Project Report

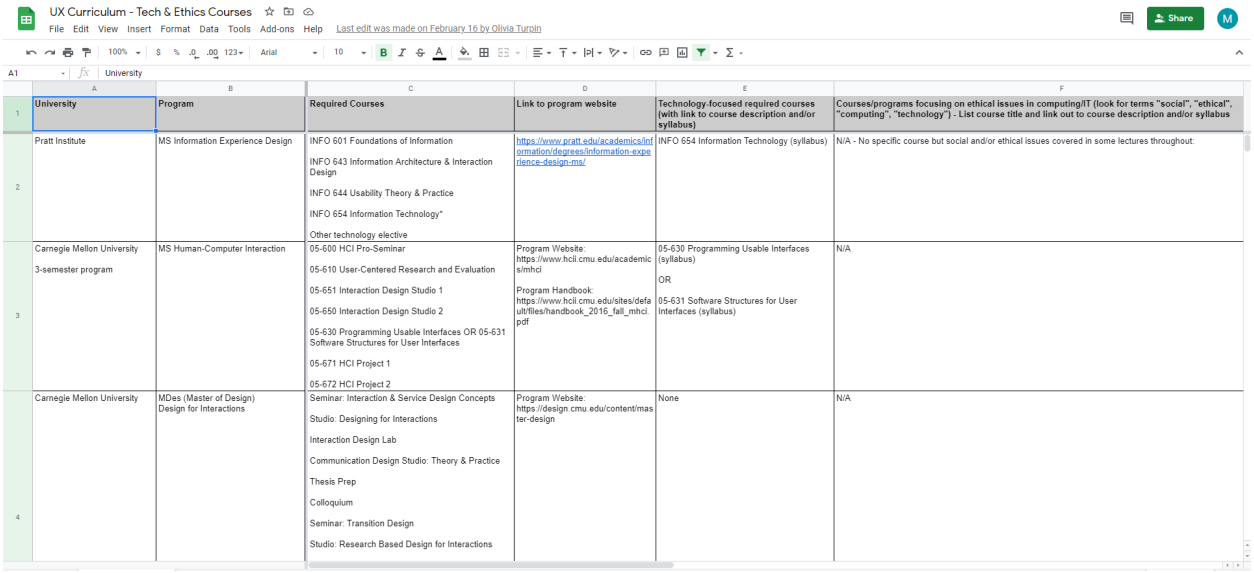
Project Title: Social and Ethical Issues in Computing
Faculty: Monica Maceli, School of Information

Abstract

The School of Information's strategic plan includes an Ethics and Technology initiative, which seeks to imbue our students with the necessary reflective and critical skills to navigate today's technical landscape. As I teach and conduct research in information technology topics, this project will leverage my skills to create modules and/or a course on the ethical use of technology as a new elective for all our students at SI, as well as to incorporate within the larger Institute. This will both further our strategic school goals as well as introduce students to vital critical and ethical skills needed to design and employ technology in their future careers as information professionals. The background research necessary in developing this course will also be published in a scholarly venue to reach a wider audience of library and information science educators, who may be in need of increasing coverage of these topics in their curriculum.

