6^{th} KidRec Workshop: Information Retrieval Systems for Children in the COVID-19 Era

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ABSTRACT

The role that technology plays in supporting children at school and at home is more prominent than ever before due to the global COVID-19 pandemic. This has prompted us to focus the 6^{th} International and Interdisciplinary Perspectives on Children & Recommender and Information Retrieval Systems (**KidRec**) workshop on what the lasting changes will be to the design and development of child information retrieval systems. After two years, are information retrieval systems used more in and out of the classroom? Are they more interactive, more or less personalized? What is the impact on the research and business community? Are there long-term and unexpected changes on the design, ethics, and algorithms? The primary goal of our workshop continues to be to build community by bringing together researchers, practitioners, and other stakeholders from various backgrounds and disciplines to understand and advance information retrieval systems for children.

CCS CONCEPTS

• **Information systems** → *Recommender systems*; *Web search engines*; *Personalization*; **Web searching and information discovery**; • **Social and professional topics** → **Children**.

KEYWORDS

children; information retrieval; human-computer interaction; classroom; search; recommendation; COVID-19

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1 INTRODUCTION

Due to the global COVID-19 pandemic, children have used technologies, particularly online technologies, to connect more with each other, family, school, and the world [11]. Information retrieval systems (**IRS**), such as search and recommendation systems, are portals to access information and resources of interest. They have seen increased use by children. With this in mind, we seek to convene the 6^{th} International and Interdisciplinary Perspectives on Children & Recommender and Information Retrieval Systems (**KidRec**) workshop in conjunction with IDC 2022 to better understand: (1) what are the benefits and barriers of IRS in this period? And (2) what is the impact of their extensive use for the design, ethics, and development of algorithms of IRS. Listening to and discussing the changes, we will utilize, adapt, and expand the framework developed in previous workshops.

2 A NEW EDITION OF THE KIDREC WORKSHOP

In this section, we discuss KidRec's history and the need for a new edition, specifically addressing the background, goals, topics of interest, and expected outcomes.

2.1 Background

Ever since its 1^{st} edition, the goal of KidRec has been to advance knowledge in an important area of research: design and evaluation of IRS (e.g., search and recommendation tools) for children. As summarized in Table 1, prior KidRec editions have sought to understand the landscape of the area, in particular open challenges and needs. We have explored different use cases, such as IRS for leisure or education.

Previous workshops contributed to building a framework to establish guidelines that can drive the design, development, deployment, and evaluation of IRS for children from multiple perspectives [1, 3, 5, 8, 9]. Framework dimensions address children's needs, assessment metrics, industry vs. academia requirements, ethical and policy considerations, and the point of view of the teacher, a major stakeholder [2, 7, 10, 13]. Except for IR for Children Workshop co-located with ACM SIGIR '21 [6]–dedicated to further understanding from an algorithmic perspective–there are no other workshops that

Table 1: Overview of KidRec Workshops

Year	Overview
2017	Co-located with RecSys 2017, started building a community that explores the constraints, limitations, existing strategies, and identify future research paths to nurture and advance the research on recommender systems for children [1].
2018	Co-located with IDC 2018, explored research and industry efforts surrounding the algorithmic search and recommendation process for children [3].
2019	Co-located with IDC 2019, initial outline of dimensions required for an evaluation framework that can be used to define "What does good look like?" [5].
2020	Co-located with IDC 2020, and run online, expanded the framework to consider researchers and practitioners perspectives informing policy related to the design of good IRS for children, ethics being one of the driving considerations [8].
2021	Co-located with IDC 2021, and run online extended the workshop to consider teachers' perspectives informing the design, development, and use of search technology in the classroom [9].
2022	Co-located with IDC 2022, will particularly focus on learning from the impact on the IRS during the pandemic.

we are aware of that explicitly focus on building multidisciplinary community around this key area.

