Annual Report of the

 ACM Committee on Computers and Public Policy (CCPP)

 For the Period 1 July 2013 to 30 June 2014

 Submitted by Peter G. Neumann, Chairman

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, Neumann.

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, commissioning and editing CACM Inside Risks articles, 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 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 2013-2014 reporting year, 63 issues of the Digest

 appeared (RISKS-27.36 to RISKS-28.02). 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 2013.231 Controlling Cybersecurity Risks in Medical Device Software,

 Kevin Fu and James Blum

Feb 2014.232 An Integrated Approach to Safety and Security Based on

 System Theory: Applying a more powerful new safety methodology to

 security risks,

 Nancy Leveson and William Young

Jun 2014.233 EMV: Why Payment Systems Fail: What lessons might we learn

 from the chip cards used for payments in Europe, now that the U.S. is

 adopting them too?

 Ross Anderson and Steven Murdoch

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. I am contemplating it, but believe

 it would be simpler for me and more productive for everyone else to

 talk AWL into open-sourcing the book.

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/> and

<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. PRIVACY FORUM:

 <http://www.vortex.com/privacy>

 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 annual 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 2015, assuming I am reappointed!

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 2013-2014 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. 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. Suggestions would be welcomed. 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 2013 -- June 2014

2013:

W 11 Sep, Government Accountability Office, annual meeting, this year by

 teleconference due to shortage of government travel funds.

W 9 Oct, IEEE BigData2013 in Santa Clara: attended talk by Roger Schell, and

 participated in a double-length panel, Key Issues in Big Data: Security

 and Privacy / BigData Science, with Roger Schell, Bhavani Thurasingham,

 Justin Zhan, Amr Awadallah, Tomoyuki Higuchi, Wes Chu, and TYLin.

Th 17 Oct, Attended an invitational evening with Harvard Professor Harry

 Lewis at the Computer History Museum in Mountain View.

Tu 29 Oct, participated in the CSRDC-sponsored Infotech Technology

 Transition Council meeting at SRI, with Doug Maughan, managed by Ulf

 and Robert Rodriguez.

M-Tu 9-10 Dec, Attended the 7th Layered (Compositional) Assurance

 Workshop (LAW 2013), New Orleans, organized and moderated panel

 sessions: (1) Ongoing R&D in Compositional Trustworthiness (with

 Alessandro Cimatti, Dylan McNamee, Rance DeLong, and Zhong Shao

 [Yale]); (2) What Can Safety and Security Teach Each Other? (with

 Nancy Leveson, William Young, John Rushby, and David Greve [Rockwell

 Collins]), and (3) moderated an open forum.

W-Th 11-12 Dec, Attended ACSAC, New Orleans. Nancy Leveson gave a

 marvelous keynote talk, somewhat more general than her talk at LAW

 2013, Applying Systems Thinking to Security and Safety. In essence,

 her approach provides an SRI HDM-like top-down approach to developing

 systems with desirable system-wide emergent properties, albeit

 nonformal, but addressing the totality of desirable system-wide

 emergent properties.

2014:

18-21 May, attended the 35th IEEE Symposium on Security and Privacy.

 (PGN attended 12 out of the first 13, was program chairman in 1982,

 and is the only person from the first year in 1980 still attending.)

Peter G Neumann, Sean Peisert, and Marv Schaefer,

 The IEEE Symposium on Security and Privacy in Retrospect,

 IEEE Security and Privacy (special issue as an introduction to the best

 SSP papers from 2013), June 2014.

PGN, How Might System and Network Security Interact with Privacy?

 in: Visions of Privacy in the Modern Age, Marc Rotenberg and Jeramie

 Scott (editors), (Produced under a MacArthur Foundation grant to the

 Electronic Privacy Information Center), in press, 2014.

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APPENDIX II:

Current Web and Internet Addresses for CCPP Members

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

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

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

 smb@columbia.cs.edu

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

 pjd@nps.edu

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

 virgil@andrew.cmu.edu

Kevin Fu: <http://web.eecs.umich.edu/~kevinfu/>
kevinfu@umich.edu

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

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

leveson@mit.edu

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

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

 saltzer@mit.edu

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

 lauren@vortex.com