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# Boscoism

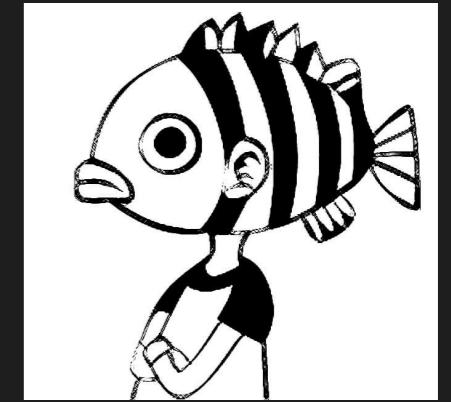
}

*Pushing back against the system.*

*MDIT Major Project  
Guglielmo Bosco Bartilomo  
2021*

How might we push back against the control of large power structures in technology that can track us, influence us, and make us dependent on the system?

*Supplementary Resources:*  
<https://www.youtube.com/watch?v=fQ5ekZCtri0>  
<https://github.com/Busopp/Major-Project-Experiments>



*The mysterious and enigmatic man known as Bosco. He has been said to inspire courage in his allies and fear in his enemies. Little is known about him, but we do know some. He has a background in computer science, to some degree. His work has been featured in international design competitions, the National Gallery of Victoria, independent art shows and on various online publishing tools. We can infer he is a fan of the weird and avant garde. He is graduating MDIT, and planning to continue working as an independent designer.*

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# The Boscoist Manifesto

## *The Problem*

Technology is deeply integrated into our current society. A network exists which is good, a network of people and computers and systems and communications, that empowers each individual in the network while equally elevating and providing opportunities to these individuals. This self correcting cybernetics system of people and computers rolls forward, powered by a feedback loop. The circumstances of the environment dictate actions from the individuals. The individual's actions change the environment. The new environment dictates different actions from individuals.

However, this loop is prone to corruption. This system is sensitive to any changes, and while self balancing, outside forces can be injected, changing the cycle, and forcing The System to move in a different direction, snowballing ever larger. This inertia continues to carry The System, and it becomes harder and harder to stop. These insidious and sometimes innocuous forces start to dominate The System, and everything that happens within gets filtered through them. And through this filtering they start to gain control. Giving positive reinforcements to certain ways of speaking make these the new norm, the new mundane. Ideas that are foreign to the filter get left out. This does not refer to opposing ideas, which have their place as inspirers of debate or objects of ridicule. This is ideas that do not match The System's rules, and can't be filtered. And any ideas that can make it through, get absorbed into the filter, becoming agents of profitability. Every ideology eventually gets absorbed, including this one. And as these ideas get absorbed, they get corrupted and commodified, and the revolution collapses. The wildness of discourse and the fires of revolution get tamed and doused. Anything that does not conform to systemic morality and can't be absorbed is condemned as malicious or cheerily dismissed.

So these forces gain control, and the decentralized nature of the technological citizenry provided by computing is undermined. These large institutions of hierarchy, of government, religion, mass media, no longer control the masses. Freedom came and went. This ruling power has been taken by the forces of innocuous commodification, snowballing to extremes. And the power structures and hierarchy have returned. And this has become the norm, the inescapably banal and mundane. And we want it that way. We want banality. It makes the other digestible, normal, less scary and foreign. And institutes want banality. It allows them to deploy anything, and be seen as digestible, normal, less scary. The interface collapses and everything is normal.

## *Truths of Boscoism*

1. The inertia driven feedback loop of The System forever moves forward. Take an action, change the environment, take another action based on the new environment.
  - a. Any kind of input into The System gets looped as feedback into The System, and stays in The System, forcing the trajectory.
  - b. We are slaves to inertia. Whatever direction a system is moving in, the nodes within are doomed to continue towards it in aid to The System.
2. The concept of the self appointed Hero: you should not influence, nor let others influence you. Work towards your best self, and use technology as a tool to empower your autonomy and abilities.
3. The pure form of technology gives ultimate power and agency to the common people.
4. Every system is an electrical circuit, and every circuit emulates the human mind. Every system is, by definition, linked. Inputs, outputs, relationships, and computation are the main ingredients of a system's entities.
5. Computation processes and interfaces induce no disruption anymore. The transition from 3d to screen is as natural as anything else to the modern man. This technological scape is not a separate reality, but intrinsically linked to our own.
6. Co-opting network utopias is done by radical free thinkers. Co-opting network utopias is done by capitalists trying to make money.
7. Any value put into a system propagates and spirals, snowballing out of control, backed by momentum.
8. Flat hierarchies corrupt easily. We see this in communist countries, we see this in how the flat technological world has turned into being ruled by commodification.

## *Habits of a Boscoist*

- Boscoists provide fake data whenever possible
- Boscoists connect to unsecure networks and visit sites with no https
- Boscoists exhibit art at internet cafes
- Boscoists never use the same website more than twice
- Boscoists write poetry in comment sections
- Boscoists have their own digital testing grounds and workshops

## *Goals of Boscoism*

- Embrace flat hierarchies
- Be a Technological Scofflaw
- Embrace the contradicting duality of the self appointed hero, and the selfless network of individuals
- Relics of the new aesthetics can and should be brought forward, and contrasted with the banal.
- Banality is good and evil. Use it to your advantage, and condemn its use for advantages.
- The pure form of technology gives ultimate power and agency to the common people.
- Computers are senseless calculators, nothing more. Do not glorify the tool, but hold it with reverence.
- Expose the interface
- Decentralize. Do not centralize others, and do not let yourself be centralized.
- Tech is built on counterculture and the rebellious. Embrace open source. Do not permit tyranny or monopolies.
- Enact an equal and imposing force to counteract the inertia of The System. Do not let yourself be caught up in its movement
- Acknowledge the biases inherent in the technology being used
- Understand the power struggle and codependency of the social, economical, natural and technological systems
- Create power structures that are intrinsically safe rather than enforceably safe
- Expose silent influences
- Do not commodify resources. (this is not an attack on capitalism)
- The needs of the network outweigh the needs of the node. The needs of the node dictate the needs of the network.
- Transparency. Don't hide processes unless you have something to hide. It is inherently shifty. Bring these digital processes (hidden) to the physical (visible).
- Filtering is a form of enforcing hierarchies. Don't tame the wild, let the ecosystem balance itself.
- Transcode. Translate the layers of computing to the layers of culture
- This movement will one day become a part of The System it is trying to radicalize.

# *Bosconian Laws of Physics*

## **Inertia**

A cybernetic law. A system in motion stays in motion, and a system at rest stays at rest, unless acted upon by an external force.

## **Entropy**

Unless all processes in The System are reversible, the state of disorder, randomness, or uncertainty within The System cannot decrease, and will arrive at a cybernetic equilibrium, where the state of disorder, randomness, or uncertainty is at its highest.

## *Further Notes*

- Boscoism embraces competing contradictions. Allow conflicting ideas to exist as equals. No such thing as mutually exclusive.
- Technology and media is the mythological Muse; the technology evokes an idea into the person, who creates thoughts of their own based on this, and then puts them out to the world.
- The internet was intended to be a tool that gives people information to use in their lives. Instead, it has become their lives.
- The digital generation never stood a chance.

# *Glossary of Boscoist Terms*

## **The System**

The large interlinking network of all systems, observable and unobservable. Every entity is a part of The System, can influence The System, and is influenced by The System.

## **Self Appointed Hero**

An entity with a heroic attitude. Act's in their own self interest, and seeks both intrinsic and extrinsic improval. Is rational, and moves towards their highest purpose. Uses all tools at their disposal to improve their lot in life. But does not enforce their will on others.

## **Commodification**

The process of turning entity runoff (thoughts, creativity, data trails) into a value add for The System.

## **Pure Form of Technology**

The uncorrupted digital network, which facilitates the exchange of information and resources. The System at rest, at conception.

## **Network Utopias**

Subsystems which follow the principles the network was built on. Of freedom, decentralization, and common empowerment. This includes systems like the pirating community, platforms for self publishing like bandcamp or itch.io (minus the leves paid).

## **Boscoist**

An entity practicing Boscoism.

## **Boscoesque**

Carrying the traits of Boscoism.

**Boscify**

To turn something into a Boscoist entity.

**Boscomorphasis**

The process of Boscification.

**Boscoid**

An entity carrying the traits of Boscoism.

**Boscapo**

Enforcers of Boscoism.

**Boscability**

How susceptible something is to Boscification.

**Boscomancy**

The artistic practice of applying Boscoism to the world.



# Abstract

1 In our increasingly connected and  
2 technologically reliant world, positions  
3 of power are created that allow for the  
4 influence and commodification of humanity,  
5 by designers and technologists. This  
6 project opposes these ideas, by creating  
7 a new artistic movement that encapsulates  
8 these ideas and is an antithesis to  
9 the situation. The project pushes back  
10 against the regimes of control that are  
11 inherent in our everyday interactions with  
12 technology, as large corporations corrupt  
13 the network and exert control.

14  
15 This project defies this control by  
16 creating an artistic movement that  
17 presents an alternative to certain issues  
18 present in the world. Then, design and  
19 art pieces are created that follow the  
20 ideals of this movement, acting as a proof  
21 of concept and starting point for this  
22 movement.

23  
24 This direction was chosen to allow people  
25 to embrace ideas that are counter to the  
26 current state of technology design, rather  
27 than critiquing the current state, as the  
28 general population is already aware of the  
29 issues present.