Project Process

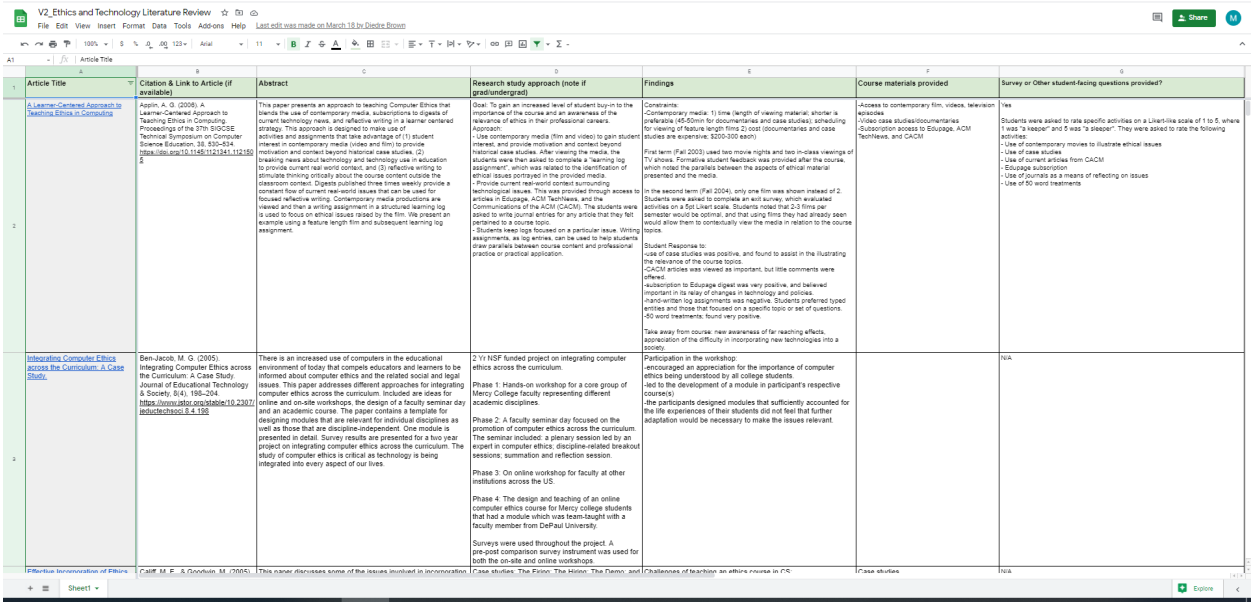
The initial exploratory phases of the project were successfully completed in the spring 2021 semester, which included a *review of related literature*, *review of related curriculum*, *submission of a paper to the ethics workshop*, and *collaborating with other faculty on these topics during the workshop session*. In the first phases, during spring of 2021, working with a graduate assistant, we reviewed and collected the ethics-related curriculum across all iSchools in North America to begin to understand trends and patterns in information schools. This also identified institutions which are providing open courseware or other flexible educational modules for reuse. Though many were targeted at undergraduate computer science students, several were promising for use at our School of Information in technology-related courses and at the wider Institute. Concurrently in this phase of the project, literature was collected that related to effective integration of ethics concepts into technical courses, with an emphasis again on findings relevant to iSchools and for graduate education. A sample of the data collected for the curriculum and literature review are visible in Figures 1 and 2, below.



UX Curriculum - Tech & Ethics Courses

University	Program	Required Courses	Link to program website	Technology-focused required courses (with link to course description and/or syllabus)	Courses/programs focusing on ethical issues in computing/IT (look for terms "social", "ethical", "computing", "technology") - List course title and link out to course description and/or syllabus
Pratt Institute	MS Information Experience Design	INFO 601 Foundations of Information INFO 643 Information Architecture & Interaction Design INFO 644 Usability Theory & Practice INFO 654 Information Technology* Other technology elective	https://www.pratt.edu/academics/information/degrees/information-experience-design-ms/	INFO 654 Information Technology (syllabus)	N/A - No specific course but social and/or ethical issues covered in some lectures throughout.
Carnegie Mellon University 3-semester program	MS Human-Computer Interaction	05-600 HCI Pro-Seminar 05-610 User-Centered Research and Evaluation 05-651 Interaction Design Studio 1 05-650 Interaction Design Studio 2 05-630 Programming Usable Interfaces OR 05-631 Software Structures for User Interfaces 05-671 HCI Project 1 05-672 HCI Project 2	Program Website: https://www.hcii.cmu.edu/academics/mhci Program Handbook: https://www.hcii.cmu.edu/sites/default/files/handbook_2016_fall_mhci.pdf	05-630 Programming Usable Interfaces (syllabus) OR 05-631 Software Structures for User Interfaces (syllabus)	N/A
Carnegie Mellon University	MDes (Master of Design) Design for Interactions	Seminar: Interaction & Service Design Concepts Studio: Designing for Interactions Interaction Design Lab Communication Design Studio: Theory & Practice Thesis Prep Colloquium Seminar: Transition Design Studio: Research Based Design for Interactions	Program Website: https://design.cmu.edu/content/master-design	None	N/A

Figure 1: Sample of ethics-related curriculum data collected (total of 90 schools)



