From Here to Creativity

A Journey Into Artificial Creative Systems

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CISUC
COGNITIVE AND MEDIA SYSTEMS

Intro

Our research

- The Cognitive and Media Systems Group of CISUC has been developing work in the field of Computational Creativity since the 1990s.
- Research includes not only theoretical work but also practical work on the implementation of systems that exhibit creativity.
- Application domains: computational design, visual arts, music, game design, …

Computational Creativity

- Computational Creativity, often presented as a sub-field of Artificial Intelligence research, focuses on studying and exploring the potential of computational systems in acting as creators, either autonomously or in collaboration with humans.

Works

P. Machado and L. Pereira, “Photogrowth: non-photorealistic renderings through ant paintings,” in *Genetic and Evolutionary Computation Conference, GECCO ’12.*

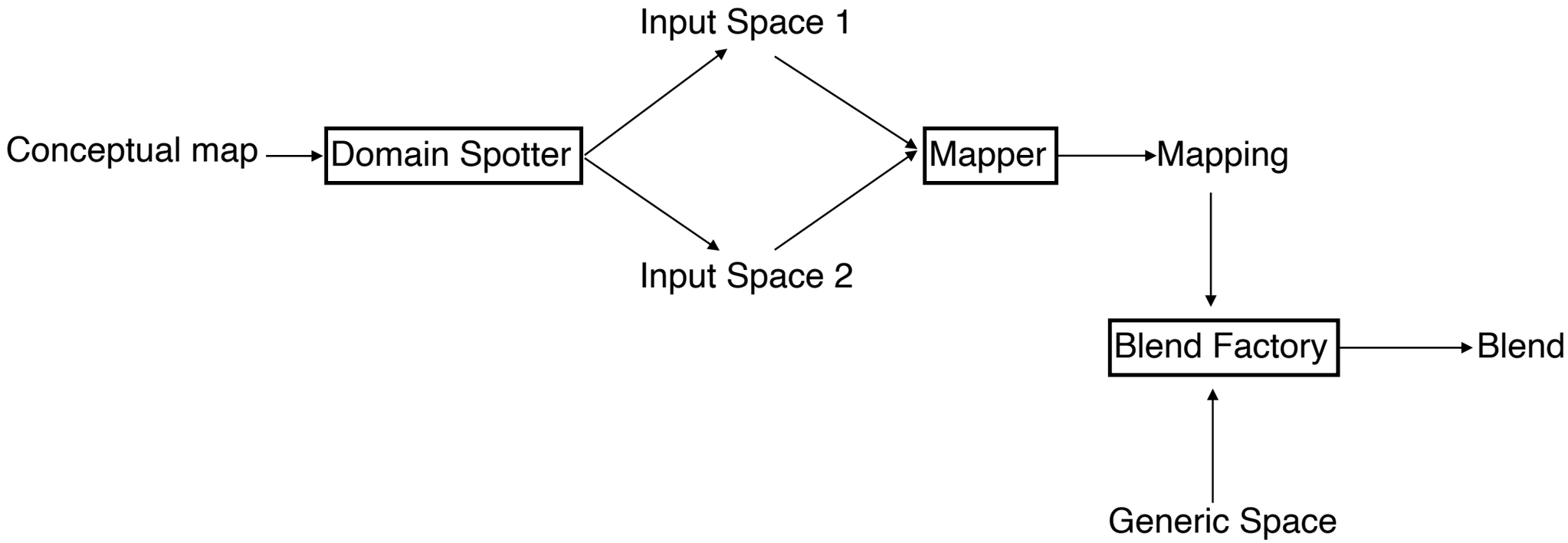
Works

J. M. Cunha, P. Martins, and P. Machado, “Ever-changing Flags: Impact and Ethics of Modifying National Symbols,” in *Proceedings of the Eleventh International Conference on Computational Creativity, ICCC 2020.*

Autonomous Creative Systems

Divago II (A Computacional Approach to Conceptual Blending)