30  
31

```
1 function Wakeup() {  
2     You wake up to your alarm blaring from your google  
3     home mini.  
4         Google keeps track of your usual wakeup times.  
5  
6     You check your phone. A few messages you can  
7     respond to later. A news story about a new game  
8     arrives in a notification.  
9         You were reading about that game yesterday.  
10  
11    You check your news app, skimming through stories.  
12        Your phone notes that you spent a bit longer  
13        on stories about Coronavirus.  
14  
15    You get a message from your coworker about some  
16    issue. You respond straight away, so they aren't  
17    blocked by you.  
18        You've affected the physical state of the  
19        office.  
20  
21    You check your amazon delivery, hoping it will  
22    arrive today.  
23        The driver is monitored by amazon and their  
24        position is sent to you.  
25  
26    It should arrive in 2 hours. Great.  
27  
28  
29 }
```

# Introduction

1 Boscoism represents a pushback against  
2 the ceaseless march of technological  
3 control deeper into our lives. This book  
4 will analyze the current state of the  
5 world through the lens of Human Computer  
6 Interaction and Cybernetics, to uncover  
7 problems with the current state of  
8 technology design and current proposed  
9 solutions.

10 Boscoism is presented as a new design  
11 movement that pushes back against the  
12 issues discussed, based on ideas of  
13 flat hierarchies, human empowerment,  
14 and technological scofflaws. To prove  
15 the efficacy of and to help explain the  
16 Boscoist movement, 4 pieces of Boscoist  
17 art are also presented and detailed.  
18 Boscoist Distribution Center, Bosco's Game  
19 of Life, Open Internet, and Pirate Radio  
20 are presented as Boscoist designs.

22  
23  
25  
26     *// The Computer is a feedback fueled machine, constantly*  
27       *demanding attention and flooding with information.*  
28     *// The Computer is never satisfied, just momentarily satiated. There*  
29       *are always more notifications, more information. The Computer*  
30       *wants your attention, and will use any tricks it can to demand it.*

“You accuse me of using big words that you find hard to understand. But you need big words for big ideas. And you should find it hard to understand.”

- Stafford Beer

# Research

*// Boscoism is built on two distinct pillars of research and academic fields that define the body of work. HCI, which looks at how humans and computers share the world, and cybernetics, which looks at how complex systems exist and mutate.*

# HCI

1 Human-Computer Interaction (HCI) is a  
2 multidisciplinary field of study focusing on the  
3 design of computer technology and the interaction  
4 between humans and computers. The current  
5 landscape of HCI encourages as little friction  
6 as possible, to create products and services that  
7 work together seamlessly, reducing human input.  
8 In some cases, the computer even interacts on  
9 the human. For instance, a perfectly timed social  
10 media notification can interrupt your family time,  
11 or health monitoring smartwatches tell you when to  
12 sleep. Many studies show user dissatisfaction with  
13 this model. However, the time saved and benefits  
14 from these computer-driven approaches allow  
15 these to be pushed forward, while ignoring the  
16 negatives.

18 There is a need for meaningful human input in  
19 these autonomous systems. Technology should  
20 empower human feats and ingenuity. To this end,  
21 the concepts of transparency, understandability,  
22 and accountability have become important, and  
23 lacking. A computational system should not hide  
24 its workings. It should be clear and concise  
25 in its function, and operate at a certain level  
26 of ethical practice. The current industry trend  
27 involves creating designs that remove human input  
28 as much as possible, and use our interactions as  
29 commodities.

37 // "Technology is not neutral; it dominates" Donald Norman, 1993

# Cybernetics

1 Simply, Cybernetics is the study of  
2 regulatory systems. It comes from the  
3 Greek word Kybernetes, meaning steersman.  
4 The analogy being, a steersman must get  
5 to shore, battling the wind, waves,  
6 and currents. A steersman does not  
7 consider these variables distinctly,  
8 but instead is able to make small  
9 regulations to the trajectory based on  
10 how these variables jostle the boat,  
11 arriving at the destination regardless.  
12 And so, cybernetics is the study of how  
13 communication and control can allow  
14 a system to regulate to a specific  
15 endpoint. A key example of cybernetics is  
16 homeostasis, where our body maintains and  
17 adjusts millions of factors to keep us  
18 stable.

19  
20 The control within these systems is built  
21 on feedback. An input tries to get an  
22 output, and if it fails, the feedback is  
23 sent through and corrects the next loop  
24 of the system. This is how the system  
25 can evolve and move. Because feedback  
26 has such a strong impact on the system,  
27 without appropriate feedback control, it  
28 can become hazardous. A microphone feeding  
29 back into itself eventually spirals out of  
30 control. In this way feedback can start  
31 to take over the input, and effectively  
32 redefine the system. Boscoism is a project  
33 steeped in cybernetics theory, by defining  
34 the feedback loop of the system and trying  
35 to dampen it.

# Boscoism

---

---

// Boscoism is a new school of thought, that encourages  
independance, dismissal of outdated technological ideas,  
and flat heirarchies.

# Introduction to Boscoism

1 Boscoism is a new design movement centered around  
2 the ideas of flat hierarchies, empowering humans,  
3 cybernetics, and technological scofflawism.  
4 Boscoism looks at the current state of the  
5 technological world as a cybernetics problem; a  
6 large self correcting system that encompasses  
7 everything we do and ultimately influences our  
8 behaviour. From the original vision of the world  
9 wide web, our current state of the world is  
10 drastically different. Tim Berners-Lee, the father  
11 of the world wide web, envisioned it as a tool  
12 for empowering individuals, and creating a global  
13 network of equals.

14  
15 However, over the years the system has been warped  
16 by different inputs and priorities, causing it  
17 to move towards a state which houses many of the  
18 issues we see today, such as lack of privacy,  
19 control, and the commodification of peoples data  
20 and thoughts. As such, boscoist ideals and goals  
21 are centered around subverting this, and taking  
22 the system back to its idealistic roots. Boscoist  
23 works center around these ideas of no object  
24 above another, with each actant being equal. They  
25 disregard fickle etiquette around how technology  
26 should be structured and used.

31 The manifesto itself is written with influence  
32 from absurd and frantic manifestos. Bob Kaufmanns  
33 "Abomunist Manifesto" in particular shaped how  
34 tenants, truths, and language were used in  
35 laying out the ideas present in a movement.  
36 The absurdist, poetic, and madman nature of the  
37 manifesto was also a huge influence to the style.  
38 The manifesto also draws stylistic influence from  
39 the futurist manifesto, the cyber dada manifesto,  
40 and the communist manifesto.  
41

# The Boscoist Manifesto

1 The Boscoist Manifesto starts by outlining the  
2 problem with the world according to Boscoists.  
3 This is a tactic employed by the Communist and  
4 futurist manifestos. The manifesto then proceeds  
5 to outline the truths of the world, as Boscoist  
6 principles. This first section outlines the world  
7 according to Boscoism, framed as challenges and  
8 observations.

9  
10 The way a Boscoist should behave is outlined in  
11 the next section. The habits of a Boscoist are  
12 listed, as well as the goals of Boscoism as a  
13 movement, to give Boscoists a trajectory, and keep  
14 it from being an aimless school of thought.

15  
16 Finally, auxiliary information is given. Such as  
17 further notes, laws of physics, and a glossary  
18 of Boscoist terms. These sections flesh out the  
19 ideology, spacing it from a rambling set of  
20 demands to a new way to see the world, with its  
21 own culture and language.

22  
23  
25  
26  
27  
28

# Outcomes

// These objects propose and explore a more deliberate way to engage with technology.

//See Appendix C for more information on each Project

# Boscoism Exhibition

1 In the creation and design of Boscoism,  
2 four smaller projects were made that  
3 represent Boscoist ideals. These projects  
4 are designed to be displayed together in  
5 the form of an exhibition. This exhibition  
6 can be situated in any space with  
7 computers, popped up at a moment's notice.  
8 For instance, an internet cafe would be an  
9 ideal venue for the Boscoism Exhibition.

10  
11 The exhibition was set up in my home  
12 during lockdown, as a means to deploy and  
13 test the various projects. The home space  
14 deployment was able to work thanks to the  
15 banal aesthetic embedded in the Boscoist  
16 movement. The four projects detailed  
17 through this chapter represent different  
18 aspects of Boscoism, and the visitation  
19 of this exhibit would give visitors a  
20 deeper understanding of Boscoism, some key  
21 takeaways or souvenirs, and an ability to  
22 continue their own form of Boscoism.  
23

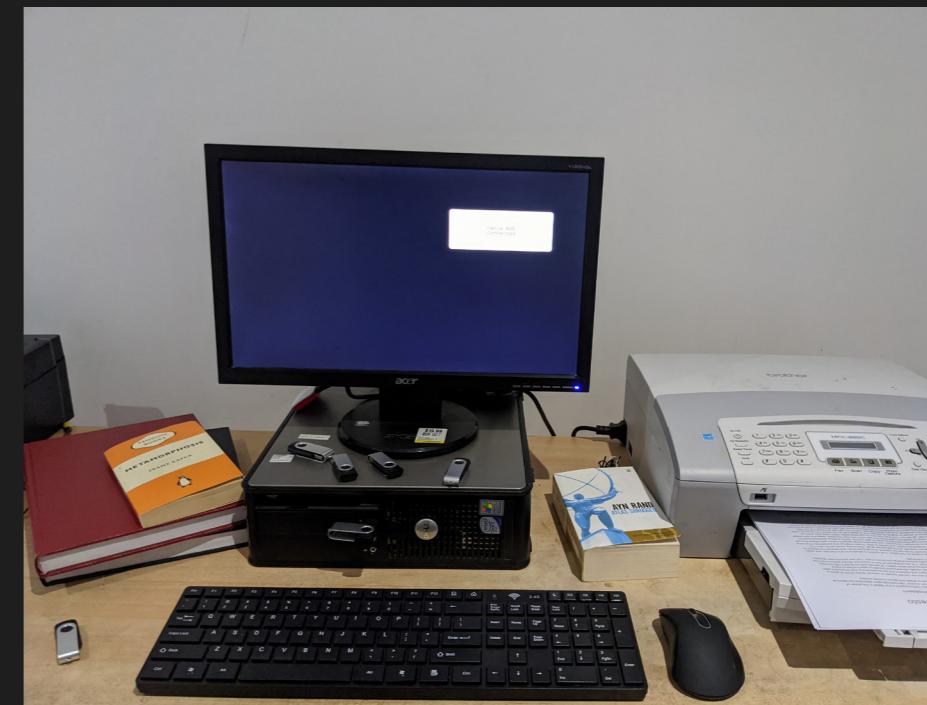


# Boscoist Distribution Center

1 The Boscoist Distribution Center  
2 is an installation that focuses on  
3 the aesthetics and distribution of  
4 information in Boscoism. It highlights  
5 the banal minimalism that is required for  
6 “revolution”, and seeks to reclaim mundane  
7 and ordinary objects as Boscoist tools.  
8 The main purpose of the installation is  
9 to distribute Boscoist material, such  
10 as copies of the manifesto or digital  
11 artworks.

