discussions on privacy and related technology topics. He

 has also been a commentator for National Public Radio's ``Morning Edition'' and for "Wired News"

 regarding technology and society.

8. Other CCPP members have also interacted with various ACM people on ACM and CCPP-related \

 issues, reviewed drafts, refereed papers, etc. See their websites, listed in Appendix II.

9. Other CCPP members wrote papers and gave talks that bear on computers and public policy.

10. This CCPP report is accessible from the acm.org pages, via a link to my CCPP Web page:

 <http://www.CSL.sri.com/neumann/ccpp.html>

PLANS THROUGH 1 JULY 2014

11. Neumann hopes to continue moderating the on-line RISKS Forum and contributing RISKS sections to

 ACM SIGSOFT's Software Engineering Notes.

12. Neumann will continue to coordinate/edit/write the CACM Inside Risks columns, seeking articles on

 topical RISKS-related subjects written by members of CCPP and other contributors. Please contact

 me if you think you might have an appropriate RISKS-relevant Viewpoints article.

13. CCPP members will continue to interact with USACM as appropriate. We have been encouraging the

 submission of more Inside Risks columns from the USACM community, without much success.

 Perhaps in the future that will change.

BUDGET AND FUNDING

The 2012-2013 CCPP expenditures were as usual minimal, and the budget was adequate, with no expenses for computing resources and communications. (SRI continues to provide free disk space for the RISKS FTP archives on ftp.sri.com; the CSL.SRI.COM resources are partly subsidized by SRI. In addition, Lindsay Marshall at Newcastle University provides the extremely useful searchable risks.org archives on a pro bono basis, and with the blessing of the university. I use my cell phone and free home phone extensively.) We appreciate ACM's past support, and have been happy to stay within budget each year.

SUMMARY

The ACM RISKS Forum, the monthly CACM Inside Risks columns, Illustrative Risks, and the related efforts have continued to be successful in achieving their intended goals, as well as being highly popular.

We note that several related efforts are already ongoing under the aegis of the External Activities Board. For example, the scientific freedom and human rights, legal, education, and USACM committees involve issues relevant to CCPP that frequently are discussed in the ACM Risks Forum from the RISKS perspective. We are happy to interact with others in those related areas, without CCPP having to be directly in the loop, and to offer the Inside Risks space to those efforts that have a reasonable RISKS-relevant content. Overall, CCPP seems to be usefully situated in a well-defined niche of its own.

The ACM RISKS Forum and the PRIVACY Forum/NNSquad/PFIR items span a large gamut of CCPP issues, and reach out to many thousands of people, throughout the world, quite a few of whom are actively contributing participants. RISKS is heavily involved in human safety, privacy, ethics, legal responsibility, election integrity, and so on, and there is no shortage of public-policy related issues! In addition, the Inside Risks articles continue to serve as a popular CACM feature, and distill a diverse collection of timely topics on computer-related risks in a broadly accessible and carefully vetted and edited form.

Continued support of existing and possibly new CCPP activities is appropriate, and will be appreciated at essentially the same level. We are delighted to be a low-budget high-yield part of the visible ACM output.

DIVERSITY

As noted above, CCPP (as opposed to USACM, for example) is explicitly international in its outlook and content. In general, we always seek to broaden our scope and deepen the incisiveness of our content in Inside Risks columns and RISKS issues. Also, the risks relating to computers that we address span a wide range of requirements and application areas.

Also as noted above, CCPP is somewhat unusual within ACM in that it tends to act as an editorial and advisory board rather than a membership organization. We welcome suggestions for additional CCPP members who might also be willing to be active in writing and reviewing proposed Inside Risks columns. We note that the makeup of CCPP has always been intentionally diverse in the areas of expertise that it encompasses. At the moment, David Parnas is the only non-US member, and Nancy Leveson is the only woman. New member Kevin Fu is the youngest member. Although we currently represent significant topical longevity, we would be delighted to add more younger folks who have the appropriate experiential breadth and depth. However, the small size of the group with deep commitments to the purposes noted above is beneficial to the end results, so we are not seeking a major expansion.

The CCPP members represent a valuable cross-section of ACM interests relating to public-policy issues. All of their efforts in helping CCPP and the ACM are greatly appreciated, even though many of those efforts are not noted here explicitly.

We would be delighted to receive further suggestions for new directions relating to computers and public policy, internationally relevant initiatives that we might address beyond the ACM Risks Forum and the CACM Inside Risks columns, and ideas for making our efforts even more visibly attributable to ACM without compromising the special role of CCPP.

Respectfully submitted,

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**APPENDIX I: CCPP-Relevant Activities of Peter G. Neumann**

**RELEVANT PGN EVENTS, July 2012 -- June 2013**

2012:

August 6-10, Attended EVT/WOTE and USENIX Security, Bellevue WA.

September 12, Attended the GAO Executive Committee on Information Management and Technology annual meeting.