J. Gonçalves, P. Martins, A. Cardoso



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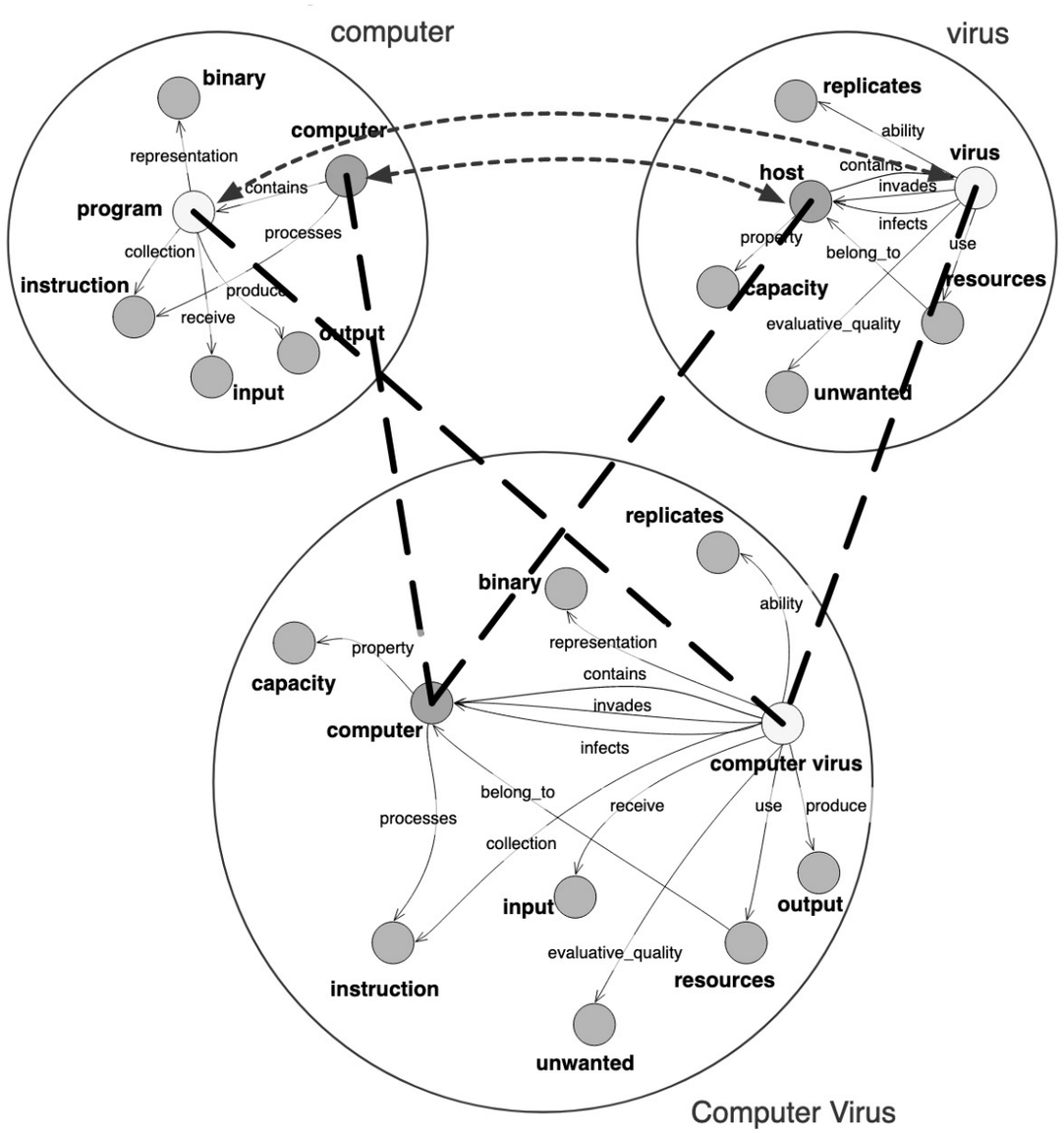
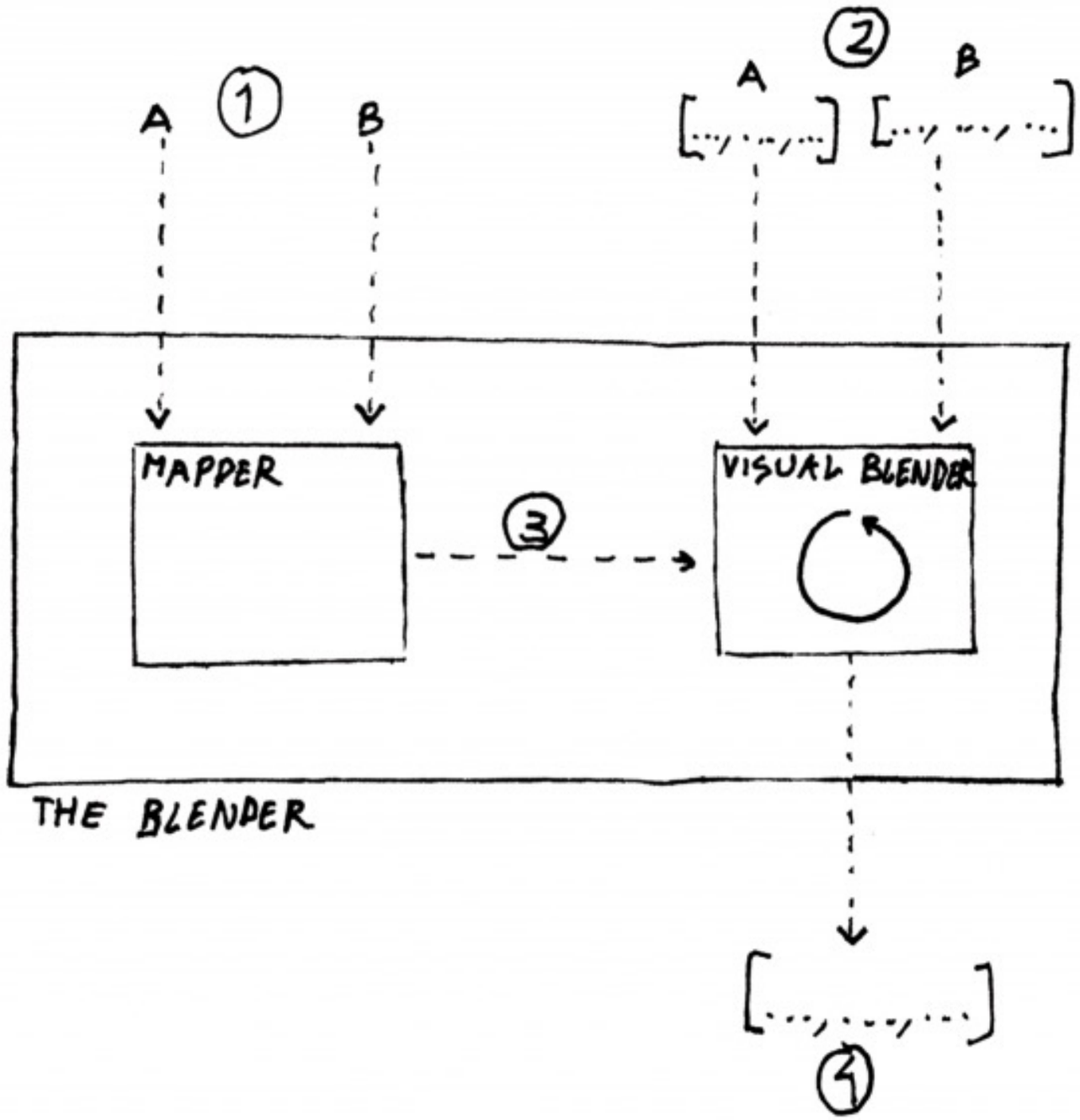


