

Teaching Interaction Design & Children within Diverse Disciplinary Curricula

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ABSTRACT

This one-day workshop will bring together instructors who teach Interaction Design & Children at a university level from a wide spectrum of disciplines and research communities (HCI, Engineering, Design, education, Psychology and Communications). Our goal is to explore the various current ways IDC is taught, and to discuss and develop a core syllabus of literature and teaching activities for the benefit of the IDC community. Topics discussed will include: various disciplines that house IDC and their effect and needs, best practices for IDC teaching methods, and core literature (both disciplinary and multidisciplinary).

Categories and Subject Descriptors

K.3.2 [Computer and Information Science Education]: Curriculum

General Terms

Human Factors

Keywords

Teaching, education, children's HCI, interaction design, psychology, curriculum, disciplines, child computer interaction.

1. INTRODUCTION

The IDC conference was started in 2000, and has developed over the past decade into an established community with input from a wide variety of disciplines, including interaction design, HCI,

psychology, engineering, education and media sciences. Other evidence for the growing community of IDC is the recent start of a Child Computer Interaction community within the CHI conference [2], and the growing number of papers published within the ACM digital Library. The field of IDC is reaching a level of maturity where it is timely to start discussing and exchanging experiences on how to educate future Interaction Design and Children researchers and practitioners. In addition, since IDC brings together researchers from different fields, as the community grows, we risk start losing its initial common ground, shared vocabulary, and literature.

In 1985 a workshop was held as part of the CHI conference, which resulted in a description of HCI curriculum designs defining core topics within disciplinary fields [1]. Our goal is to similarly start the discussion about curriculum designs for the IDC community, which will identify and bring together the various approaches to teaching IDC at an academic level.

The topic of teaching interaction design and children (or Child Computer Interaction) can be explored from a disciplinary perspective (psychology, engineering, communications, and design), but also from a technology perspective (e.g. media platforms such as intelligent devices, tablets, mobile, interaction devices), user-experiences perspective (e.g. play, learning, communication, special needs) or of a design and/or research methods perspective (e.g. user centered and participatory design, evaluation). We wish to explore all of these and try to find the common ground and core principles for an academic IDC syllabus, while still allowing for the flexibility needed to approach IDC from varied disciplinary perspectives, depending on the needs of instructors, students, and university departments. As part of this effort, we also intend to begin to assemble a core list of literature and activities that instructors can draw on when teaching IDC.

2. SCOPE

Effective interactive design for children is a multidisciplinary process that draws upon, not only production expertise, but also a host of other disciplines that range from engineering to communication to HCI to child development. As a result, there is no one "right" way to approach the teaching of Interaction Design and Children on the university level. Rather, one's approach must be tailored to the disciplinary focus of different schools or academic departments, to different levels of students, and to different orientations of both instructors and students (e.g., future designers vs. researchers). At the same time, however, there are

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fundamental guiding principles, theories, research methods and applied processes – reflecting all of these disciplines – that should be covered regardless of the orientation of a given course. In this workshop we will examine various approaches to teaching this topic in a university level course, and discuss what standard core topics should be taught – both in terms of literature and activities, and what can be added on depending on the orientation of the program/institute.

This workshop aims to support the IDC community in 3 ways:

1. By stimulating reflection on “best practices” in training the new generations of IDC researchers.
2. By creating resources that current and future IDC instructors can use to create, update and expand IDC courses.
3. By encouraging more prevalent IDC instruction in schools/departments of Education, Computer Science., Design, and Communication.

3. WORKSHOP PARTICIPATION

We aim to bring together experienced presenters from several different disciplines to discuss the approaches they have taken in teaching the topic of children’s interactive design, including rationale, topics covered, recommended readings, and activities conducted in and out of class. Next, we will draw on the varied experiences of the audience (who are likely to represent a range of disciplinary backgrounds themselves) in a group discussion intended to identify core topics that should be covered in any such instruction, as well as ways in which an instructor can adapt his or her syllabus to meet the needs of a particular department, course, and group of students. Participants will be asked to contribute to a brief position paper explaining the context of the course they teach related to Interaction Design and Children, the subjects they cover, and the teaching methods they employ (e.g. lectures, exercises, discussion sessions, etc.).

3.1 General Discussion Topics

1. Presenting the challenge – all the facets of teaching IDC. (A presentation and a brainstorm/discussion of teasing out main themes.)
2. Presenting possible solutions and approaches to teaching IDC – presentations of chosen syllabi from the workshop participants (or all the participants if it’s a small group). Discussion of commonalities and differences.
3. Group discussion/activity – attempting to build a core syllabus. Small groups discuss main concepts for core syllabus topics repository similar to that of the ones developed for HCI. Integration of group discussions will follow.
4. Addressing additional factors: type of department in which a class is taught, undergraduate vs. graduate, applied vs. theoretical, length of class (i.e. how many academic points), online/in-class instruction, and international differences.
5. Discussion about how to make IDC teaching more prevalent in traditional academic departments such as Education, Information Sciences, Communication, and Computer Science.
6. Summary and directions for the future.