12  
13 The project consists of a desk, desktop  
14 computer, monitor, printer, and a  
15 collection of usbs. The printer is for  
16 printing copies of the manifesto, and  
17 the usbs are loaded with copies of the  
18 manifesto in various formats, as well as  
19 two songs, a 3D graphic demo from pirate  
20 game installers, and various pieces of  
21 glitch art.

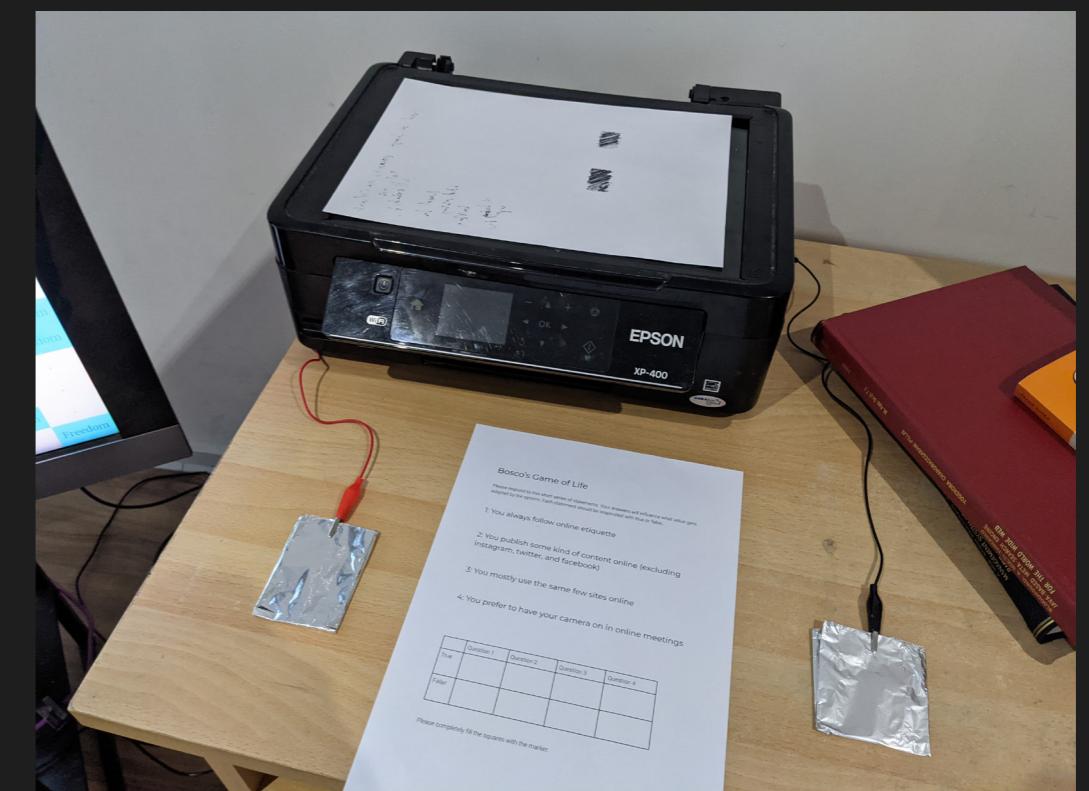
22  
23 The computer itself also hosts all  
24 the files, for easy access to burn to  
25 additional usbs or print more copies.  
26 The computer represents the possibilities  
27 of anyone, it has no special programming  
28 or unique functionality, and yet in this  
29 exhibit it pushes forward new ideas  
30 to change the world. It is a readily  
31 available tool, to be used.



# Bosco's Game of Life

1 Bosco's Game of Life is an interactive  
2 physical computing installation. It is  
3 based on Conway's Game of Life, a cellular  
4 automata designed to simulate life in a  
5 Turing complete way. The project instead  
6 uses the principles to model the Boscoist  
7 idea of "The System". By creating a  
8 hexadecimal state machine, the project  
9 represents how different ideals and ways  
10 of thinking clash within a closed system.  
11 The different values clash against one  
12 another, some getting swallowed up, some  
13 taking over, and sometimes reaching a  
14 delicate mutual balance.

15  
16 The interactive element of the  
17 project allows the user to fill out a  
18 questionnaire about their place in a  
19 networked society. The 4 part true or  
20 false questionnaire has 16 distinct  
21 outcomes, representing 16 values the  
22 system can embody. The user completes the  
23 questionnaire, places it on a scanner, and  
24 then injects their value by completing  
25 a circuit with their bodies, through  
26 "question pads". Users can then see how  
27 their particular values get absorbed by or  
28 take over the system.

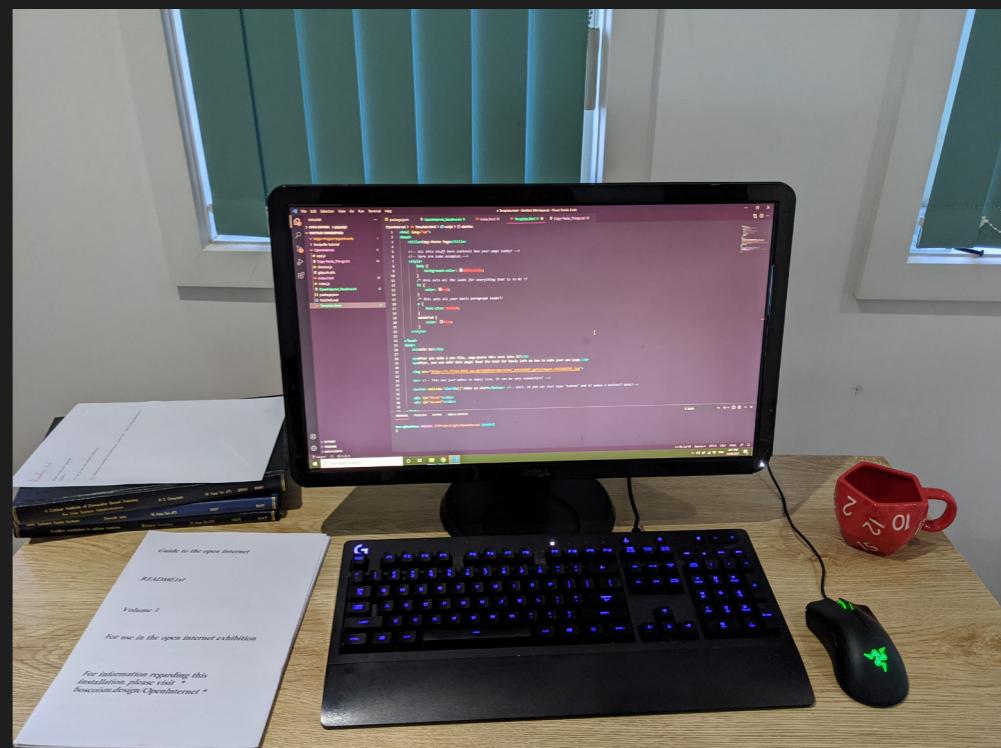


# Open Internet

1 The Open Internet is a participatory  
2 design project built on principles  
3 of crowdsourced and self correcting  
4 internet creation. It is a self contained  
5 experiment in cybernetic principles,  
6 where the system will eventually reach  
7 a stable state. Open Internet aims to  
8 create a network that truly empowers each  
9 individual to the utmost level.

10  
11 It is a website that anyone can contribute  
12 to at the most powerful level, changing  
13 the code that runs the server, not  
14 just editing content like sites such as  
15 Wikipedia. It gives ultimate power over  
16 this website to everyone, which people  
17 can use for good or evil, making millions  
18 of pages about their favourite anime,  
19 deleting any use of the word “Bosco”, or  
20 installing ads for personal gain.

21  
22 To give the information necessary for  
23 the layman, the Open Internet comes with  
24 a README file, detailing basic website  
25 creation, and an easy to use template.  
26 This details basic html, css and even bare  
27 javascript. In the Boscoist Exhibition,  
28 this README is printed out.



# Pirate Radio

1 The Pirate Radio is a sound based  
2 service project. Boscoism shares  
3 many themes with online piracy, such  
4 as freedom from internet rules and  
5 decentralization. Pirate Radio uses the  
6 ideas of decentralized radio and applies  
7 a technological twist. Pirate Radio is a  
8 hijackable radio station, that plays any  
9 sound file that is given to it in a big  
10 continuous segment, constantly updating  
11 with various sources. When deployed  
12 physically, a usb input is present at  
13 the speaker set. Any usb connected to  
14 this input has all media copied to a  
15 main pc, running a continuously evolving  
16 and updating playlist. The station will  
17 play any file with sound available, from  
18 speeches to sound effects to music. It  
19 does not check the origin of the sounds,  
20 and gives each equal precedence in  
21 playing. In the Boscoism Exhibition, the  
22 usbs from the Boscoist Distribution Center  
23 have music available to burn to the radio.  
24 Visitors can also download and burn music  
25 or audio from the internet at one of the  
26 various computers.