October 17, Attended the awards banquet for induction into the newly created National Cybersecurity Hall of Fame, coordinated as part of the Cyber Maryland Security Conference in Baltimore. The other inductees for this first round of awards were Leonard Adleman, Dorothy Denning, Whitfield Diffie, Martin Hellman, Carl Landwehr, Lynn McNulty, Ralph Merkle, Ron Rivest, Adi Shamir, and Roger Schell. The motto of the founding organization for the Hall of Fame is Respect the Past, Protect the Future. which my past work and our two current DARPA Clean-slate Resilient and Adaptive Secure Hosts (CRASH) and Mission-oriented Resilient Clouds (MRC) joint projects (involving SRI and the University of

Cambridge) fit rather nicely (along with some other projects in the DARPA CRASH and MRC programs). Comment: these two joint projects are both clean-slate efforts seriously attempting to provide considerably greater trustworthiness in hardware-software systems, networks, and clouds.

October 29-31, attended the DARPA MRC PI meeting in San Diego.

<http://www.csl.sri.com/neumann/20121030-mrc2-pimeeting.pdf>

October 30, profiled in an article by John Markoff in The New York Times.

<http://www.nytimes.com/2012/10/30/science/rethinking-the-computer-at-80.html>

November 13--15, attended the DARPA CRASH PI meeting in San Diego.

<http://www.csl.sri.com/neumann/20121114-ctsrd-pimeeting-release.pdf>

December 3--4, Attended the Layered Assurance Workshop in Orlando, served on the program committee, and was panel chair, organizing two panels: (1) CRASH/MRC, with Howie Shrobe (DARPA). PGN. Nirav Dave, Greg Sullivan (BAE), and Zhong Shao; (2) HACMS, with Kathleen Fisher (DARPA), John Rushby, and Darren Cofer (Rockwell-Collins).

December 5--7, Attended ACSAC 2012 in Orlando; organizer and moderator of a panel session, The Future of Trustworthy Applications, with Nirav Dave, Rance DeLong, Roger Schell, and Olin Sibert.

December 27, Appeared live on NPR: The Daily Circuit, Minnesota Public Radio, discussing the futility of passwords, the state of computer security, and the potentials of clean-slate architecture, with Matt Honan (WiReD), produced by Marc Sanchez.

<http://minnesota.publicradio.org/display/web/2012/12/27/daily-circuit-cyber-security/>, click on `LISTEN'.

2013:

February 20-21, Spoke on network futures for a TTI/Vanguard meeting in Santa Monica.

March 19, Gave a talk for Stanford University's CISAC, Some Future Directions in System and Network Trustworthiness.

March 26-27, Gave the 2013 Elliott Organick Memorial Lectures at the University of Utah Salt Lake, with two talks on the future of trustworthiness in systems and networks.

April 24-26, Attended the Asilomar Microcomputer Workshop, and gave a talk, Rethinking High-Assurance Security from the Ground Up. (Although I had some expectations of possibly being turned into hamburger for some too-far-out ideas, there were no surprising ground-up beefs from the audience,)

May 6-10, Attended the DARPA CRASH and MRC PI meetings in New Jersey.

May 9, Spoke on a keynote panel on Cyber Resilience and IT Risks in New York City, for The Conference Board Global Risk Conference on Navigating Risk in the Global Economy.

May 20-22, Attended the 34th IEEE Symposium on Security and Privacy in San Francisco. (For the past few years, Neumann has been the only remaining participant who still attends SSP among the 50 people from the first one in 1980.)

May 30, Profiled in the ACM Bulletin Archive, <http://www.acm.org/membership/acm-bulletin-archive/todays-topic-people-of-acm-peter-neumann>

June 3, Was interviewed for 3.5 hours by Jeffrey Yost for his NSF-sponsored Babbage Institute Computer Security History Project. That amount of time touched only on the tips of several icebergs.

Jun 11, Gave a talk on the future of Trustworthy Computers and Networks, for the Bay Area Technology and Society Committee luncheon meeting in Mountain View CA.

June 13, Spoke to the California Silicon Valley VPE/CTO Community of Practice on issues related to risks.

June 15, Received the CRA Distinguished Service Award at the ACM Awards Banquet in San Francisco.

**APPENDIX II:**

**Current Web and Internet Addresses for CCPP Members**

<http://www.CSL.sri.com/neumann> (Peter G. Neumann)

Neumann@CSL.sri.com and pneumann@acm.org

<http://www.columbia.cs.edu/~smb> (Steve Bellovin)

smb@columbia.cs.edu

<http://cs.gmu.edu/cne/denning> (Peter J. Denning)

pjd@nps.edu

<http://www.eng.umd.edu/~gligor> (Virgil Gligor)

virgil@andrew.cmu.edu

<http://web.eecs.umich.edu/~kevinfu/> (Kevin Fu) and

<http://spqr.eecs.umich.edu/> (Kevin Fu's group)

kevinfu@umich.edu

<http://sunnyday.mit.edu/leveson.html> (Nancy Leveson)

leveson@mit.edu

<http://wapedia.mobi/en/David_Parnas> (David Parnas)

<http://web.mit.edu/Saltzer/> (Jerry Saltzer)

saltzer@mit.edu

<http://www.vortex.com/privacy.html> (Lauren Weinstein)

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