V2_Ethics and Technology Literature Review

Article Title	Citation & Link to Article (if available)	Abstract	Research study approach (note if grad/undergrad)	Findings	Course materials provided	Survey or Other student-facing questions provided?
A Learner-Centered Approach to Teaching Ethics in Computing	Asplin, A. Q. (2006). A Learner-Centered Approach to Teaching Ethics in Computing. Proceedings of the 37th SIGCSE Technical Symposium on Computer Science Education, 38, 530–534. https://doi.org/10.1145/1121341.1121502	This paper presents an approach to teaching Computer Ethics that blends the use of contemporary media, subscriptions to digests of current technology news, and reflective writing in a learner centered strategy. This approach is designed to make use of activities and assignments that take advantage of (1) student interest in contemporary media (video and film) to provide motivation and context beyond historical case studies, (2) breaking news about technology and technology use in education to provide current real world context, and (3) reflective writing to stimulate thinking critically about the course content outside the classroom context. Digests published three times weekly provide a constant flow of current real-world issues that can be used for focused reflective writing. Contemporary media productions are viewed and then a writing assignment in a structured learning log is used to focus on ethical issues raised by the film. We present an example using a feature length film and subsequent learning log assignment.	Goal: To gain an increased level of student buy-in to the importance of the course and an awareness of the relevance of ethics in their professional careers. Approach: - Use contemporary media (film and video) to gain student interest, and provide motivation and context beyond historical case studies. After viewing the media, the students were then asked to complete a "learning log assignment", which was related to the identification of ethical issues portrayed in the provided media. - Provide current real-world context surrounding technological issues. This was provided through access to articles in Edupage, ACM TechNews, and the Communications of the ACM (CACM). The students were asked to write journal entries for any article that they felt pertained to a course topic. - Students keep logs focused on a particular issue. Writing assignments, as log entries, can be used to help students draw parallels between course content and professional practice or practical application.	Constraints: -Contemporary media: 1) time (length of viewing material; shorter is preferable (45-50min for documentaries and case studies); scheduling for viewing of feature length films 2) cost (documentaries and case studies are expensive; $200-300 each) First term (Fall 2003) used two movie nights and two in-class viewings of TV shows. Formative student feedback was provided after the course, which noted the parallels between the aspects of ethical material presented and the media. In the second term (Fall 2004), only one film was shown instead of 2. Students were asked to complete an exit survey, which evaluated activities on a 5pt Likert scale. Students noted that 2-3 films per semester would be optimal, and that using films they had already seen would allow them to contextually view the media in relation to the course topics. Student Response to: -use of case studies was positive, and found to assist in the illustrating the relevance of the course topics. -CACM articles was viewed as important, but little comments were offered. -subscription to Edupage digest was very positive, and believed important in its relay of changes in technology and policies. -hand-written log assignments was negative. Students preferred typed entries and those that focused on a specific topic or set of questions. -50 word treatments; found very positive. Take away from course: new awareness of far reaching effects, appreciation of the difficulty in incorporating new technologies into a society.	-Access to contemporary film, videos, television episodes -Video case studies/documentaries -Subscription access to Edupage, ACM TechNews, and CACM	Yes Students were asked to rate specific activities on a Likert-like scale of 1 to 5, where 1 was "a keeper" and 5 was "a sleeper". They were asked to rate the following activities: - Use of contemporary movies to illustrate ethical issues - Use of case studies - Use of current articles from CACM - Edupage subscription - Use of journals as a means of reflecting on issues - Use of 50 word treatments
Integrating Computer Ethics across the Curriculum: A Case Study.	Ben-Jacob, M. G. (2005). Integrating Computer Ethics across the Curriculum: A Case Study. Journal of Educational Technology & Society, 8(4), 198–204. https://www.jstor.org/stable/10.2307/jeductechsoci.8.4.198	There is an increased use of computers in the educational environment of today that compels educators and learners to be informed about computer ethics and the related social and legal issues. This paper addresses different approaches for integrating computer ethics across the curriculum. Included are ideas for online and on-site workshops, the design of a faculty seminar day and an academic course. The paper contains a template for designing modules that are relevant for individual disciplines as well as those that are discipline-independent. One module is presented in detail. Survey results are presented for a two year project on integrating computer ethics across the curriculum. The study of computer ethics is critical as technology is being integrated into every aspect of our lives.	2 Yr NSF funded project on integrating computer ethics across the curriculum. Phase 1: Hands-on workshop for a core group of Mercy College faculty representing different academic disciplines. Phase 2: A faculty seminar day focused on the promotion of computer ethics across the curriculum. The seminar included: a plenary session led by an expert in computer ethics; discipline-related breakout sessions; summation and reflection session. Phase 3: On online workshop for faculty at other institutions across the US. Phase 4: The design and teaching of an online computer ethics course for Mercy college students that had a module which was team-taught with a faculty member from DePaul University. Surveys were used throughout the project. A pre-post comparison survey instrument was used for both the on-site and online workshops.	Participation in the workshop -encouraged an appreciation for the importance of computer ethics being understood by all college students -led to the development of a module in participant's respective course(s) -the participants designed modules that sufficiently accounted for the life experiences of their students did not feel that further adaptation would be necessary to make the issues relevant.		N/A
Effective Incorporation of Ethics	Calif, M. E., & Goodwin, M. (2005).	This paper discusses some of the issues involved in incorporating	Case studies, The Enron, The Hilton, The Demo, and	Challenges of teaching an ethics course in CS:	Case studies	N/A

