ICCC-WS 2020

Workshops held at the Eleventh International Conference on Computational Creativity, ICCC 2020

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Edited by
Oliver Kutz | H. Sofia Pinto

and the organisers of
Casual Creators |
Knowledge-Based Systems in Computational Design |
Introduction to Generative Drawing |

Kate Compton, Max Kreminski, Simon Colton — **Casual Creators**

Viktor Eisenstadt, Klaus-Dieter Althoff — **Knowledge-Based Systems in Computational Design**

Daniel Buzzo, Kristina Andersen — **Introduction to Generative Drawing**

http://computationalcreativity.net/iccc20/workshops/
and
http://computationalcreativity.net/iccc20/hands-on-workshops/

ICCC-WS PREFACE

Workshops of the Eleventh International Conference Computational Creativity

ICCC-WS gathers a record of the workshops that took place at the International Computational Creativity Conference. Therefore, ICCC-WS addresses the many topics embraced by the computational creativity community, a rather diverse and multi-disciplinary field, positioned at the crossroads of technology, humanities including sociology, philosophy of creativity, the cognitive sciences and psychology, and artificial intelligence including knowledge representation, natural language processing, linguistics and machine learning. ICCC-WS's mission is therefore to provide a platform for this diverse community to discuss and share ideas, exchange latest technologies, and showcase breakthrough creative systems.

This ICCC-WS volume compiles a record of workshop events held during the 11th edition of the International Computational Creativity Conference (ICCC 2020). In the ICCC-WS 2020 edition, two types of events were held: traditional workshops and hands-on workshops. While the former follow a more traditional format including invited talks, presentation of papers with ample time for discussion and panels, hands-on workshops aim at a more active experience where participants execute and produce, in contrast to a more learning-oriented experience provided by tutorials.

This proceedings volume for ICCC-WS 2020 is the first volume in a new series of joint workshop proceedings published at CEUR and comprising workshop and workshop-like events held at ICCC including regular scientific papers accepted for presentation at specific individual workshops, and extended summaries of the experiences and results of the activities developed during the events. This volume includes the proceedings of the following three events:

- Workshop on Knowledge-Based Systems in Computational Design.[1]
- Introduction to Generative Drawing with pencils, paper, C++ and openFrameworks.[2]
- Workshop on Casual Creators.[3]

This volume contains 8 full papers presented at the 'Casual Creators' workshop, and 6 full papers presented at the workshop 'Knowledge-Based Systems in Computational Design'.

For the event 'Introduction to Generative Drawing with pencils, paper, C++ and openFrameworks', we include an extended summary and discussion of the workshop. This is indeed an example of the new format at ICCC, namely *hands-on workshops* that establish a blend between a tutorial and a traditional workshop.

Due to the Coronavirus Pandemic, all scheduled events had to relocate from their foreseen geographical location, and instead took place in the virtual space. Nonetheless, participation was lively and active.

[1] See https://kbscd-iccc2020.hosting.uni-hildesheim.de
[2] See https://generative-drawing.github.io
[3] See https://mkremins.github.io/casual-creators-workshop/

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Oliver Kutz & H. Sofia Pinto **ICCC-WS Chairs**

[4]See https://computationalcreativity.net/home/about/

Casual Creators

https://mkremins.github.io/casual-creators-workshop/

Workshop Chairs

Kate Compton	University of California, Santa Cruz, USA
Max Kreminski	University of California, Santa Cruz, USA
Simon Colton	Queen Mary, University of London, UK

The Casual Creators Workshop aims to foster experimentation and build community around the topic of casual creators: a recently-defined genre of creativity support tools that are specifically designed to support autotelic creativity, or creativity for its own sake. The workshop also hopes to promote discussion of the creative practices that emerge around casual creators, which are often casual, unskilled, ephemeral, and social.

Topics covered include:

- Reports on the design and development of new casual creators
- Analyses and comparisons of existing casual creators, including papers that identify, name and survey distinct subgenres of casual creators
- Approaches to human-centered evaluation of casual creators
- Theories of creativity that address autotelic creativity, creativity in non-expert users, or ephemeral and experiential creativity
- Casual creativity in a social or performative context (e.g. livestreaming, quilting bees, online crafting communities)
- Learnings about casual creativity from existing fields and communities of practice (e.g. museum interaction design, improvisation, arts education, crafting kits)
- Casual creator design inspiration from game design and other play design fields, or casual creators embedded in game contexts (e.g. character creators, house-decoration minigames)
- Casual creator design inspiration from "little languages": small or approachable domain-specific programming languages
- Mixed-initiative co-creativity: AI and humans making things together
- Casual creators as intervention in computational creativity: taking computational creativity systems and making them interactive as a means of interrogation or critique
- Novel tools (motion control, neural interface, GANs/ML) that compromise direct user control, but may complement the less-controlled interaction of a casual creator
- Casual creators for unexpected use cases, such as health, political, educational, or persuasive purposes, i.e. "serious casual creators".