2.2 Goals

After almost two years of dramatically accelerated use of technologies, in this 6^{th} KidRec workshop, we aim to take inventory of the status of the dissemination, effects, and research related to IRS for children. In addition to understanding the degree to which the research agenda in this area has advanced from the perspectives of the organizers (human-computer interaction, information retrieval, and teaching), we seek broad disciplinary and industry perspectives to better identify the advances and remaining challenges. We are interested in the impact the COVID-19 pandemic on the design and development of IRS.

2.3 Topics of Interest

We invite submissions identifying the benefits and barriers of child-specific IRS in the COVID-period. This may include questions such as: what was the change of IRS during the pandemic? What has changed, e.g.in the usage, the location (from home instead of school), more or less collaborations, more or less guidance of the use of IRS? new didactic paradigms? How has COVID-19 impacted the manner in which children take advantage of IRS; how did the increased use of technology and IRS impact (positively and negatively) previous perceptions of IRS. And what are the lasting impacts for the design and development of such systems?

2.4 Expected Outcomes

Among the main outcomes of the workshop we anticipate: (i) assessing and identifying the positive and negative changes related to IRS for children during the pandemic, (ii) discussing the changes on design and development, (iii) updating the framework to account for any new dimensions that result from the ongoing COVID-19 pandemic, and (iv) expanding the community of professionals interested in IRS designed with and for children.

3 ORGANIZERS

Below we include a summary of organizer's background, all of whom have also been involved in prior KidRec editions.

Maria Soledad Pera is an Associate Professor in the Computer Science Department at Boise State University. Sole's research focuses on Information Retrieval, particularly understanding how IRS support children. She has served as PC and reviewer for conferences and journals on her field of expertise and was General Chair of ACM RecSys '18. She co-organized the 2016 Workshop on Educational Recommender Systems, and all of the previous KidRec workshops. She strives to promote awareness on the value of research about search and recommendation tools for children.

Monica Landoni is a Senior Researcher at the faculty of Informatics at Università della Svizzera Italiana (USI); she is also one of the General Chairs for IDC 2022. She has worked on several national and European projects investigating how technology can support children when searching, writing and reading for education and pleasure. While doing that, she has happily designed and conducted many collaborative design sessions in formal and informal settings, carefully taking into account the needs, requests, roles, and points of views of varied stakeholders.

Emiliana Murgia is a primary school teacher at the Stoppani Institute in Milan, where she works on developing and experimenting innovative teaching methods with technology. She is also affiliated to the department of Human Sciences for Education at the University of Milano Bicocca. Emiliana has worked on many national projects investigating how technology can support children so that they can get the best out of their learning experience. After first joining KidRec 2018, she has been happy to bring the voices of teachers into the workshop.

Theo Huibers has been researching information retrieval and human media interaction for over 30 years. Since 2002, he is a professor in Human Media Interaction & Computer Science at the University of Twente and co-founder of Wizenoze, an international eTech company founded in 2013. Since first joining KidRec 2018 in Trondheim, he is eager to participate in the new edition from both an academic as well as a business perspective.

Jerry Alan Fails is an Associate Professor in the Computer Science Department at Boise State University; he is also one of the Technical Chairs for IDC 2022. Jerry's research is in the area of human-computer interaction, with particular focus on designing, developing, and evaluating technologies with and for children. Jerry has participated on and led participatory design groups where children and adults work together as design partners for the last

18 years. He has developed and evaluated several technologies for children. He has organized workshops and courses at CHI, and reviewed for and served on the program committee for CHI, IDC, and other conferences and journals.

4 WEBSITE

The workshop website (https://kidrec.github.io/) is the go-to source of information for the 6^{th} KidRec. There, potential attendees will find, among other things, details regarding participation (e.g., expected contributions), the contact information of organizers, key dates for KidRec, a list of accepted contributions, and an outline of the program.

5 PRE-WORKSHOP PLANS

We will distribute a call for *position papers*, and also have a more general call with an online form for people to express *interest in participating*. Position papers and responses to the website form will allow organizers to ensure that workshop attendees will be active participants in the discussions that will take place during the workshop.