Figure 2: Sample of literature review data collected (currently 25 articles identified and included)

To extend this work and begin to connect with the wider ethics education community, I co-authored a workshop paper detailing the current ethics-related efforts at the School of Information, the goals of this CTL fellowship, and the future collaborative possibilities (paper included in Appendix A, below). The paper was accepted in the "Co-designing Resources for Ethics Education In HCI" workshop held at the 2021 ACM CHI Virtual Conference on Human Factors in Computing Systems (CHI 2021). On May 9th, 2021 I presented and participated in the workshop, along with my School of Information colleague Dr. Craig MacDonald and approximately 40 other participants from a variety of design-related educational organizations. The workshop was held remotely and employed collaborative tools such as Miro so that participants could work collectively on reflective exercises.

The workshop's collaborative exercises included: mapping ethics resources in education and co-designing future directions. Participants shared both their personal experiences in teaching ethics topics, as well as worked together to co-create a potential ethics curriculum for technology and design students. Figure 3, below, contains a macro view of the Miro board content created by workshops participants during the exercises (available at https://miro.com/app/board/o9J_IlqE9Js=/). These exercises aided in identifying potential future research collaborators, as well as allowed for initial brainstorming around how ethics could be incorporated into the School of Information's curriculum.

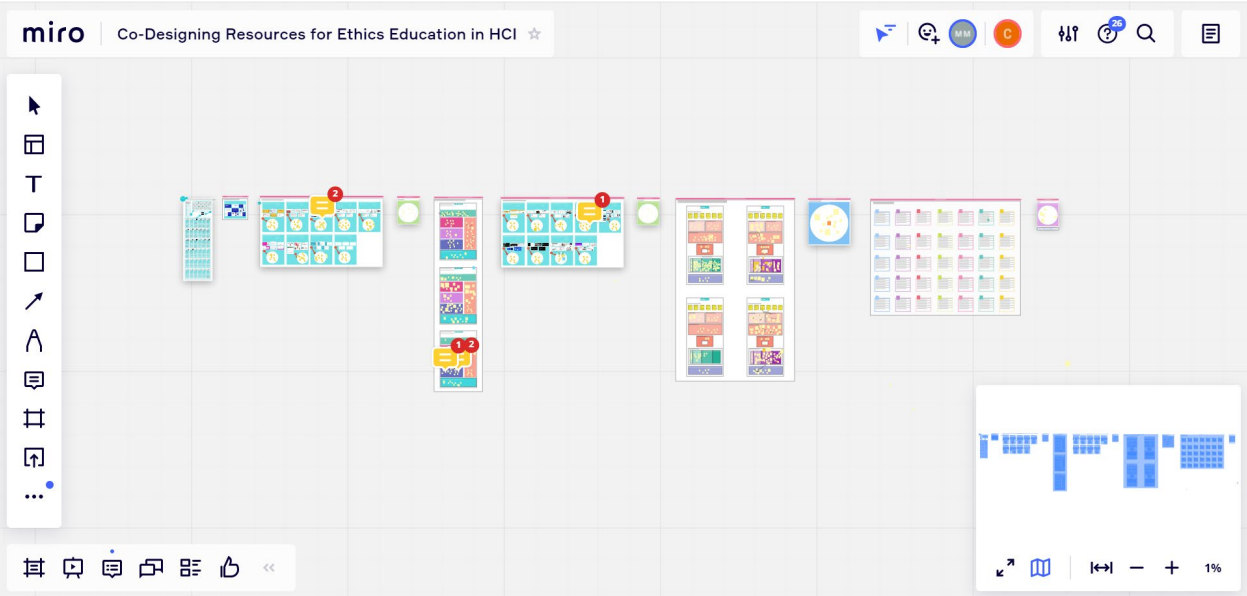


Figure 3: Collaborative Miro board created in the "Co-designing Resources For Ethics Education In HCI" workshop on May 9, 2021, available at https://miro.com/app/board/o9J_IlqE9Js=/

The next steps of the project entailed taking the best practices learned and connections made in the exploratory phase of the project and adapting them to the Pratt environment. The findings suggested more effectiveness in building smaller modules into a larger number of courses, as opposed to stand-alone ethics course, and the review of curriculum and related research indicated several case study exercises that could be deployed as such modules.

In fall of 2021, the CTL hosted a session on my project which was attended by the majority of full-time faculty at the School of Information (presentation slides attached in Appendix B). A portion of the presentation focused on presenting promising case studies and/or classroom activities that could be incorporated into School of Information classes. An example is provided in Figure 4, below.

The Black Mirror Writers' Room

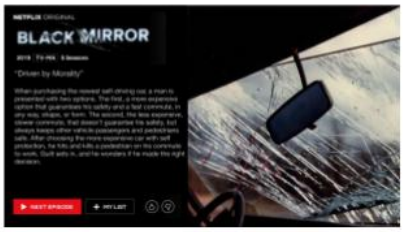
Source: Internet Rules Lab [4] [5]

Overview: Students are tasked with speculating about on-the-horizon technologies and how they might appear in a dystopic Black Mirror episode. Student goals include:

- Brainstorm near future technology based on a topic of their choice
- Understand the potential social, ethical and regulatory implications with this technology
- Create a cautionary tale related to this technology

Materials:

- Google Slides working presentation doc [4]: Students collaborate on the working doc to develop their own Black Mirror episode poster



[4] https://www.internetruleslab.com/responsible-computing
[5] tinyurl.com/blackmirrorwritersroom

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Attendant faculty were asked to share their experiences and activities focused on teaching ethics within the SI curriculum. This assisted in identifying technology-related courses with potential to expand further into ethics topics, as well as potential for inclusion more formally within program requirements of the Information Experience Design (IxD) program. Future work will include collaborating with program coordinators to explore changing the program's requirements to include one or more ethics-focused courses, as well as continuing the discussion with faculty around successes and challenges in teaching ethics topics.

Appendix A: CHI 2021 workshop paper

Incorporating Ethics into a Graduate-Level Human-Computer Interaction Curriculum: An Integrated Approach

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Computing ethics topics are increasingly being incorporated into growing fields such as human-computer interaction and data science, with researchers and practitioners leveraging known best practices from the established ethics curriculum of computer science. Much work remains in developing, ideally as a community, a shared set of resources, tactics, and approaches to teaching ethics topics within human-computer interaction programs. This position paper describes the currently in-progress research project at the School of Information which seeks to expand coverage of ethics in the Information Experience Design (IXD) program, as well as create flexible curriculum modules which may be more broadly incorporated into the institution's offerings. Potential contributions to the workshop and proposed future collaborations and connections are also presented.

CCS CONCEPTS • Human-centered computing ~Human computer interaction (HCI)

Additional Keywords and Phrases: Human-computer interaction education, computing ethics, design curriculum

ACM Reference Format:
First Author's Name, Initials, and Last Name, Second Author's Name, Initials, and Last Name, and Third Author's Name, Initials, and Last Name. 2018. The Title of the Paper: ACM Conference Proceedings Manuscript Submission Template: This is the subtitle of the paper, this document both explains and embodies the submission format for authors using Word. In Woodstock '18: ACM Symposium on Neural Gaze Detection, June 03–05, 2018, Woodstock, NY. ACM, New York, NY, USA, 10 pages. NOTE: This block will be automatically generated when manuscripts are processed after acceptance.

1 INTRODUCTION

Teaching ethics within computer science (CS) curriculum has been widely recognized as a long-standing need in the field, and mandated within both undergraduate and graduate accreditation standards for decades (including standards of the ACM, IEEE, ABET and others). Given the increasing number of roles and professions that now contribute to the design and development of technology, as well as the highly-publicized perils of failures in this area, a growing body of research addresses the best practices in incorporating computing ethics topics into non-CS programs. Effective techniques in teaching ethics in CS programs are well-established, including: integrating such topics across the curriculum (and not simply confined to a sole course) [4], emphasizing relatable case studies, projects, and media [1,5,6], and training all faculty to deliver such materials [2].