# Analysis

1 The journey to Boscoism has been long  
2 and perilous, with many sharp turns.  
3 The project started with work around  
4 computomorphism, and the metaphysics of  
5 computing and technology. The insights  
6 gained around how computers existed  
7 within the world helped to shape the  
8 next stage of the project, and trickled  
9 into Boscoism. This exploration also  
10 led into deeper dives into ubiquitous  
11 computing and Human Computer Interaction,  
12 two fields of interaction design. These  
13 in turn led into slow computing. These  
14 three pillars were the foundation of the  
15 previous iteration of the project, which  
16 focused on slowing down systemic control  
17 from the technological world. However,  
18 I realized that the project was treating  
19 the symptoms, and not the cause of the  
20 problem. In turn, I also realized that no  
21 one person would be able to fix a global  
22 systemic problem. Boscoism came from  
23 this need to address a global issue in a  
24 meaningful way, not through speculation  
25 or token gestures. Art historically has  
26 been the mode to address these issues, so  
27 my mission became to design an artistic  
28 framework to apply as a way of thinking  
29 and a way of creating.

38 Boscoism was created towards that goal  
39 of addressing these systemic issues in  
40 a systemic fashion. While Boscoism may  
41 not ever achieve worldwide success or  
42 recognition, it aims to disseminate some  
43 of its ideas into the general population.  
44 Any work that is made that vaguely follows  
45 Boscoist principles can be considered a  
46 win for Boscoism. Whether that is art,  
47 design or products. The most important  
48 factor from a design standpoint in  
49 creating this movement is to get people  
50 to engage with the problem that Boscoism  
51 outlines. The goals and truths give them  
52 a basic framework to start opposing that  
53 issue, but it is not the only way.

54 The next and probably final step for  
55 Boscoism will be to create a website that  
56 details the Boscoist Manifesto and ideals,  
57 as well as showcases my own Boscoist art.  
58 I would not consider working on it past  
59 this step, as the continuation would  
60 involve communication design and a type of  
61 pseudo marketing. While I have designed a  
62 way of thinking, a way of spreading these  
63 ideas was not within my self appointed  
64 brief. However this would be crucial to  
65 creating impactful change through the  
66 Boscoist Movement. However I would prefer  
67 to leave Boscoism as a piece of internet  
68 esoterica, a website in the forgotten  
69 corner of the web, maybe stumbled on years  
70 from now by an intrepid internet explorer.  
71 I think this end to Boscoism fits neatly  
72 with its ideals.

74 Despite not wanting to continue with  
75 working on Boscoism, I am extremely happy  
76 with the outcome. The project follows  
77 ideals I believe in, is built on sound  
78 and varied research, and is overflowing  
79 with my own injected personality. I have  
80 made a project that reflects my ethos as  
81 a designer, and has helped me to order  
82 my thoughts and values as a designer, and  
83 allowed me a chance to express what my  
84 professional practice could become. It  
85 has also given me the skills to define  
86 ethos and values, and not follow blindly  
87 the paths laid by designers before me.  
88 Design as a profession prides itself  
89 on innovation and the new, however I  
90 see too much homogeneity in design,  
91 particularly in design schools. Through  
92 the unconventional nature of this project,  
93 I feel I was truly able to innovate and  
94 push forward my own thinking.

95  
96  
97

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# Appendix A - Bibliography

i

*Stephandis, C, Salvendy, G, Chen, J, Dong, J, Duffy, V, Fang, X, Fidopiastis, C, Fragomeni, G, Fu, L, Guo, Y, Harris, D, Ioannou, A, Jeong, K, Konomi, S, Kromker, H, Kuroso, M, Lewis, J, Marcus, A, Meiselwitz, Moallem, A, Mori, H, Nah, F, Ntoa, S, Rau, P, Schmorrow, D, Siau, K, Streitz, N, Wang, W, Yamamoto, S, Zaphiris, P, Zhou, J 2019, 'Seven HCI Grand Challenges', International Journal of Human Computer Interaction, vol. 35, pp. 1229-1269*

This article is the culmination of a conference discussion of 32 contributing researchers in the field of HCI, regarding the challenges of the field. The discussions presented were compiled into 7 "Grand Challenges" of HCI. These were; Human-Technology Symbiosis; Human-Environment Interactions; Ethics, Privacy and Security; Well-being, Health and Eudaimonia; Accessibility and Universal Access; Learning and Creativity; and Social Organization and Democracy. The most pressing to my particular research context is Human-Technology symbiosis and Human-Environment interaction, however each aspect is closely associated with my field. Most of this article presents these as challenges when trying to integrate HCI into everyday life with a high adoption rate, so subverting some of these ideas could lead into the art/critical design space. It also stresses the need for meaningful human input and control when making autonomous systems. A good example is pilots, the systems are automatic but the pilots set the goals and monitor the levels for the system. For this, we need transparency, understandability, and accountability.

ii

*Bogost, I 2012, 'Alien Phenomenology, Or, What It's Like to be a Thing', University of Minnesota Press, Minneapolis, USA*

This book is mostly philosophical, and examines the ideas around how humans have always looked at the world from a human centric view. But the opposite could be used, going against standard Kant-esque ideas of humanity giving shape and life to the world. Even posthumanism looks at non human entities from the viewpoint of humanity, and how we have responsibilities or benefits from acting certain ways. When seeking to create meaningful relationships between humans and computers, the principles in this book become useful paradigms to apply.

iii

*Pryzbylla, M, Romeike, R 2014, 'Physical Computing and its Scope - Towards a Constructionist Computer Science Curriculum with Physical Computing', Informatics in Education, vol.13, pp. 225-240*

This paper explores how we can integrate physcomp into classrooms to teach computer science. It starts off by talking about the use of constructionism and microworlds in teaching and their general applications, before trying to apply physical computing. The paper emphasises the need for open ended and creative interactions within physical computing. The iterative nature of designing and exploring physical computing systems can be used to create learning systems that value human ingenuity. While this paper applies these ideas to curriculum, I believe there is space to bring certain ideologies into my work presented.

This article looks at the tensions between passive and active ubicomp integration into a home setting, by subjecting participants to predictions and asking opinions. These produce applicable takeaways for design questions and/or challenges. The paper explores these topics specifically through food practices, to give a relatable setting. It warns against purely heading for efficiency and productivity in the homestead. Technology in the home should empower and augment a human's ability to perform feats. This stresses the importance of bringing humans into the space, not just making autonomous systems that do everything for humans.

From presenting 'calm' and 'engaging' scenarios and conducting focus group discussions, a few key points were dragged out. Participants believed that over convenience was an issue, and potentially caused more societal harm than good. Removing any form of work or social engagement they believed could lead to socially isolated individuals with less empathy, but they understand that forcing someone to do unnecessary work will make adoption less likely. Maybe making this "work" engaging is the solution here. An issue of trust was brought up when looking at technological behaviour tracking was the issue of people doing nonoptimal behaviours. One person cited that sometimes they would want to throw out food instead of donating it, and they should not have to justify that to a computer or to a community monitoring her activity. They were also worried about the types of sensors used as inputs. An interesting emergence here is that the context is important. A camera in any room is an issue, but a camera in the fridge is fine.

Participants were also worried with the taking away of agency that a completely autonomous system would ensure. Having freedom and flexibility is important for humans. For instance, a program altering your dinner recipes based on what was going off in your fridge was viewed as patronizing and intrusive, as it tells a person what to do. Participants also pointed out and were subsequently disturbed by the idea that a system giving you recommendations and sorting your life out would take away your need and eventually ability to think reasonably, and take away a person's autonomy. A fine line needs to be toed between affecting autonomy and helping users.

The authors say that convenience is not by itself a bad thing, as it opens up time for users to do more important things like spending time with family. However, the tradeoffs for convenience need to be very carefully considered. They also stipulate that while people morally are more in line with engaging computing, realistically practicality is the most important issue for adoption. This practically could be concrete like saving time, or abstract like a need for privacy. It is important to remember that convenience and efficiency are not the opposites of proactivity and sociability, in fact they can facilitate each other.

Stankovic, J.A., Lee, I, Mok, A, Rajkumar, R 2005, 'Opportunities and obligations for physical computing systems', Computer, vol. 38, pp. 23-31

Beer, S, 'What is Cybernetics? Conference', John Moore University, viewed May 2021,  
<https://www.youtube.com/watch?v=JJ6orMfmorg>

This article looks at physical computing as an extension and natural conclusion of ubiquitous computing, saying that developers must focus on the physical, real-time and embedded aspects of ubicomp. The article uses SISAL (sensor information systems for assisted living), Emergency response systems and protecting critical infrastructures.

When discussing aged care, an interesting point made is that many SISAL objects are basically useless as stand alone components, for reasons such as hard to use or too technical, too small a scope to be maintained, multiple needed and become unmanageable etc. And for this reason, they must be integrated into a ubiquitous system to be effective.

Also, having a system means that each component can cover individual needs, and cover a wider physical area. This is similar to the concept of microservices. Physcomp can be used to marry physical services and computer networking. This has the advantage of physical objects being less independent. The article uses the example of linking air traffic control, power grid and telecommunications. In these ways, tangible systems add value to a ubiquitous computing environment.

This is a talk by Stafford Beer, a leading mind in cybernetics. In this Conference, Beer runs through the history of cybernetics and gives a general overview of the field. Cybernetics is the scientific study of systems. It looks at control in systems, and self correcting mechanisms. The systems discussed are extremely multidisciplinary; cybernetics can study and model the economy as easily as the human mind, by looking at the communication, control, and feedback subsystems present within these systems. Beer shares many analogies and anecdotes to explain cybernetics and its origins. One interesting one involves a computer scientist modelling a system for teaching language recognition with sound, and made a schematic explaining how it might work. And a neuroscientist walks in, sees his model, and asks why he is modelling the 4th visual layer of the cortex. And this really characterizes the way these systems work and connect, and how all these different models follow distinct cybernetics principles.

