



Title: **Sim-Cyberpunk: Serious Play, Hackers and Capture the Flag Competitions**

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Introduction

My doctoral research project is an in-depth analysis of hacker wargames known as capture the flag competitions, or CTFs. Specifically, I am investigating the skills and resources that go into designing and competing in these challenges, interviewing CTF participants to understand how they apply information security knowledge to these games, while also collecting data on the personal, professional and educational outcomes for these individuals. While there are many perceived benefits to participating in CTFs, these events need to be contextualized inside of hacker culture, to better comprehend how their playful qualities contrast the work that goes into their design and play. This research is important, as information security becomes the increasing focus of geopolitics, the media, governmental policy and educational institutions, whilst it has been the focus of hacker culture since its emergence.

Conditions for Participating

Participants for this study can be both designers and competitors in capture the flag competitions who are 18 years of age and older.

- Designers who participate will be asked to perform an interview lasting approximately one hour, either in person at a competition or over the phone.
- Competitors who participate will agree to be observed during either the qualifiers for a competition or in person during a CTF competition. Following the competition, they will be asked to perform an interview lasting approximately 1-2 hours.

Participation in this study is entirely voluntary. During an interview you may decline to answer any question, nor are you obligated to provide your rationale for refusal. While observation is occurring you may ask me, the researcher, to leave at any time or request that the researcher leave and return at an agreed-upon time. You are free to withdraw from the study at any time and withdraw altogether by contacting me. Should you choose to withdraw, please contact me using the information found on this form. As part of the withdrawal procedures I will immediately stop collecting data pertaining to our interaction. At your request I will also exclude any data collected during our encounter from my data and data analysis tools, searching and eliminating all data affiliated with your pseudonym. The same procedure will be followed if you choose to withdraw after the study has ended. Please note, however, that it is unlikely that I will be able to remove mention of our interaction from works that have already been published at that time, if any exist.

As the researcher for this project, I intend to ensure that all appropriate measures are taken to maintain the confidentiality of participants. As per the Canadian Interagency Advisory Panel on Research Ethics guidelines, data that could identify you shall not be disclosed to authorities without your prior written consent. Your name will not be directly associated with data collected from our encounter outside of this consent form: your name will not appear in my written notes, in or on interview recordings (including file metadata), articles or the final completed work.

Instead you may choose a pseudonym or be assigned one. These pseudonyms are being used to protect your identity, and will allow me to keep your personal information separate from research data. All information collected over the course of this study will be kept securely (on an encrypted, password protected drive) for up to ten years, afterwards it will be destroyed in its entirety. However, audio recordings interviews may be provided to a third party for transcription; you may opt out of having this data transcribed by a third party by checking a box on this form. The research study you are participating in may be reviewed for quality assurance to make sure that the required laws and guidelines are followed. If chosen, (a) representative(s) of the Human Research Ethics Program (HREP) may access study-related data and/or consent materials as part of the review. All information accessed by the HREP will be upheld to the same level of confidentiality that has been stated by the researcher.

Risks to the Participants, Third Parties or Society

I foresee no risks to yourself based on your participation in this study.

Benefits of the Study for the Participant

There is no form remuneration (pay) for participating in this study. You'll be asked to reflect on your participation in capture the flag competitions and to consider how the outcomes have affected your education, personal and professional lives. This may provide you with new ways of appreciating the impact of CTF participation in your life, its influence on your community and provide you with reflection on how to achieve new objectives.

Other Benefits of the Study

The findings of this study will contribute to the advancement of knowledge about information security professionals, hobbyists, students and their culture, an understudied group with the larger community of digital professionals and the culture of hackers. This will benefit the academic community, and may have a positive impact on information security culture and the organization of future capture the flag events.

How Will the Data be Used?

Primarily, the data collected from this research will inform the findings of my dissertation, as part of the completion requirements for a doctorate in philosophy at the University of Toronto's Faculty of Information. Additionally, the results of this study may be shared in academic venues including journal articles, book chapters and potentially a full monograph (published book), as well as in academic conferences. The intended audience for these works will usually be other academics and potentially policy experts looking to support information security work and culture. You can request a copy of my dissertation using this form and I will send it to you once it has been completed.

Audio Recordings, Notes and Transcription

To keep a record of our interview I will be using an audio recorder to record our conversation and a notepad or laptop to record my observations. These recordings and notes are being made to accurately capture our interview and my observations during the CTF competition. Both the notes and recordings are key pieces of data for the project. Audio samples and full-length recordings of our conversations will not appear directly within my final published research. Please note, that as part of my data analysis interviews will be shared with a transcription

service to ensure the timely production of research. All interviews sent for transcription will undergo a post-process obfuscation of your voice through pitch shifting to preserve your privacy, but preserve the data. You may opt-out of having your data transcribed by a transcription service by checking that box on this form.

Providing Consent and What Signing Means:

Your signature on this form indicates that you have received this document which describes the possible risks, benefits and procedures of this study, that you have received an adequate opportunity to consider the information in the document, and that you voluntarily agree to participate in the study. Signing this document and providing consent does not waive any of your legal rights. Should you not wish to provide signed consent, but still wish to participate in the study your consent can be collected as part of the recorded interview. Please keep a copy of this form or access it through adcybulski.com/research.

Further questions about your rights as a participant in the study can be directed to the University of Toronto Office of Research Ethics by phone (416) 946-3273 or by email at ethics.review@utoronto.ca. You can also contact my supervisor, Dr. Sara Grimes by email at sara.grimes@utoronto.ca.

Thank you for your consideration.

Alex Dean Cybulski,
PhD Candidate
Faculty of Information
University of Toronto

Please complete and sign below, and keep a copy for future reference.

First and last name

Phone and/or E-mail Contact

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I certify that I understand the procedures to be used in this study and that I am aware that I have the right to withdraw from the study at any time, and that any complaints about the study may be brought to the University of Toronto Research Oversight and Compliance Office at ethics.review@utoronto.ca or 416-946-3273.

I certify that I understand the procedures that are to be used and that I have been able to receive clarification of any aspects of this study about which I have had questions. I have read, understand and agree with the above. I have been given a copy of and/or a URL to this document and know that I can request an additional copy for my records.

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OPTIONAL: OPT- OUT OF TRANSCRIPTION OF MY DATA BY A THIRD PARTY PAID SERVICE

By ticking this box, I do not want my data to be transcribed by a data transcription service

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OPTIONAL: REQUEST A COPY OF THE RESULTS OF THIS STUDY

By ticking this box, I am requesting an emailed copy of the results of this study to be sent to me once available

Signature

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Date

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