However, much work remains in exploring how ethics topics may be consistently integrated into allied fields, in particular, within human-computer interaction, as is emphasized by the topic of the "Co-designing resources for ethics education in HCI" workshop. This position paper describes the efforts underway to increase the coverage of ethics topics with the Master of Science in Information Experience Design (IXD) at Pratt Institute School of Information, and the potential for collaboration with workshop attendees and organizers.

1.1 Background and Motivation

Launched in the fall of 2016, the Information Experience Design (IXD) program is a graduate-level program that blends aspects of the human-computer interaction, information science, and design disciplines. As a practitioner-oriented program, the IXD curriculum focuses on skill-building and experiential learning through a mix of lecture- and project-based

coursework. The program's capstone project is a digital portfolio that is meant to showcase students' readiness to enter the user experience (UX) profession.

The School of Information's strategic plan was revised in 2019 by the faculty and other stakeholders to include an "Ethics and Technology" initiative, which seeks to imbue our students with the necessary reflective and critical skills to navigate today's technical landscape. Students in the IXD program typically go on to hold roles as UX designers, information architects, interaction designers, UX researchers, usability analysts, and content strategists, often in large technology companies. Thus, these students, and those with technology-related aspirations in the other master's programs offered (including library and information science (LIS) and data analytics and visualization (DAV)), will commonly encounter ethically challenging scenarios and need to anticipate the impact(s) (good and bad) of their design decisions.

Currently, the School of Information is developing an integrative approach to ethics education that includes three elements: (1) course modules (including lectures, in-class activities, and assignments), (2) courses that emphasize relevant ethical guidelines and principles, and (3) school-wide co-curricular events and activities that broaden students' ethical awareness and understanding. As an example of (1) is the "Tomorrow's Risk, Today" activity from the EthicalOS learning toolkit [6], which was developed for use in a project-based elective course for IXD students. This module includes a brief lecture on ethical decision-making for UX professionals and an interactive activity in which students work in groups to analyze and discuss the ethical implications of a realistic future scenario involving current technology (e.g., facial recognition software). An example of (2) is the elective course "Speculative Design" in which students examine the designer's role and responsibility when working with ethically complex technologies. For example, in fall 2020 students critically analyzed current technology related to emotional measurement and manipulation and developed high-fidelity prototypes to solve or mitigate future challenges. Finally, an example of (3) is a school-wide lecture series titled "The Ethics & Technology Forum" that is meant to engage students in conversations with thought leaders and experts on the role of technology in society. The inaugural forum was held in February 2021 and featured a lecture from Tim Wu, an expert on "net neutrality" and the award-winning author of *The Attention Merchants* and *The Master Switch*.

While our efforts so far have been moderately successful in exposing students to ethical perspectives, we are currently working to expand our efforts in all three areas and create a truly integrated ethics education. Developing new ethics-focused modules, courses, and events will further our strategic school goals in introducing students to vital critical and ethical skills needed to design and employ technology in their future careers as information professionals. To support faculty efforts in this area, a year-long fellowship with Pratt Institute's Center for Teaching and Learning was established to allow for the necessary research and application of curriculum changes.

2 RESEARCH STUDY DESIGN

This project began with a literature and curriculum review exploring the role and implementation of computing ethics-related topics in graduate-level programs, with an emphasis on those housed with a design-focused master's program. During this phase (which is currently in progress), pre-existing open courseware and other materials provided to the computer science community are being collected for further evaluation. This includes assessing curriculum of existing programs relating to human-computer interaction (and related fields of interaction design and human centered design), as well as broader works that have gathered and assessed ethics-related syllabi [e.g., as in 3].