Knowledge-Based Systems in Computational Design

https://kbscd-iccc2020.hosting.uni-hildesheim.de/

Workshop Chairs

Viktor Eisenstadt	University of Hildesheim/DFKI, Germany
Klaus-Dieter Althoff	University of Hildesheim/DFKI, Germany

Workshop Committee

Hayley Borck	Honeywell, USA
Christopher McComb	Pennsylvania State University, USA
Christoph Langenhan	Technical University of Munich, Germany
Jakob Michael Schönborn	University of Hildesheim, Germany
João Miguel Cunha	University of Coimbra, Portugal
Maximiliano Miranda	Universidad Complutense de Madrid, Spain

The main aim of the workshop is to track and examine the current trends in knowledge-based methods in research and development areas of computational design, game design, media informatics, and similar creativity-related topics.

We use the terms knowledge-based systems in computational design or simply knowledge-based design to cover design-related topics in case-based reasoning, analogy-based reasoning, cognitive architectures, cognitive science, or generative and parametric arts.

Topics covered include:

- theories, methods, and methodologies for knowledge-based support of design, games, and media creation process
- intelligent organization, formalization, initialization, distribution, and management of design knowledge in databases and data structures

  knowledge-based methods for decision support during different design phases
- computational models for interaction/dialog with the designer
- learning and interpretation of user behaviour during design process with AI-based technologies
- design generation, configuration, and interpretation with AI techniques

General topics of interest include, but are not limited to:

- Computational Design
- Engineering Design
- Case-based and analogy-based Design

- Computer-Aided Architectural Design
- Pattern Recognition in Non-textual Media
- Cognitive Architectures for Games Genetic Algorithms for Creativity
- Knowledge Formalization in Design Systems
- Artificial Intelligence in Building Information Modelling
- Parametric Design

Introduction to Generative Drawing

http://computationalcreativity.net/iccc20/hands-on-workshops/

Workshop Chairs

Daniel Buzzo	University of the West of England, UK
Kristina Andersen	Eindhoven University of Technology, The Netherlands

Overview of the Hands-on Workshop:

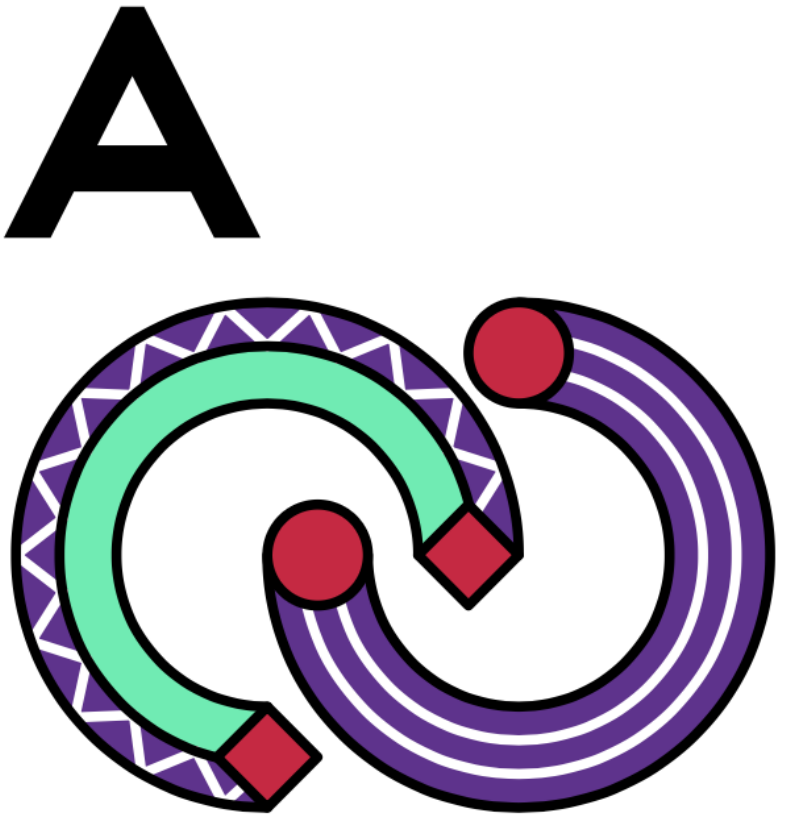
This workshop intends to introduce participants to the basic principles of generative computational drawing systems and to give practical hands on demonstrations of coding simple generative systems for art, music, audio and design using the popular C++ toolkit 'openFrameworks'.

Beginning with a discussion of generative approaches to drawing from traditional media, printmaking and weaving, participants in the workshop will gain an insight into some of the long and fascinating history of generative approaches in art. Translating ideas to still images and video, from the work of Printmaker Sol Lewitt, weaver Annie Albers and computational artist Vera Molnar to Eno's generative video and sound using computer systems.

This workshop is suitable for those with an interesting in coding and a familiarity with basic development on Mac, PC or Linux computers. Demonstration code and examples will be pre-prepared enabling all participants to make their own audio or video/visual generative artwork in the course of the day.

The workshop provides an overview and grounding in the theory, history and application of generative and procedural systems in art and design. This module engages participants in a discussion of theory and practical application of systems featuring exemplar material from creative practitioners from the field of music, audio, video, visual arts, architecture, literature and graphic and product design. Through the practice of systems of drawing translated into computational drawing, participants will learn the mathematics and philosophical foundations of algorithmic and generative approaches to creation alongside practical demonstration and experimentation with systems. After joining this workshop participants will be able to select and apply a variety of generative systems techniques to differing situations in their own area of arts and design practice.

This proceedings volume contains a brief summary of the 2020 workshop event.



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