Beer believes there's a divide between animate and inanimate within science. We can see this in physics vs biology for instance. But cybernetics discovered that there are principles of control that apply to both, and in fact to all fields of science. It applies to everything, from brains, to computers, economics, politics. Cybernetics is the field of study here, and Boscism is firmly a cybernetics project.

Another interesting point discussed is the idea that a system intrinsically has and will enforce an idea of "in control", and a direction, in a very probabilistic way. It achieves this through its nature, not by any person or force controlling it.

vii

Redstrom, J, Hallnas, L 2001, 'Slow Technology – Designing for Reflection', *Personal and Ubiquitous Computing*, vol. 5, pp. 201–212

The article's basic premise is that the increased availability of tech outside of the workplace requires interaction design to be expanded from creating tools for making people's lives more efficient, to creating technology that could be meaningfully embedded in everyday environments over long periods of time. These embedded technologies can grant moments of reflection, either of themselves, the user, or the space they are embedded into. A small example from this article is a doorbell that plays a small part of a larger musical piece each time it is pressed. A bigger example is a large screen that gathers pieces of emails sent in an office, analyzes them, and generates a conversion based on the type of language used, reflecting the space it's embedded in.

viii Fraser, A, Kitchin, R 2020, 'Slow Computing: Why We Need Balanced Digital Lives', Bristol University Press, Bristol, UK

The book centers around the idea of designing for slower, less consumptive lifestyles and practices. It urges a slowing down of connection to the system, so looking at how we disconnect, and asking for more mindfulness about how and when we choose to interact with systems. It also advocates for more concern about data privacy, and the data artifacts we leave in our wake. The book argues this point from both a consumer and developer end, drawing parallels between slow computing and the slow food movement.

ix

Frayling, C 1993, 'Research in Art and Design', *Royal College of Art Research Papers*, vol. 1, no. 1, pp. 1-5

This paper seeks to establish what research means in the context of art and design, by unpacking stereotypes around research, and the various competing definitions. He portrays three images, the mad artist, the trendy designer, and the research scientist. He posits that these three may be extremely different, but carry out similar processes for creation and synthesis. Research and science can be creative and experimental, just as much as art can be cognitive and structured. The work of John Constable on studying and drawing clouds, or Da Vinci's sketches of water and Vitruvian Man. The process of the research can be the final outcome. He outlines a concept for design as research, a design project that explores a small facet of the world. These designs are both the research, the method and the outcome.

This article seeks to define “Neo-Technologism” as a problem within our world. Keren defines it as “the idea that Multinational Tech Corporations (MNTCs) hold the power to shape and govern human society, thereby, steering a Post-Westphalian era”. She starts by acknowledging previous power structures of government and media controlling the flow of information. In a quote from Mark Zuckerberg, The current state is regularly seen as people being free and independent, not having to go through these power structures anymore. However, she argues that the power structures have just shifted, and the people are still beholden to authoritative institutions. Due to the increasing anthropocentric nature of the world, any institute that is able to improve the day to day lives of humans can become successful, and garner power. And with this power, they can dictate the direction of the world.

This is a 3 part documentary series from BBC. It covers a wide variety of topics, centered around our relationship with technology. The first few episodes were highly influential to Boscoism, and I will outline some key points taken from the documentary here.

- Technology is built on relics and imagery from productivity bygone, and these aesthetics and metaphors can be carried forward. The affordances of these metaphors too, such as handles on automatic doors and desktops on computers.
- Technology was built on Ayn Randian principles of influence, self empowerment, and individualism.
- Computers and the internet were originally designed to take the power back from the government and to the people, but the power has just shifted to private corporations. The issue wasn't solved, just moved.
- In its pure form, technology gives ultimate agency to the creator, and power to the people.
- The idea of the banality of evil, and how this banality disguises corruption. This can be repurposed for Boscoism.
- Once commodification came into technology, the new economy of ever increasing productivity was promised to companies.
- The internet turns people into commodities. Even before big companies came into the picture, people commodified their own emotions, experiences, and thoughts online, in the hope of more clicks. You create a commodity by posting on a forum that the forum can treat as content to create revenue, just like how a factory worker creates a commodity then company sells.

- The idea that people are driven by feedback loops. This is when a person takes an action based on their environment, changing the environment. However this new environment dictates the next action that changes the environment yet again. The output always gets fed back into the input in some way.
- People in art and philosophy tend to think of these systems as the divine, a delicate orchestra conducted by God.
- The documentary also looks at hippy communes and socialist camps as self contained systems, representing the ideals of technology. These are networks of individuals in a flat hierarchy, where each entity serves its purpose as a part of the whole. This is also similar to the computing concept of microservices, a way of working in which systems are made of tiny modules that do one specific thing, all connected.
- This is also where the idea of systemic inertia comes from. If each node does one job, then any outside force can not be dealt with, and the system moves in a specific direction.

This article covers the ideas of “the ‘new aesthetic’, a technological based visual art movement. It discusses what it consists of, and dives into the philosophy of the ideas presented. New Aesthetic refers to the use of the visual language of the digital technology and the internet in the physical world, and the blending of virtual and physical. This aesthetic can consist of elements such as nodes, networks, pixels, blurs etc. It talks about how our relationship to computers became commodified, through the creation of t-shirts with computational processes and how it stepped into art. There is a certain status associated with being deeply ingrained in these systems, and displaying this.

The article also talks about how language affects how we view things, and as the vernacular changes to put computers above the senseless calculator, their status in society rises. People have moved beyond senseless execution and are ready to learn how to speak the language of contemporary computing. The computation revolution is a slow one, appearing silently in culture, in trivia and products and entertainment. Platforms are able to enforce and reinforce certain ways of speaking, which when disseminated come back to normalize platforms and give control. As people become more comfortable with that way of speaking, the platform becomes the norm.

The article also talks about how designers have moved away from strictly designing engaging experiences, to designing for control of production, consumption in market, and control of the user. Smart phones and media players are seen as major perpetrators of this. The case is made that the control shifted from government to people, and then back to control via these systems. It also talks about how surveillance exists in this era of interface, and how designers can “weaponize” technology to serve their purposes at the expense of the user. They are able to deploy dangerous objects in everyday environments as banal extensions, and normalize the insidious influence. Some of the banal aesthetic of Boscoism is influenced by this idea.

The article also talks about ubiquitous computing, and the effect the removal of the interface has had. The interface between person and computer induces no disruption anymore, and is as natural as anything else to the modern man. Hiding the interface may have been an innocent act, however this removal has also removed the boundaries that separated the worlds, and opened the floodgates for the digital. And it talks about how consumers like banality, as it removes ideas of other and unknown, and how institutes also capitalize on this want.

The article also talks about how deep an understanding our personal computers and phones have of us. With access to texts, photos, location maps, visited websites, phone calls, , even the art you consume such as music, they are able to create an incredibly rich image of a person, covering all facets of their being and identity. Some people label this as evil, but it is not necessarily. It is the nature of the beast, and must be handled with care.

Another key aspect of the article is digital revolution and counterculture. It worries about the ability for these to exist in a digital age, where platforms tame the wildness of discourse by censoring and constraining ideas on centralized platforms. The idea that all ideas are filtered through a matrix of profitability, where the revolutionary spirit is used as fodder for marketing and removes the revolution, comes into play in this article. Movements working against the system eventually become absorbed and commodified by the system. And the system has its own aggregate morality. And if other ways of thinking don't match, there is no room, and they get pacified or othered, in pursuit of a frictionless system. The good intentions for the end user of a frictionless system douse discourse.

XIV Galloway, A 2012, "The Unworkable Interface, Chapter 1", *The Interface Effect*

This paper looks at the importance of interface when engaging with ideas. Specifically, by talking about interfaces within art. It talks about important notions in modern attention economy: ludic, spontaneous and playful. It posits that today's "play" is a synthesis of romanticism, (play as beautiful, and what makes you human) and cybernetics (synthesis of many systems). He says play has become a central part of our society, in "experimenting, mutual compromise, mutual engagement. Thus, nowadays, one "plays around" with a problem in order to find a workable solution". He talks about technology and media as an allegory for the Muse; the media evokes an idea into the person, who creates thoughts of their own based on this, and then puts them out to the world. The interface is where this happens. The gateway between the within and the without. An interface can exist within the "art", as a mode for two ideas inside to communicate and be bounded (not unlike the computer science definition). We can call this one an "intraface". The ideas presented as art interfaces can be applied to the ideas of computing interfaces.

XV Slipiec, C 2020, 'Slow Interaction Design: Advances in Research and Practice', Simon Fraser University, 5 August, viewed 28 March 2021, <<https://www.sfu.ca/siat/stories/research/will-odom-slow-interaction-design.html>>

This is an interview with Will Odom, a leading researcher and practitioner in Slow Computing. He is the head of Everyday Design Studio. Everyday Design studio is a HCI studio operating out of Simon Fraser University in Canada. The studio is centered on exploring interaction design, typically through a slow design paradigm. Designed artifacts are a part of the world, and encourage reflection, playful engagement, and mental rest. The studio eschews efficiency, instead looking at long term interactions with technology. An example of this is the Olly, a design artifact for the home that draws on a user's relationship with music streaming services. It randomly selects a song from the user's listening history, with different ambient signalling for how many years in the past the song was. The user can then opt into listening to the song, creating a moment of reflection and wilful engagement with both the artifact and the music, in contrast to the thousands of songs one could hear automatically played traditionally. This allows people to interact with their own forgotten personal data, and remember thoughts, memories or feelings that a certain song can elicit more mindfully. One of the main takeaways from this interview is succinctly captured as: "As the design industry has expanded beyond the workplace, new approaches are needed to support and design for the richness and diversity of experiences that unfold in the intimate contexts of our everyday lives". We can no longer design just for productivity and efficacy, we need to design in a way that is symbiotic with how we want to live and the values important to the individual.