Position Papers. With a traditional call for position papers, we seek to appeal to researchers and industry practitioners. Position papers are expected to be 3-6 pages long (ACM single column template). We anticipate contributions related to: (1) the impact of the pandemic on IRS for children, (2) promising directions identifying the needs and requirements inherent to the (new) use of information retrieval technology, and (3) the vision of researchers and introductory practitioners on any of the topics outlined for this edition of KidRec.

Expression of interest in participating. To appeal to a broader audience than those who submit position papers, we will host a form on the KidRec website where people can indicate their interest, by describing their background, and declaring the perspectives they would bring to the workshop. We have had success with this in the past.

Promotional strategy. We will promote the workshop at conferences (e.g., CHI), and online through social media (e.g., Facebook, Twitter), as well as sending CFP to forums like DBWorld and other relevant mailing lists (e.g., SIG-IRList, SIG-CHIList, Dev-Europe, ID-Research-UK and IDC email lists). We will also directly reach out to practitioners, industry experts, and most especially educators, through education contacts and educator-related social media pages, so that they can participate of the workshop.

6 WORKSHOP STRUCTURE

KidRec will be a half-day, interactive workshop. We will facilitate a highly participatory workshop [4] in which attendees, can openly discuss the degree to which the research of interest to KidRec has advanced, identify challenges that the community must face, and discuss other dimensions that should be considered to update the framework that has been the focal point of the past KidRec editions. We will do so via an interactive format, including: community building exercises, informal interactions, facilitated group work, and ignite-style presentations of accepted contributions. The proposed schedule of the workshop is as follows:

Welcome & Introductions. A welcome and presentation of activities planned to encourage interaction among attendees. This will include a brief overview showcasing the history of the workshop and the outcomes thus far.

Lightning Round. All will be able to give a short (5 minutes) presentation. Presentations will be brief to keep the workshop flow vibrant and to allow for focused group work later in the workshop. In the following order:

- The positive and negative impacts of COVID-19 on child-friendly IRS.
- New theories and developments of design, ethics, algorithms, etc.
- The impact of these developments on academic and business agendas.

Discussion. Identify elements needed to adapt or expand the framework developed in previous workshops, and propose ways it can be applied to different use-cases (e.g., academia, industry). Identify limitations of current strategies and techniques for the design, development, evaluation, and deployment of IRS and other issues that can hinder the connection among design, research and practice of IRS for children. This will be done via a combination of small and large group activities such as sticky-note and large shared paper techniques.

Outcomes. Joint discussion to merge findings from work in small groups.

Next steps. Final notes emerging from the day's group work. Plans for future editions of the KidRec workshop.

COVID-19 has proven to be unpredictable. Thus, we have in place tools that can support a hybrid version of our workshop: Zoom and Miro (https://miro.com). Further, by allocating only half a day for the 6^{th} KidRec, we can accommodate workshop participants around the world, while avoiding the fatigue usually associated with online work gatherings [12].

7 POST-WORKSHOP PLANS

Accepted contributions will be published on the KidRec website. As done in the past, a report on workshop discussion and findings will be submitted to the ACM SIGIR Forum [2, 7, 10, 13]. We are planning a KidRec special issue in a journal (e.g. ACM Transactions on Interactive Intelligent Systems or The International Journal of Child-Computer Interaction).

8 CALL FOR PARTICIPATION

Children frequently interact with information retrieval systems (IRS), such as search or recommender systems. Yet, these systems do not always provide useful resources, foster good experiences for children, or support specific environments (e.g., the classroom). Identifying what are the characteristics of good IRS for children remains challenging! Please join us for the highly interactive 6^{th} KidRec Workshop co-located with IDC 2022. This year, we are particularly interested in advancing discussion by understanding challenges and opportunities related to IRS for children, more prevalent than ever during the COVID-19 pandemic.

We invite *position papers* (3-6 pages), to be submitted via https://easychair.org/conferences/?conf=kidrec2022. All papers will be peer-reviewed, and at the time of submission, must not be under

review in any other venue. You can also express interest to participate in the workshop (without submitting a position paper) by completing the interest form that asks you to briefly articulate your *perspectives* and *interest* in the workshop. The interest form and further information can be found at: https://kidrec.github.io/. At least one author of each accepted paper must register and attend the workshop and the main conference.