This phase will drive the decision-making around best practices for incorporating ethics topics in computing-related programs and serve as the foundation for customizing these for the School of Information and the wider Pratt Institute. The primary deliverable for this phase will be the creation of a series of educational modules for incorporation into relevant Pratt courses, as well as a syllabus for an entire graduate-level course on computing ethics, suitable for students in a variety of information-focused degree programs. Next, a review of courses offered at Pratt Institute and outreach to relevant faculty will serve to identify courses that may benefit from increased coverage of computing ethics. Instructors will be asked to incorporate one or more computing ethics modules into their courses; student and instructor feedback will be gathered in a post-module survey and results will be reported to the wider scholarly community. Finally, an analysis of ethics-focused co-curricular activities will result in recommendations to further deepen students' exposure to ethical concepts, with the goal of creating an ethics-focused academic culture in the School of Information.

3 CONTRIBUTION TO THE WORKSHOP

The authors welcome a timely opportunity to collaborate with workshop attendees and organizers in co-designing future ethics-related curriculum for HCI. The ongoing research project at the School of Information seeks additional collaborators and may also potentially serve as a site for experimentation with novel methods of teaching and incorporating ethics topics into HCI programs, as developed by this group.

REFERENCES

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[2] Marion G Ben-Jacob. 2005. Integrating Computer Ethics across the Curriculum: A Case Study. Journal of Educational Technology & Society 8, 4 (October 2005), 198–204. Retrieved from https://www.jstor.org/stable/10.2307/jeductechsoci.8.4.198

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[6] Yoav Schlesinger. 2018. Ethical OS Toolkit: A guide to anticipating the future impact of today's technology. Or: How not to regret the things you will build. In Talks at Google. Google. Retrieved February 16, 2021 from https://ethicalos.org/wp-content/uploads/2018/08/Ethical-OS-Toolkit-2.pdf

Appendix B: CTL-hosted Presentation

Pratt
School of Information

Incorporating Ethics into a Graduate-Level Curriculum: An Integrated Approach

Center for Teaching and Learning 2021

Monica Maceli, Ph.D. | Associate Professor

1

CTL Fellowship

Pratt Institute's Center for Teaching and Learning

The Pratt Institute's Center for Teaching and Learning is a year-long fellowship established to support further research and application of curriculum changes.

Dr. Maceli was awarded this fellowship for 2021-2022 and focused her efforts on how best to integrate computing ethics topics at Pratt. This project has included:

- Presenting with Dr. Craig MacDonald at the Co-Designing Resources for Ethics Education in HCI workshop in spring of 2021
- The creation of a series of computer ethics-related educational modules
- An analysis of ethics-focused co-curricular activities for students

2

Elements of an Integrative Approach

Pratt's School of Information is developing an integrative approach to ethics education that includes three elements:

1. **Course modules** (including lectures, in-class activities, and assignments).
2. Courses that emphasize relevant **ethical guidelines and principles.**
3. **School-wide co-curricular events and activities** that broaden students' ethical awareness and understanding.

Maceli, M. & MacDonald, C. M. (2021) Incorporating Ethics into a Graduate-Level Human-Computer Interaction Curriculum: An Integrated Approach. *Short paper presented at Co-Designing Resources for Ethics Education in HCI*, May 9, 2021.

3

Integrative Approach in Practice

Course modules — **"Tomorrow's Risk, Today" activity**

- Developed from the EthicalOS learning toolkit and includes a lecture on ethical decision-making for UX professionals and an interactive activity where students discuss the ethical implications of a realistic future scenario involving current technology (e.g., facial recognition software). [1]

Ethical focused courses — **Speculative Design course, Ethics and Technology course (in progress)**

- Students examine the designer's role and responsibility when working with ethically complex technologies.
- One past semester had students analyze technology related to emotional measurement and manipulation and develop high-fidelity prototypes to mitigate these challenges.

Co-curricular events and activities — **The Ethics & Technology Forum**

- A lecture series that engages students in conversations with thought leaders and experts on the role of technology in society.
- Included past lecturer by Tim Wu, Professor of Law, Science and Technology and expert on net neutrality.

[1] Yoav Schlesinger. 2018. Ethical OS Toolkit: A guide to anticipating the future impact of today's technology. Or: How not to regret the things you will build. In Talks at Google. Google. Retrieved February 16, 2021 from https://ethicalos.org/wp-content/uploads/2018/08/Ethical-OS-Toolkit-2.pdf

4

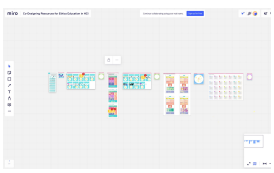
Co-designing Resources for Ethics Education

CHI 2021 Virtual Workshop

To connect with the wider ethics education community, Dr. Craig MacDonald and I presented a workshop paper and participated in a 40+ person workshop at CHI '21.