3.2 Content Topics within IDC

A wide range of content topics are of interest in the teaching of Interaction Design and Children. As mentioned above these may

include topics related to disciplinary theories, interdisciplinary specialized research, and current information about state-of-the-art technologies, experiences and methods, and all these focusing on the culture of digital natives. We will try to find the topics that are critical to teaching IDC, while keeping a multidisciplinary lens. An initial inventory of possible topics would include:

- Communication: Digital natives’ unique perceptions, the role of design in facilitating various forms of interpersonal communication, kids’ media use today, media literacy, and the digital divide
- Psychology: Human development (cognitive, physical, social, and emotional), learning theories, motivation.
- HCI: User centered design, Design process, User Experiences, and Usability.
- Children’s HCI: History, schools of thought, current trends, and research methods.
- Pedagogies: Constructivism, constructionism, socio-constructivism, and project-based learning.
- Technologies: Tangibles, mobile, tabletop, tech-toys, virtual interfaces, ubiquitous, and low-tech.
- Experiences: Designing for play, education (home and schools), social/emotional development, physical development, health, and communication.
- Design: Methods of designing for and with children in various media, and assessment.

3.3 Teaching methods

Depending on the goal of the course and the department (and academic discipline) in which it is taught, different methods may be used to teach IDC. For example when the goal is to be able to apply the knowledge to design there may be more hands-on activities, whereas if the goal is to acquire ‘background’ information, more literature and observations may be involved. We will survey all these teaching approaches as well as discussing case studies, theory, creating literature reviews, design activities, research activities, group discussions, group/pair projects.

4. EXPECTED OUTCOMES

We expect the following outcomes of the workshop:

1. Compilation and integration of the workshop discussions in the form of an article, discussing their process and outcomes. Presentation of a set of core topics for teaching Interaction Design and Children, the many possible factors that may affect the curriculum, and ways in which a curriculum can be adapted to address them.
2. An overview of courses and topics taught, to be shared on a website (possibly on the IFIP SIG on Children and Computer Interaction (<http://www.idc-sig.org/bibliography.php>)).
3. “Build-your-own IDC syllabus” website – create a website that includes CCI references and activities, which are tagged with difficulty level, target audience, undergrad/grad, what questions they address, etc. The broader HCI community could then proceed and help expand the list, vote and tag, as an ongoing process.
4. Create a poster for the conference so other participants can contribute to the content and discussion.
5. Establishing connections among people from different disciplines of the IDC community, who have related interests

and experiences regarding teaching IDC in an academic setting.

Just as the development of the HCI curriculum required a number of workshop and iterations, we expect that this workshop will represent only the beginning of an ongoing discussion within the field. We hope that it will serve as a promising start to a challenging process that will enrich the field of Interaction Design and Children for years to come.

5. REFERENCES

[1] Hewett, Baecker, Card, Carey, Gasen, 1992:1996. ACM SIGCHI Curricula for Human-Computer Interaction, Mantei, Perlman, Strong and Verplank, (1992,1996), retrieved on 20-01-2011 from, <http://old.sigchi.org/cdg/cdg4.html>

[2] Read, J., Markopoulos, P., Druin, A. 2011. A community of Child Computer Interaction, *Proc. CHI 2011*, ACM Press.

6. EXISTING COURSES IN IDC

[1] Introduction course to Child Computer Interaction, by Janet Read University of Central Lancashire, <http://www.cs.uta.fi/sthcci/Read.html>

[2] Interaction Design and Children, Industrial Design Masters Programme, Module DB310 , P.Markopoulos & M.M.Bekker:

http://www.idemployee.id.tue.nl/p.markopoulos/Course%20Home%20Pages/ID_Masters_IDC.htm

[3] Designing for children and elderly , Bachelor course, Industrial Design, Eindhoven, by M. Bekker, https://venus.tue.nl/owinfo-cgi/owi_0695.opl?vakcode=DG305

[4] Design for children's play and learning , ECTS: 3 , lecturer: Ir. M.A. Gielen , Technical University Delft, <http://www.tudelft.nl/live/pagina.jsp?id=7fd02125-11c2-4ecf-8027-80371eea29ff&lang=en>

[5] Human Development and Technology, by Shuli Gilutz, CCTE MA program, at TC, Columbia University, New York, USA.

[6] Psychological Aspects of Children and Interactive Media, by Shuli Gilutz, seminar in the Psychology BA program, The New School of Psychology, IDC Herzliya, Israel

[7] Psychology of Media, by Shalom Fisch, Graduate School of Education, Fordham University, New York, NY, USA

[8] Beyond Bits and Atoms: Technological Tools for Learning, by Paulo Blikstein, School of Education and Dept. of Computer Science, Stanford University, CA, USA. <http://beyondbitsandatoms.stanford.edu>