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REFERENCES

[1] Jerry Alan Fails, Maria Soledad Pera, Franca Garzotto, and Mirko Gelsomini. 2017. KidRec: Children & recommender systems: Workshop co-located with ACM conference on recommender systems (recsys 2017). In *Proceedings of the Eleventh ACM Conference on Recommender Systems*. 376–377.

[2] Jerry Alan Fails, Maria Soledad Pera, and Natalia Kucirkova. 2019. Building community: Report on the 2nd international and interdisciplinary perspectives on children & recommender systems (kidrec) at IDC 2018. In *ACM SIGIR Forum*, Vol. 52. ACM New York, NY, USA, 138–144.

[3] Jerry Alan Fails, Maria Soledad Pera, Natalia Kucirkova, and Franca Garzotto. 2018. International and interdisciplinary perspectives on children & recommender systems (kidrec). In *Proceedings of the 17th ACM Conference on Interaction Design and Children*. 705–712.

[4] Seeds for Change. 2017. *Facilitating Participatory Workshops. Available at: https://we.riseup.net/assets/25682/FacilitatingWorkshops.pdf*.

[5] Theo Huibers, Jerry Alan Fails, Natalia Kucirkova, Monica Landoni, Emiliana Murgia, and Maria Soledad Pera. 2019. 3rd KidRec Workshop: What does good look like?. In *Proceedings of the 18th ACM International Conference on Interaction Design and Children*. 681–688.

[6] Theo Huibers, Monica Landoni, Emiliana Murgia, and Maria Soledad Pera. 2021. IR for Children 2000-2020: Where Are We Now?. In *Proceedings of the 44th International ACM SIGIR Conference on Research and Development in Information Retrieval*. 2689–2692.

[7] Theo Huibers, Monica Landoni, Maria Soledad Pera, Jerry Alan Fails, Emiliana Murgia, and Natalia Kucirkova. 2019. What does good look like? report on the 3 rd International and Interdisciplinary Perspectives on Children & Recommender and Information Retrieval Systems (KidRec) at IDC 2019. In *ACM SIGIR Forum*, Vol. 53. ACM New York, NY, USA, 76–81.

[8] Monica Landoni, Jerry Alan Fails, Theo Huibers, Natalia Kucirkova, Emiliana Murgia, and Maria Soledad Pera. 2020. 4th KidRec workshop" what does good look like?" from design, research, and practice to policy. In *Proceedings of the 2020 ACM Interaction Design and Children Conference: Extended Abstracts*. 103–110.

[9] Monica Landoni, Theo Huibers, Maria Soledad Pera, and Jerry Alan Fails. 2021. 5th KidRec Workshop: Search and Recommendation Technology through the Lens of a Teacher. In *Interaction Design and Children*. 658–661.

[10] Monica Landoni, Maria Soledad Pera, Jerry Alan Fails, Emiliana Murgia, Natalia Kucirkova, and Theo Huibers. 2021. 4th KidRec-what does good look like: from design, research, and practice to policy. In *ACM SIGIR Forum*, Vol. 54. ACM New York, NY, USA, 1–7.

[11] Colleen Mcclain, Emily a Vogels, Andrew Perrin, Stella Sechopoulos, and Lee Rainie. 2021. The Internet and the Pandemic. https://www.pewresearch.org/internet/2021/09/01/the-internet-and-the-pandemic/

[12] Robby Nadler. 2020. Understanding "Zoom fatigue": Theorizing spatial dynamics as third skins in computer-mediated communication. *Computers and Composition* 58 (2020), 102613.

[13] Maria Soledad Pera, Jerry Alan Fails, Mirko Gelsomini, and Franca Garzotto. 2018. Building community: Report on kidrec workshop on children and recommender systems at recsys 2017. In *ACM SIGIR Forum*, Vol. 52. ACM New York, NY, USA, 153–161.