A Pig, an Angel and a Cactus Walk into a Blender

J. M. Cunha, J. Gonçalves, P. Martins, P. Machado, A. Cardoso



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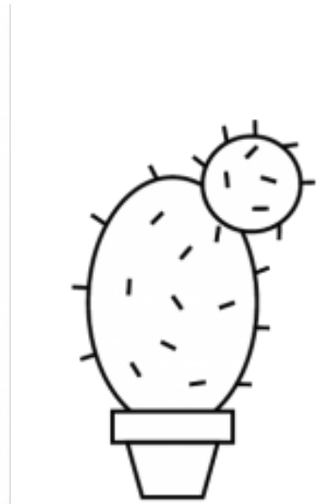

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Co-Creative Systems

Emojinating

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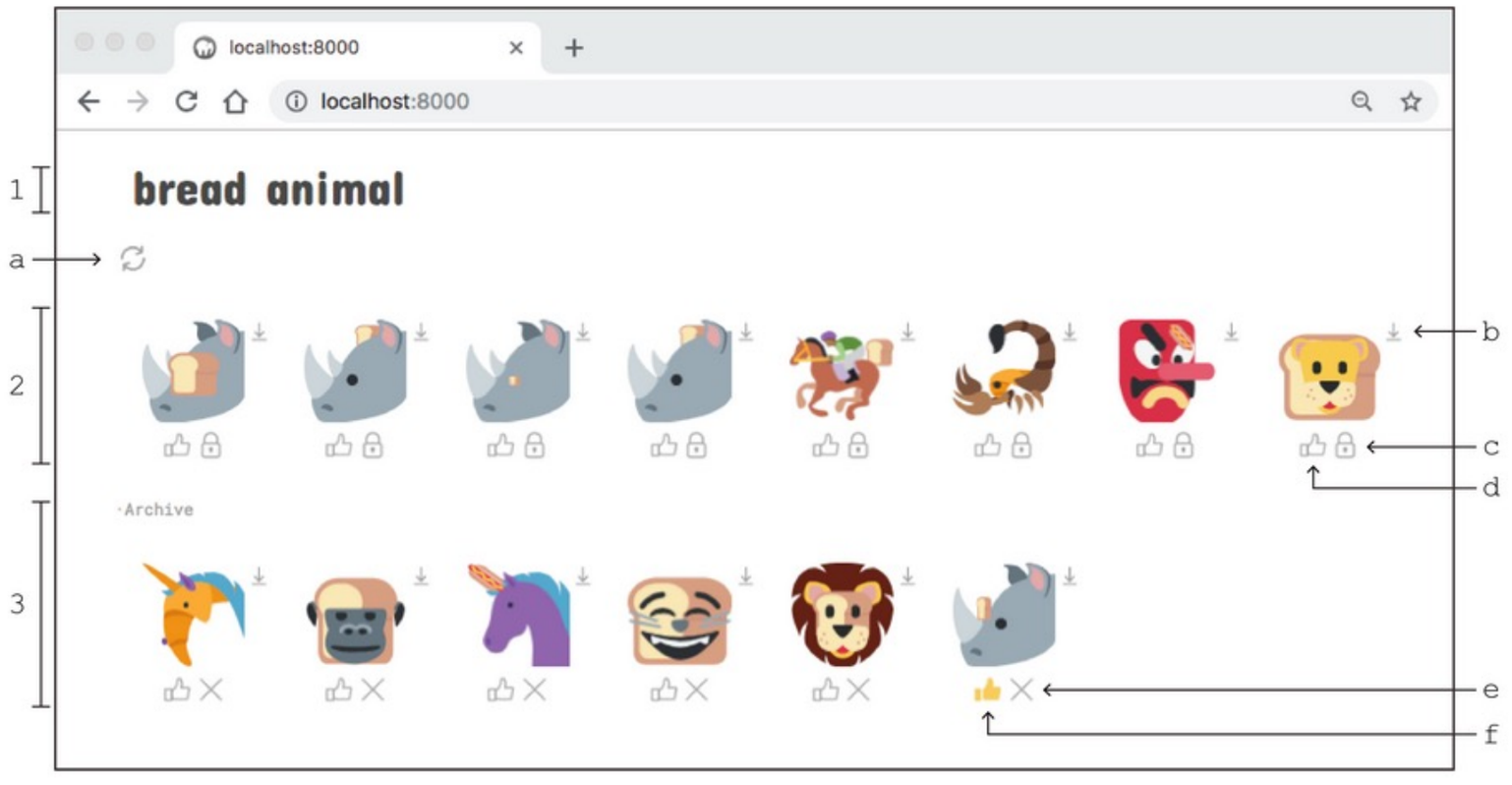

Web-based application interface, showing 3 areas – search area (1), population area (2), archive area (3) – and 6 buttons – (a) next generation, (b) download, (c) lock, (d) like, (e)remove from archive and (f) activated like button.

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Current Research

Our current research

- Computational Approaches to Conceptual Blending
- Visual Blending
- Co-Creative Systems
- Computational Creativity Evaluation
- Explainability of Creative Systems