Livecoding for a Future of Smart Products

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A Design Science Fiction Workshop

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“hello world” by Windal Oskay https://www.flickr.com/photos/oskay/472097903
Goals

Part I: Futuring
Explore our own expert knowledge (assumptions and potential blindspots)

Uses some basic tools of “futuring” and design fiction to generate a timeline of interesting and relatively plausible events from now until 10 years in the future

Using the timeline to develop a few future scenarios, described in short synopses

Part II: Livecoding Futures
Identify key examples of livecoding situations and setups

Identify some situations where livecoding might be useful

Start developing frameworks for livecoding product (modes, situations, etc), rules for engagement
Please take a few minutes to add your details, then tear this sheet out on the dotted line and affix it to the wall under “people”

My name: ____________________________________________

Occupation: __________________________________________

Institution: ___________________________________________

Email: ________________________________________________

Main areas of study or work or practice:

_____________________________________________________

Years of experience in these areas:

[0-2]  [3-5]  [5-7]  [7-9]  [10+]

Areas of expertise (not necessarily the above):

_____________________________________________________

Data privacy and retention policy:
Data will be used for PhD and academic research, stored on secure Google Drive and not shared except with participants.

We will delete all user data within 4 months unless you put a check mark on your card signalling consent to be contacted and identified and even potentially take part in future.
Scenario Planning / Futuring
1950’s-1990’s

“the use of alternative stories about the future, many with improbable and dramatic twists, to develop strategy”

- Art Kleiner

Dr. Strangelove
(by Stanley Kubrick)

US Military
Rand Corporation
Royal Dutch Shell

Peter Schwartz,
The Art of the Long View

Herman Kahn

Pierre Wack

https://www.strategy-business.com/article/8220?gko=0d07f
https://www.sbs.ox.ac.uk/school/news/oxford-futures-library-unveils-rare-footage-scenarios-planning-pioneer-pierre-wack
Science Fiction to Speculative Design

NuturePod by Stuart Candy (2017) from https://futuryst.blogspot.co.uk/

https://commons.wikimedia.org/w/index.php?curid=44036969
Sci Fi Interfaces (Iron Man, Minority Report) and Speculative Realism (Wag The Dog) in film
Futuring --> Applied Science Fiction Writing

Continuous / on-going: Process, information gathering, sense-making, not just storytelling.

Looking at weak/strong signals

Not literal a future: a discussion around present to develop future strategy

Explore latent links between ideas and make new ones

Explore archetypes and use in the design process (Schön)

Future(s) as Metaphor(s)

Schön, D.A.

Goal: Not to predict the future but to understand how to get to preferred futures

(this can be done by computer modeling)
Sourcing Tools -->
Ideation/categorisation

**STEEP + V**

**Social**
- Aging populations; war refugees

**Technological**
- AI assistants; new livecoding environments

**Economic**
- Automated manufacturing; freelance culture

**Environmental**
- Climate change; desertification

**Political**
- Government shrinkage; corruption; nationalism

**Values**
- Ethics; changes in ideology (rise of nihilism)
Exercise: Listing areas of research / concerns / issues:

Consider STEEP+V categories. In your area of expertise, please list:

Important (fundamental) areas of research, concerns, or key issues:
1) ___________________________________________
2) ___________________________________________

A trivial area of research, concern, or minor issue:
1) ___________________________________________

List 2 areas of concern outside your area of expertise that you think we should be exploring further:
1) ___________________________________________
2) ___________________________________________
On the wall, place some Post It notes with your issues or concerns. Put them according to how much agency you think we have with them across the top/down axis:

- **Inevitable issue**: It will happen and we can't influence how that unfolds
- **Avoidable issue**: we can influence the outcome
Tools: Timelines
Tools: Charts

Rate how well we can affect each of these issues or concerns on the wall chart:

Avoidable issue: we can influence the outcome

Inevitable issue: It will happen and we can’t influence how that unfolds

- 0 years (now)
  - probable
- 10 years from now (2028)
  - possible
What is livecoding?
Setting the project boundaries.

Functional: Livecoding is the live performance of coding: manipulating code (or code-like processes like algorithms) in front of others*.

Livecoding as a community of practice (Lave & Wenger ‘98; Gil Nah ‘08):

knowledge: coding skills and live performance practice of visuals and music and choreography (any/all); ...more

practice: live programming of visuals and music and choreography; software installation and management; going to concerts and events; ...more

community: algoraves; Slack group; github and software sharing; regional and international live events; ...more

identity: regional identity but shared performance aesthetics; stickers; casual dress; irreverent humour; hacker ethos

Nick Collins (2011), TOPLAP, Andrew Sorenson, Ben Swift and others


Bottom image: http://algomech.com/2016/artists/kate-sicchio/
Livecoding vs. Interactive Programming
A quick discussion to set the project boundaries.

Livecoding or not...
Livecoding as performance

Borrowing from performance arts, the different phases of livecoding:

1. Composition (Play)
2. Rehearsal
3. Performance

Preparation of “turns”: routines / functions / processes / methods
process-based art practice
Medical Livecoding?
Medical “performance”

JHU Steady Hand-Eye Robot. Photo: Marcin Balicki

Discussion: Borders / Edge Cases

What are some of the boundary issues around high-stakes livecoding, like medical or disaster situation livecoding?

Notes:
Tools: Context

Pick 2 contexts:

- home
- office
- military
- industry
- entertainment
- performance
- medicine
- science
- other _____________________
- other _____________________

Leading to adding “characters” in the scenario - personalising them, adding more individual meaning to general ideas. Fundamentally incorporate people in future designs (HCD)
Developing themes / contexts

In groups: Looking at relevance to livecoding. Take situations/contexts and give short examples of people livecoding in them: write a sentence; make a list of actions & highlights; draw a picture or short storyboard

- Design for collapse - keeping products running in disaster
- Drone racing
- Livecoded maypole weaving swarm robots

Disaster situations... use smartphones from bombed out

Think: Where do we want our designs to be?

• Possible to Probable (speculative to predictive)
• Risky to Safe
• Think of bad / good situations

Rate from ones we prefer to those we should avoid
Short story synopses (time-dependent)

1 issue → 1 context → 2-3 characters

Issue(s) + Context + Characters = story

Sum up a possible stories for future livecoding in a sentence (or two):

Examples:
“No farms, no dirt”
“Jamie lives and works in a walled garden”
“Jim applies to the bureau of robot labour”

Using them to develop some common ideas about future uses.

Leading to specific interactions / frameworks --> rules for future livecoding.

Scenarios by Shell Corp: