# Synopsis exam paper

## Concept/idea/term

* Improvising with computers:
  + Imitating life
  + Interaction between the computer and the performer
    - What constitutes this relationship?
    - Can a computer improvise?
      * What is improvising?
        + Lucy Suchman: Situtated actions
      * Can computers create music, and thereby art, so that it might resemble human composition
    - What role does music software play?
* Can AI improvise?
  + Liveliness 🡪 Winnie

### Key concepts

* AI as performers, and thereby improvisers, and authors
* The uncanny valley: “*a person's response to a humanlike robot would abruptly shift from empathy to revulsion as it approached, but failed to attain, a lifelike appearance. This descent into eeriness is known as the uncanny valley.”*
  + <https://spectrum.ieee.org/automaton/robotics/humanoids/the-uncanny-valley>
  + How does this concept of uncanny valley lends itself to musical improvisation and comptuers/AI’s?
* Agency
* Automata
* Algorithmic music

## Problem to address

* Why do we want our computers to improvise?
* Can a computer improvise?
  + What does the idea of computers improvising tell us about music and improvisation?
* What is improvisation?
* What constitutes the musical interaction between a human performer and computer performer?
* The history of improvising with computers
  + The first self-playing instruments 🡪 Why would we construct these and what does it tell us about our view on music?

### Definition

### Questions

## Next step

* Sources on improvisation
* Reread Lucy Suchman
* Researching the concept of automata and how it ties into musical improvisation
  + I should also research the concept of cellular automata by John Newman and how it has been used in musical composition. When doing so, I should also consider how this ties into the overall theme.
* Sources on art and AI: How can AI create art? Can AI create art? Does it bear a resemblance to, what we consider art?
* Watch this lecture by George E. Lewis about improvising with computers: <https://vimeo.com/78692461>
* I might need to read/find some sources on free improvisation. One thing that could be quite interesting is to include quotes from jazz musicians, which draws upon the concept of free improvisation. Some might be: John Coltrane, Miles Davis, Mark Guiliana, Art Blakely.
* Algorithmic music: What is it? How is it used? Is there any resemblance to AI music?
  + Should explore the programming language ChucK
  + Also SLOrk (Stanford Laptop Orchestra) and PLOrk (Princeton Laptop Orchestra) and Copenhagen Laptop Orchestra)
* AIM (Artificial Intelligence Music): Sources on this 🡪 Might be interesting to include as a perspective:
  + Songs written by AI: <https://futurism.com/the-worlds-first-album-composed-and-produced-by-an-ai-has-been-unveiled/>
* Sources (philosophy) on free will
* Order “The Oxford Handbook of Algorithmic Music” at AU Library

## Sources

* Goodman, Steve, ”Sonic algorithm”, in Fuller op. cit., pp. 229-235
* Suchman, Lucy “Human-Machine Reconfigurations Plans and Situated Actions”
* Simon Penny: <http://simonpenny.net/texts/darwinmachine.html>
* McCorduck, Pamela, “Machines who think”
* Performances by George E. Lewis:
  + <https://www.youtube.com/watch?v=ec88U5R7cJ0>
  + <https://www.youtube.com/watch?v=hO47LiHsFtc>
* Lewis, George E. “Why do we want our computers to improvise? In “The Oxford Handbook of Algorithmic Music”

### Additional sources or interesting things to include

* John Cage:
  + 4’33”: <https://www.youtube.com/watch?v=WTCVnKROlos>
  + Incorporating random and chance into musical composition: “Music of Changes” (1951)
    - <https://www.youtube.com/watch?v=Y7LD1iTl-lM>
* Google Magneta: <https://magenta.tensorflow.org/>
* Black Beethoven by Terry Adkins: <https://www.salon94.com/artists/detail/estate-of-terry-adkins/4495>
  + Black people as automata/reduced to objects: Black people have historically been reduced to items or objects, in which one can claim ownership. They were deprived of their human characteristics and seen as mere tools.
    - When performing or improvising musically, they transcended their objectification and developed into humans. The same thing can be seen in the context of machines improvising and performing. To us, they are objects without the characteristics that define the ability to improvise, i.e. bringing past experiences. However, research and artistic endeavours has, and still keeps, pushing the boundaries between the human and computers – blurring the lines.
* Celluar automata.
  + List of interesting sources to consider: <https://link.springer.com/chapter/10.1007%2F978-1-84628-600-1_8>
  + Guy Ben-Ary: <http://www.ctm-festival.de/festival-2018/artists/f-j/guy-ben-ary/>
    - Uses real live cellular automata to perform music
* Short video by Andrew Huang (Canadian composer/musician) on making music with artificial intelligence: <https://www.youtube.com/watch?v=AaALLWQmCdI>
* Steve Reich
* Index of software for composition: http://www.computermusic.org/page/35/subcat=5