interfaces and creative processes
Centro de Informática
UFPE
Graduação
Filipe Calegario
how to stimulate, engage, and facilitate exploration in idea generation?
implementation

how to decrease the time and effort to realize the ideas (time-to-prototype)?
availability

how to make methods, processes, tools, interfaces easily available?
if the interfaces are not engaging, have high technical barriers and are not easily available, the uses are shallow, do not allow intimacy, and appropriation, so they can not be bended, blended, subverted
pre-history
m.e.s.a.
multitâtxi eintxertxeimenti sârfeice apliqueixôns
multitâtxi eintxertxeimienti sârfeice apliqueixôn
simples coisas sonoras
simples coisas sonoras
"The movement is extremely connected to what is being played. In other words, there is a direct relation between what you see and to what you listen. [...] Well, of course when we start developing these instruments, it ends up being a two-way path. From the moment, I'm affected by this sound, my gesture turns into something else and then turns also the sound. So, it's a two-way path. It generates feedbacks and detonates surprises for me too."

Helder Vasconcelos
Giromin 1 (2014)
Helder Vasconcelos
Piso Interativo (2015)
DMI development process
pandivá
pandivá #1
pandivá #2
probatio
<table>
<thead>
<tr>
<th>Posture</th>
<th>Control</th>
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</table>
probatio
1.0
Blocks
Bases
https://probat.io

github.com/probatio

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computational creativity
This **Snack** Does Not Exist

Using generative adversarial networks (GAN), we can learn how to create realistic-looking fake versions of almost anything, as shown by this collection of sites that have sprung up in the past month. Learn how it works.

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**This Person Does Not Exist**

The site that started it all, with the name that says it all. Created using a style-based generative adversarial network (StyleGAN), this website had the tech community buzzing with excitement and intrigue and inspired many more sites.

Created by Phillip Wang.

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**This Cat Does Not Exist**

These purr-fect GAN-made cats will freshen your feelin’ up and make you wish you could reach through your screen and cuddle them. Once in a while the cats have visual deformities due to imperfections in the model – beware, they can cause nightmares.

Created by Ryan Hoover.

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**This Rental Does Not Exist**

Why bother trying to look for the perfect home when you can create one instead? Just find a listing you like, buy some land, build it, and then enjoy the rest of your life.

Created by Christopher Schmidt.
this instrument does not exist
+ stylegan2-ada
+ mimo
experiment:
+ stylegan2-ada
+ haeckel
+ ffhq
+ uncanny valley
experiment:
+ VQGAN+CLIP
texts: ['recife, where the capibaribe and beberibe rivers meet to form the atlantic ocean']
texts: ['recife, a happy city in the northeast of brazil']
texts: ['strategic transformation']
texts: ['computational creativity']
model: vqgan_imagenet_f_16_16384
seed: 352
max_i: 500
| texts:       | ['computational creativity'] |
| model:      | vqgan_imagenet_f 16_16384 |
| seed:       | 25                      |
| max_i:      | 500 size: 800x45       |
texts: ['computational creativity']
model: vqgan_imagenet_f 16_16384
seed: 100000
max_i: 500
size: 800x450
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<tr>
<td><strong>seed:</strong> 55</td>
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input_texts_19

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model: vqgan_im_agenet_f_16_16384
seed: 55
max_i: 1000
size: 600x600
fluffy devil
texts: ['my cat is a fluffy devil']
wikiart
texts: ['a fluffy devil cat in style of picasso']
texts: ['a fluffy devil cat in style of pixar']
texts: ['a fluffy devil cat in style of watercolor']
a fluffy devil cat in ...

picasso style (seed 42)  
picasso style (seed 23)  
pollock style (seed 23)
and now, joseph?
Can Computers Create Art?

Aaron Hertzmann
Adobe Research*

May 9, 2018

Abstract

This essay discusses whether computers, using Artificial Intelligence (AI), could create art. First, the history of technologies that automated aspects of art is surveyed, including photography and animation. In each case, there were initial fears and denial of the technology, followed by a blossoming of new creative and professional opportunities for artists. The current hype and reality of Artificial Intelligence (AI) tools for art making is then discussed, together with predictions about how AI tools will be used. It is then speculated about whether it could ever happen that AI systems could be credited with authorship of artwork. It is theorized that art is something created by social agents, and so computers cannot be credited with authorship of art in our current understanding. A few ways that this could change are also hypothesized.
View from the Window at Le Gras, the first successful permanent photograph created by Nicéphore Niépce in 1827, in Saint-Loup-de-Varennes (Saône-et-Loire, Bourgogne, France). Captured on 20×25 cm oil-treated bitumen. Due to the 8-hour exposure, the buildings are illuminated by the sun from both right and left.

Daguerreótipo de Recife, 1851 feito por Charles DeForest Fredricks (1823–1894)
https://github.com/filipecalegario/awesome-generative-deep-art
popularization
availability
e.g. GPU and Google Colab
GitHub Copilot

OpenAI GPT-3 and Codex
beyond mouse, keyboard, touchscreens
human-computer co-creativity

- How humans and computers can collaborate?
- How interaction between human and computer can be mediated?
- What are the ideal interfaces for human and AI?
- How AI can enhance human creativity?
- How the collaboration with computer can enhance human creativity?
- Can human creativity be enhanced by interaction with computers?
- Are there general aspects to human-computer co-creativity?
- What new interfaces can be used to mediate human-computer interaction?
- Is the physicality (or materiality) important in the design and development process of human-computer co-creative interactions?
- What new interfaces can be used to mediate human-AI interaction?
- Considering AI explainability, how will the interfaces be?
- Considering new models and creative agents, how will the interfaces be? And the interaction?
- Is there a general formulation for different modalities in Computational Creativity?

- What aspects of creative tools facilitate collaboration between humans?
- How the collaboration between humans can leverage the study of human-computer collaboration?
- Does embodiment interfere in the communication between humans and computers considering a co-creativity context?
- What is the aspect of interfaces that interferes in communication?
- How do interfaces affect communication between two agents?
- What are the main elements of interaction between two creative agents?
- What are the importance of perception, processing, and action in creative collaboration?
- Is there a general formulation for creative processes or is it modality-dependent?
- Are the general principles that rule the creative process or is it modality-dependent?
Gambiarrassa and Techno-Vernacular Creativity in NIME Research

A discussion about the concepts of Gambiarra and Techno-Vernacular Creativity in the context of increasing cultural diversity in NIME Research

by João Tragtenberg, Gabriel Albuquerque, and Filipe Calegario