# Appendix B - Further Research Topics

## Slow Computing

Slow Computing (also known as Slow Technology) is a design methodology that pushes back against the hyper efficiency of modern technology. While efficiency is a reasonable goal when looking at industry or science, the effects can have negative impacts on the social side, with people becoming addicted and reliant on technology. As a methodology, slow computing emphasises creating symbiotic relationships that can change in nature, leaving room for reflection and interpretation. This formed relationship invites users to actively engage with these technologies.

Slow computing as a research method allows designers to become more critical of the work they produce; and more cognizant of the consequences. Current HCI design is benchmarked by efficiency; ease of use, fast learning, and immediate visible results are the goal. Overvaluing of these leads to more information processed, but turns humans into cogs in the machine. Slow computing is one way to combat this, and offers various frameworks and benchmarks for design and interaction that can assist boisterous design.

// “There is a danger that as technology moves from the office into our homes, it will bring along with it workplace values such as efficiency and productivity at the expense of other possibilities” Bill Gaver, 2001

# Appendix C - Further Project Discussion

## *Boscoist Distribution Center*

The Boscoist Distribution Center is focused on how ideas get spread in the current age, and the aesthetic to this project is extremely important. Building on the Boscist aesthetic of mundane and banality, the Boscoist Distribution Center uses the most mundane computer space to strongly convey tis ideas. A desktop running windows xp, an old monitor, a dated brother printer, and an old chipboard and linoleum desk, with a basic chair. This does nothing to betray the wealth of information stored on the computer that is anything but mundane.

The files stored on the computer are pieces of Boscoist art. The use of various text formats was essential to make the manifesto readable on any device, and printable immediately from the computer. The digital art on the computer came in many different forms. These were GIFs, images, music, and 3D graphic demos. The gifs and images were various pieces of glitch art and technofuturist imagery. The music and 3D demos came from a subculture known as “demoscene”. Demoscene is focused on creating self-contained, sometimes extremely small, computer programs that produce audiovisual presentations. The purpose of a demo is to show off programming, visual art, and musical skills. These demos are frequently extremely small, with the most prodigious fitting 4K quality 3d renders into a 64 kilobyte program. The demoscene demos are frequently associated with piracy and are usually bundled with pirated video game installers, as launchers. This association gives demoscene a very underground, decentralized vibe, without being illegal. These kinds of visuals and music were included in Boscoism to create a similar vibe, and to channel some of the demoscene's ideas into Boscoism.

Certain demoscene websites are classified as dangerous and blocked by google, which also shows how these large platforms that are trying to save you can actually constrain art and different opinions, even when those opinions have nothing dangerous about them.

# *Bosco's Game of Life*

Boscos Game of Life had two main parts. The quiz and the simulation. The quiz had four true or false questions, which allowed for 16 permutations of answers. The 16 ideals that could be infected were based on the permutations. So for instance, if a person did not follow online etiquette or post online, but mostly used the same sites and preferred to show their face in meetings, the value associated would be personal. The quiz and table of possible answers is available in Appendix E. This type of system was chosen to allow for the injected value to be highly personal, and not just a random word. This allows users to connect to the system in some way, and see the analogy of how their own values impact the real world system. Originally, the user would be able to handwrite a word and scan it in, rather than writing it. During the development, I was able to get a system that used machine learning to ascertain the answers. I got this working, with an accuracy of about 70%. However, this was ultimately scrapped, as the time to implement this standalone system with the rest of the project would blow out and become unmanageable.

The second main part of this project was the game of life rules. These were originally based on conway's game of life. However, since that system only had alive or dead states, and this had 17 possible states (including blank), the rules had to be changed slightly. The final iteration of the rules ended up as follows. Each cell was checked each iteration. If the checked cell had less than 3 or more than 5 active neighbours, it would go blank. If it had 3 or 4 neighbours, it would become its neighbours value. This value would be the surrounding value with the highest mode. If it had 5 neighbours, it would stay as it was.

These rules were the outcome of many hours of tweaking and experimenting. The most interesting part was the use of mode to determine the new state. If the highest mode was equal, the new state would essentially be randomly selected from those values. This meant that the emerging patterns of the system were consistent, however the values themselves had some randomness among them.

Bosco's Game of Life uses a scanning bed as the main interaction vehicle. This was chosen for a variety of reasons. Boscoist values call for mundane aesthetics within the work, and so I wanted to use artifacts of everyday life. And because the Boscoist exhibition is reminiscent of home offices, I wanted an object from that space. The main way people send information from the real world to their computers is through a scanning bed, so the poetics for the scanner sending values to the computer all lined up. I hollowed out an old printer, leaving the glass plate intact. I then fitted a webcam inside, so that it was able to see the answer segment of the paper if it was placed the correct way. This then fed into the computer, when the user completed the circuit, instead of pressing a button. This was to give the user the feeling of connectedness, and to bring back to the Boscoist idea that every system is similar to an electrical circuit.

# *Open Internet*

The Open Internet project went through a number of iterations. It was originally designed to be a purely digital experience, a service that existed online continuously. Through my early explorations, I found that the architecture to create a website that anyone could write the base code for was incredibly difficult, and any mechanisms that would allow that would be way too hard for the layperson. Many current hosting platforms specifically disallow this, as it can have disastrous effects, although they have never tested it to find out. I originally thought I could use a service and distribute the username and password to people, but that presented two further issues; the details could be changed, and there would be a complete lack of accountability. While the edits made to the website don't need a person's name on them, a moniker is important. People need to take some pride in their work and have some accountability, and a simple name system would allow for this.

While these unique sets of challenges were near insurmountable online, by moving the project to a physical self contained exhibition, many could be addressed. A multi user continuous integration problem was completely gone, as a person could make changes from a single control space. The need for accountability was also gone with the person's physicality and exposed screen giving this paradigm. I was also able to steer accountability with how I structured the guide text.

The README file, the guide for the Open Internet, was essential to have when using a physical space for the project. From a practical standpoint, users needed the information to get started in an accessible location. A simple to read and pick up guide was perfect. I tried to use simple terms and a tongue in cheek expressiveness to make the challenge of coding seem less daunting. Many can be scared off by the notion, however HTML coding is extremely simple, with just 2 or 3 easy to grasp semantics needed to get started. There are no complex logic issues present. The guide pushes people towards making a simple page, and informs them of the outcomes. The guide can be seen in Appendix E.

## *Pirate Radio*

The Pirate Radio was built using a computer, some analogue speakers and an amplifier. I wanted the setup to have a more analogue aesthetic, to bely the digital nature of it, and make it seem more “physical”, rather than digital age. The speakers are the output of an iTunes playlist. I did some explorations on evolving playlists, and iTunes was the only free music player that is able to dynamically add songs to a playlist while it is still playing. By using ITunes, I was able to have a shuffling repeating playlist that could be dynamically updated. I wrote a small script that automatically runs on usb insertion to go along with this. The script copies all files into a special ITunes folder. All usb files get copied, however ITunes only does anything with files with a typical audio extension such as .mp3, .wav, .flac etc.

Due to the exhibit being physical, there needed to be a way for people to have access to usbs with music on them. Since I had usbs at the Boscoist Distribution Center, I was able to just load Boscoist music onto these usbs.. Since Boscoism does not have a distinct musical style, I tried to pick music I thought would fit the Boscoist ideals. The first artist chosen was a group called sealab2012, a plunderphonics beatmaker duo. The music uses obscure pop culture samples, to create digital faux nostalgic pieces. The artists also accidentally deleted their entire discography after pulling it from websites, leaving a blank period in their work. These albums are traded and collected by a tiny group of individuals online, letting the group live on somewhere in the esoteric corners of the internet. I also chose music from the demoscene community, as their values corresponded. For more information about the demoscene community, see Appendix C - Boscoist Distribution Center. Finally I put my own work in the usbs, as Boscoism is, after all, a reflection of Bosco.

# Appendix D - Previous Experiments

During the design journey, the previous iteration of my major project was called slowing down the system. This project was a collection of research through design experiments and probes, exploring our connections to technology and looking at ways to mediate the speed of technology. Although this did not end up being the final project, many of the learnings from these experiments informed the direction of Boscoism, and helped define the problem.

## *Context Switcher*

The Context Switcher was built around the question How might we design a system that allows users to experience different physicalities for work and relaxation, without changing their location, to create clear boundaries for the user. It was one of the first projects designed in the semester, before settling on my final project of Boscoism. With this project, I tried to explore ideas around isolation, productivity, lack of space, and mental health.

The context switcher is a system that changes a user's environment at predestined times, to provide a sense of physical change between work and play, in an environment with little space. With more people working from home, and a trend towards one bedroom apartments, many people do not have the luxury of separation for work and life. The context switcher allows for a person to set their schedule for the next day, allotting hourly times for working, chores, play, or relaxation. The system then executes these situations the next day by changing the light and sound environment within the room it is deployed, changing the physical environment and allowing for the person to reclaim the physical boundaries that are lost in the work from home environment.

This prototype of the context switcher was built using a miniature computer (raspberry pi), a website, and a projector. I built a website that displayed different gifs and played hour long musical tracks at different times of the day. In the code, there exists an easily editable list of hours, as well as their associated “mood”. Scheduling your day just involves writing into this text file, and then saving. This page then gets loaded on the raspberry pi connected to the projector. These gifs would get diffused through the room, creating a dynamic lighting environment. After all, a projection is just a programmable light source. The website would then check every hour what its new state should be, and update accordingly, changing the environment of the room completely. This system is consciously designed to have no background processes, no judgement of a good or bad day, no extra breaks thrown in between consecutive work hours. Ultimately the human user is responsible for the efficacy of this system.