Workshop participants shared their personal experiences in teaching ethics topics and worked together through collaborative exercises to:

- Map ethics tools & resources currently used in educational efforts
- Co-design future directions for a potential ethics curriculum



5

Ethics-related Course Modules

The Ethics of Gamification

Source: Embedded Ethics @ Harvard Teaching Lab [2]

Overview: Gamification involves the intentional application of various elements of game design to non-game life. Though it has its benefits, it's not without its harms. Student goals include:

- Understand what gamification is by providing key examples in the private and corporate sectors
- Consider the ethical considerations that arise from gamification
- Participate in a design activity where they are in charge of mitigating any potential exploitation or manipulation by the gamified system

Materials:

- Readings: "Gamified Life" by Vincent Gabrielle Aeon [3]
- "Fix It" Activity: In groups of 3-4 students are asked to redesign the Disney work tool explained in "Gamified Life"

[2] https://embeddedethics.seas.harvard.edu/files/embeddedethics/files/cs179-miller_larsen-2020-2021.pdf
[3] https://aeon.co/essays/how-employers-have-gamified-work-for-maximum-profit

The Black Mirror Writers' Room

Source: Internet Rules Lab [4] [5]

Overview: Students are tasked with speculating about on-the-horizon technologies and how they might appear in a dystopic Black Mirror episode. Student goals include:

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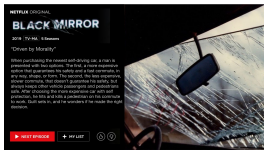
Materials:

- Google Slides working presentation doc [4]: Students collaborate on the working doc to develop their own Black Mirror episode poster



[4] https://www.internetruleslab.com/responsible-computing
[5] tinyurl.com/blackmirrorwritersroom

Mapping Self in Society

Source: MaSelfS [6]

Overview: Students engage in a series of 5 activities where they learn how to use open source tools to collect and visualize their movement data. Students will:

- Critically reflect on their physical movement data to consider their own 'personal geography' and its relationship with neighborhoods and communities
- Understand how technologies collect and use their personal data and the ethical implications imposed

Materials:

- OutdoorActive: a free mobile app for data collection of physical movement
- GPS Visualizer: a free platform for data processing of physical movement
- Interaction Geography Slicer: an open-source tool for visualizing physical movement

[6] https://www.maselfs.org/

Ethics in Computing-related Case Studies

Source: Stanford University, Computer Ethics Case Studies [7]
Sample Case Studies:

- **Algorithmic decision making and accountability**: dissecting New York City's "algorithmic accountability" bill
- **Facial recognition:** Facebook's trouble with facial recognition and what's next
- **The power of private platforms:** the impacts of deplatforming individuals on social media

Source: Computingcases.org [8]
Sample Case Studies:

- **Therac-25:** the dangers of software control of safety-critical systems
- **Richard Machado:** the sender of the first e-mail hate crime
- **Hughes Aircraft:** whistleblowers reveal a skip in the testing process of microchips

[7] http://ai.stanford.edu/users/sahami/ethicscasestudies/
[8] http://computingcases.org/case_materials/case_materials.html

Activity/Discussion

Activity 1: Mapping Ethics Education Resources

Directions

Let's capture the the range of tools, methods, methodologies and frameworks being used to teach ethics.

- Share personal stories of your experience teaching, working with other researchers, students and co-workers
- Share the tools, methods, frameworks that you use during practice, teaching, studying, etc.
- Discuss the skills gained by students, yourself and other researchers
- Discuss the obstacles and challenges faced in using tools or embedding ethics in courses or skills that need to be gained by students in the future

Activity 2: Future Directions

Directions

We will work together to co-create a program with ethics embedded or a specific class/subject that either introduces ethics, builds on top of previous classes or adds to existing programs.

- Discuss shared themes, how does it relate to current classes and programs, and why are they important?
- Discuss how these themes could be applied, what tools methods or directions could be used?
- Build the class or program in the chosen field:
  - Think about years for a program or weeks/sessions for the class
  - Discuss the subjects included in a program or topics covered in the class
  - Discuss the tools/methods being used
  - What are the learning outcomes and skills gained?
- Reflect on the built program/class, how are the aspects of culture and global students tackled and thought about while developing the program?