The project was deployed in my own room over a weekend to evaluate its effectiveness. It created much more visceral transitions than a purely digital scheduling app, and forcing me to think about my schedule from the start of the day made me much more mindful of my choices. The visceral light and sound changes made switching contexts very manageable, with the transition from relaxation to work being immediately felt, and the transition out being smooth. While it didn't force me to stick to the schedule completely, I was always very tangibly aware of what I should be doing, and was able to reason effectively about when to start and stop working.

Ultimately I realized this project was attempting to address the symptoms, and not the underlying issue. I questioned why I was focusing on productivity and mental boundaries when these should be taken for granted, not fought for.



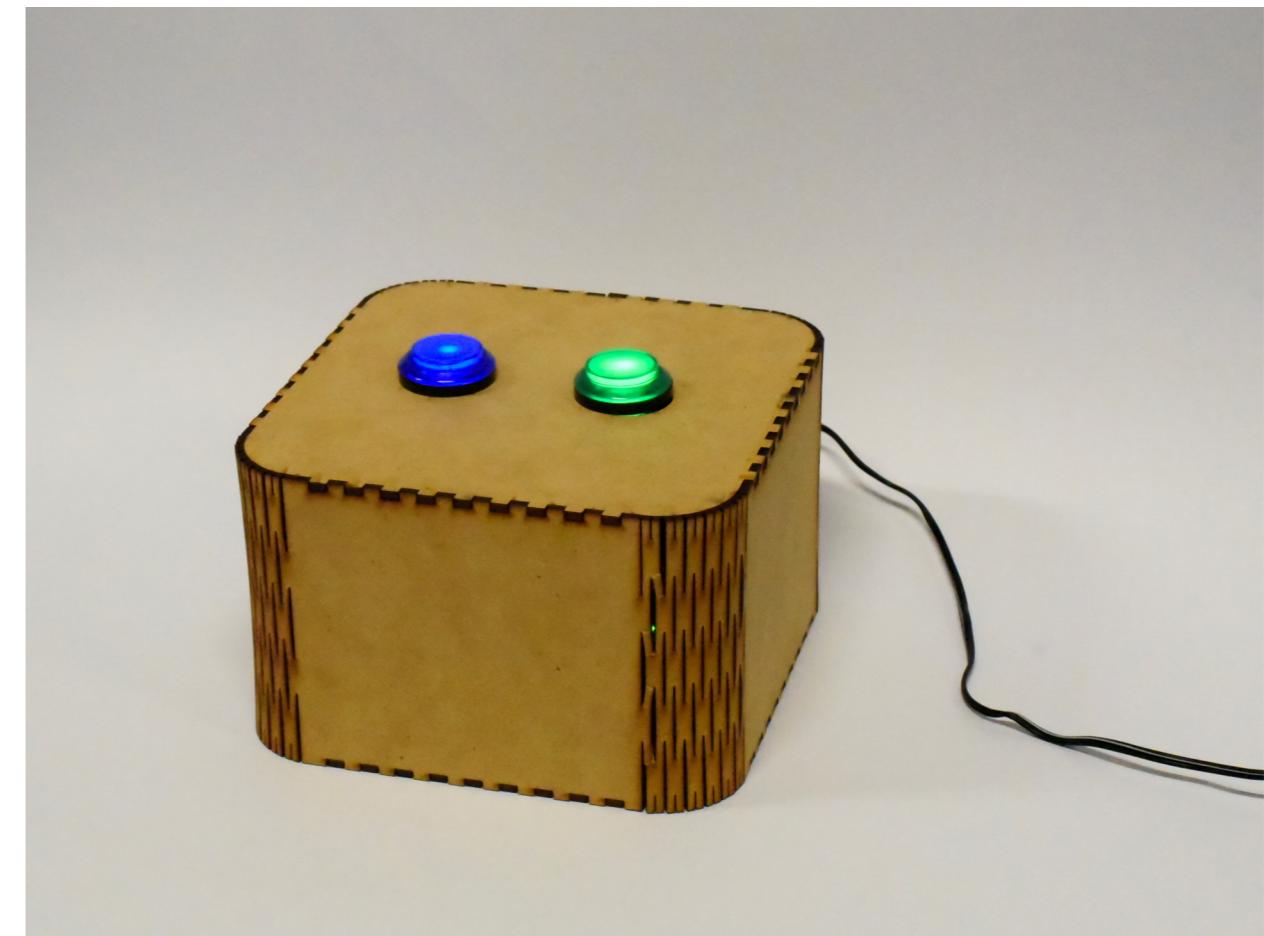
## *Button Masher*

This project was exploring ideas around limiting inputs and outputs to make users make more deliberate choices. It created a unique lens to look at our relationship with interactive technology, by creating a clearly technological object with only inputs, and no discernable outputs.

The project consisted of an MDF box with two lit buttons, one green and one blue. The buttons would lose some brightness momentarily when pressed, to give users some tangibility to their press. This project was built and left out in the open in building 45 for 3 days. Some interesting patterns emerge. Most participants pressed the green button first, citing that “green means go”. Many searched for patterns, pressing random sequences of buttons, hoping something would happen eventually, if they got the right sequence of inputs. Almost all repeated presses, and acted on mostly instinct, not really considering what they were doing or why they were pressing it. “Buttons are meant to be pressed”, one individual noted.

One user was extremely sceptical, surveying the box completely, putting his hand over before pressing, trying to find any other information. Upon finding none, he pressed the button.

This project shows how connected and engrained human computer interaction is into our day to day living, where even past expecting certain things, we assume that if we get no feedback, we just need to keep trying. While the context of the button may have impacted this, only 1 out of 10 participants were in any way skeptical or conscious in their decision making around interacting with strange buttons.



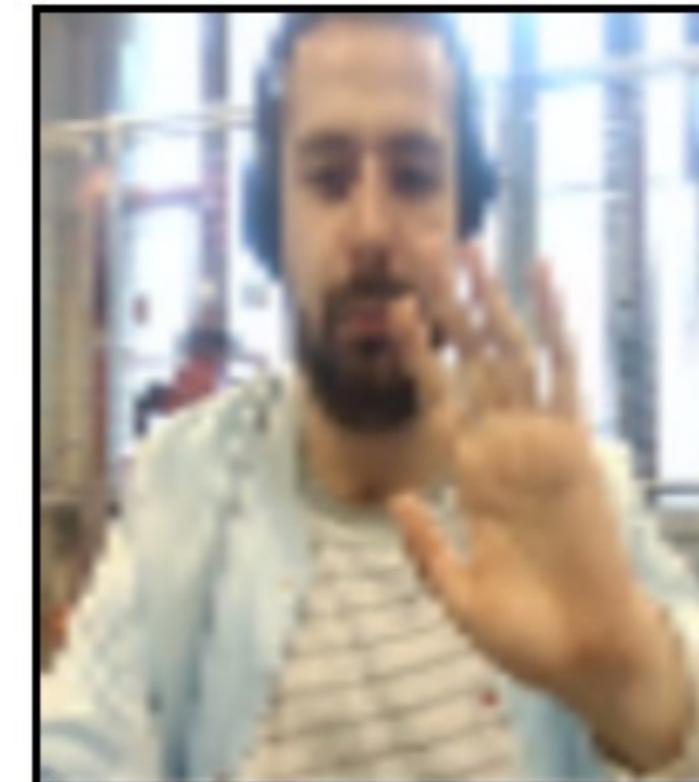
## *Memory Saver*

The Memory saver is an application that looks at the vast swathes of digital waste we leave behind, and the instant habitual processes of interacting with technology that lose meaning. Traditional camera apps quickly take high quality photos, allowing people to not need to engage with the subject matter, with the technological promise of later engagement existing. However, this rarely gets fulfilled.

Memory saver invites further engagement by creating a “memory” instead of a photo. This memory consists of a low quality blurred picture, and a small note taking section. This is then saved as one png file. The low quality does not allow users to rely on the fidelity to remember the experience, and must instead create notes. This allows for more metadata to be embedded also, such as who it is, what the day was, and your mental state. This ultimately creates a much richer tapestry of that point in time than a photo ever could. It is also more evocative when seen in the future. As it takes much longer to create a memory than a photo, users pick more carefully the times they want to preserve, so meaningful experiences do not get washed away in thousands of pictures of anything vaguely interesting.

The Memory Saver is a web app, designed to be run on a mobile phone. It was created using javascript. The user goes through a two step process, taking the picture and then taking the notes. The app saves the picture on the left half of a png, and then saves the notes on the right half, formatting words and strings of text as appropriate, before saving the completed file to the user’s phone.

This ultimately was not as impactful on the final Boscoist movement, but it did grant me a deeper understanding of our relationship with data and technology, and how disconnected it is from human values.



Me, taking a picture ,  
to use on the poster , t  
hat explains how the, c  
amera works

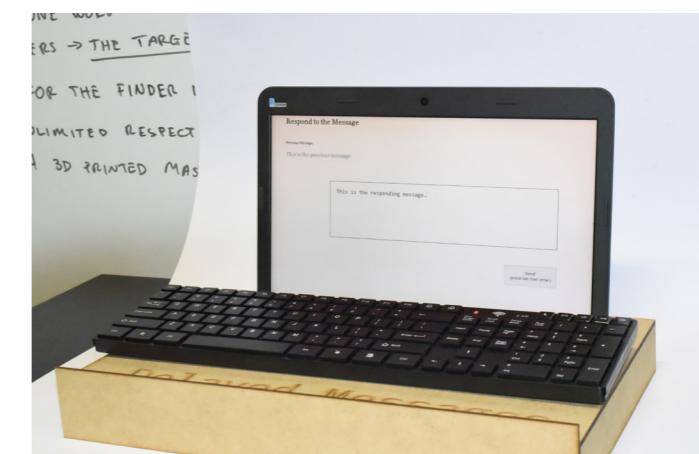
# *Delayed Messages*

The Delayed Messages experiment was designed with the idea of slowing down the increasing accelerating speed of life and information exchange in the modern era. This project effectively looks at only a small part of what Boscoism would come to later challenge. The learnings and ideas from this installation played some part in shaping the final form of Boscoism.

Delayed Messages is set up in a space, and then people in that space can type a message, responding to the previous message, or saying whatever they want. Once a message is sent, the device goes into “sending/receiving” mode for half an hour, and is inoperable until the time is up, where it will show the newest message and wait for a new response. It has some features of traditional letter writing compared to instant messaging, such as no chat log, only showing the most recent message, and delayed response time. This experiment reduced the time a system was active, and increased response times.

The project runs off a laptop running a small web app. The laptop is covered by an MDF frame, with the title of the project and a separate keyboard to use on it. The site prompts the user to send a message, displaying only the previous message, if any exists. After a user has sent a message, the web app displays a loading animation, saying the message is being sent. This lasts for 30 minutes, essentially forcing the user to go do something else with their time. The new message is then displayed, with the user input once again becoming available.

The project was deployed and tested in building 45 over 2 days. When engaged with, users got very excited by wanting to know what would come next. The lack of visible timer meant they were constantly checking though. They also got quite frustrated when someone else responded when they were hoping it would be their turn. Also, since the turnaround time was 1 hour and there were no chat logs, people forgot the context of the conversation, and it sometimes ended up as a string of disconnected messages mimicking a game of Chinese whispers. I believe I got some valuable insights into what people expect from their technology, and how embedded the habits of their current paradigms are in their psyches.



# *The Computer*

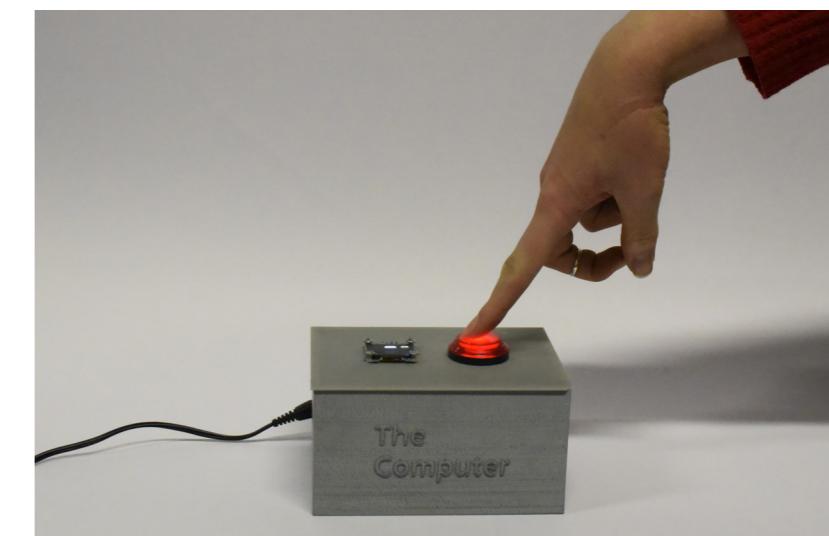
The Computer was originally designed as a brief for my earlier iteration of the Major Project, a way to define the issue through a small project. This would ultimately help me to define the problem in a more concrete way, which Boscoism was able to fight back against.

The Computer is a small box, with a button, a speaker, and a small OLED screen. The Computer constantly generates notifications, with a notification icon appearing on the screen with an incrementing number. The look was designed to mimic twitter notifications. As the number goes up, the speaker emits a small buzz reminiscent of phone notification pings. When the button is pressed, all notifications get read out in a row, overloading the user with information.

The Computer is made of a 3d printed shell, with an arduino running everything inside. The program creates notifications randomly every 10-15 seconds, and then adds them to a list and notifies the user. When the button gets pressed, the list gets processed in sequence, showing each randomly generated message. After the deluge of notifications, The computer stops completely for a few minutes, before restarting the loop.

This project was universally hated in testing. Even during its creation, I felt immense annoyance for the object, as well as stress when the number continued to rise.

The analogy the computer makes to the phones we carry everywhere is quite strong. These are basically notification machines, constantly demanding attention and overloading with information. However, since we value the information given, we continue to allow the notification spewing design that has become the standard for society, despite it being despised when isolated. This shows the disconnect we have in human computer interaction between the human values of interaction, and the need to increasingly accelerate.



# Appendix E - Supplementary Work

## *Technology Use Through the Day*

1. Wake up to my alarm playing music, comes from google home mini which receives the command from a timer in my phone, and streams the music from spotify
2. Check phone, classic messenger chrome etc, read the news look at reddit, so both company->me and individuals->me info received
3. Coworker having trouble getting in with swipe access to b45, I suggest he tries a different door over messenger. Indirectly affect the technology and physical space of 45 thorough my computer interaction while still in bed
4. Kettle?
5. Check amazon delivery, track driver through phone
6. Rental inspection comes through, she uses phone to take pics of rooms, I direct the pics, so me->person->computer interaction?
7. "Watch tv" but really watch youtube on my tv through chromecasting, just out in the lounge room
8. Turn on main pc to do some work, do some
9. Subconsciously just start playing a game
10. Get back to work, still at same machine, completely seamless between work play, two screens, one in each mode
11. Use pc to look up food info, a phone to call food places.
12. Drive to pick up food, on the way there use bt for music, on the way back don't. But the phone still connects. Phone tracking my movement down the road and back again
13. Rmit password issues. CPu kicks me out, tells me there's an issue. Give me a number for rmit support. Phone to call rmit support, operator changes my password. That signs me out of all rmit stuff. So input chain is me to support to support cpu to my cpu to me.
14. Play games connected to tv connected to internet,
15. Catch tram, don't swipe my myki, not going far and it's expensive, and I don't want to be tracked
16. Googling bars while already on the way to bars, no planning needed. Tech creates adaptability
17. At bar look up band name and info on facebook, facebook tracks that kind of stuff
18. Credit card reader
19. Tram again
20. TV youtube and games switch between frequently, separate hdmis into the tv
21. Watch videos in bed

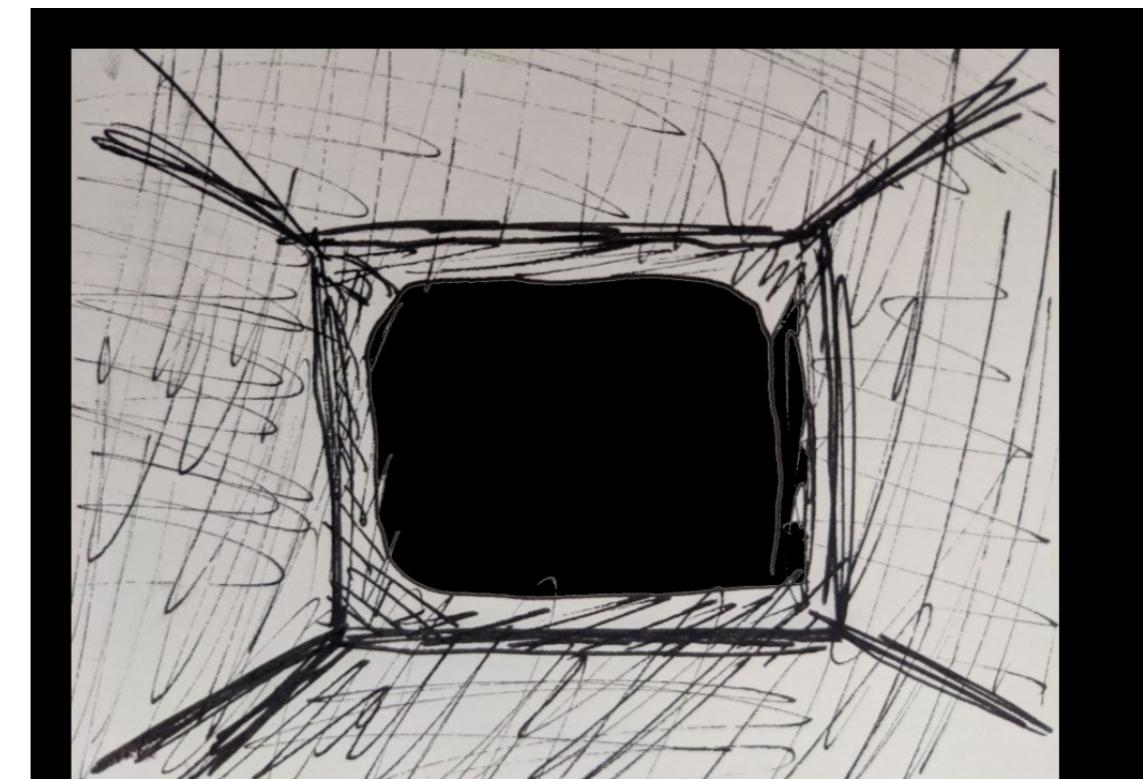
# Computer Simulator 2015

As part of my exploration of the topic, I developed a small visual novel game through a software called twine. The game, Computer Simulator 2015, puts the player in the position of a computer, tasked to perform a basic calculation. The game presents this seemingly simple act through the vast array of processes happening in the background. Of course, it doesn't come close to the truly atomic level, but it does serve to explode some of the internal processes. While I had no particular goal in mind during development, a few key ideas stood out to me in the aftermath. The first was the complete lack of agency the computer has in approaching these tasks. In typical visual novels, branching paths and auxiliary choices are often included, however they had no place in this computational world. The other standout point happened when the game was shown to other humans. They described the dark cyclic ending as sad. We tend to reflect our own prejudices as humans on objects when we try to understand them .

```
MICRONODE Process System
Version T14.29 COPYRIGHT MICRONODE INDUSTRIES
Enabling DOS...
Enabled!
Black Box Temperature: Normal
Initializing Pod Connection...
Initialized!

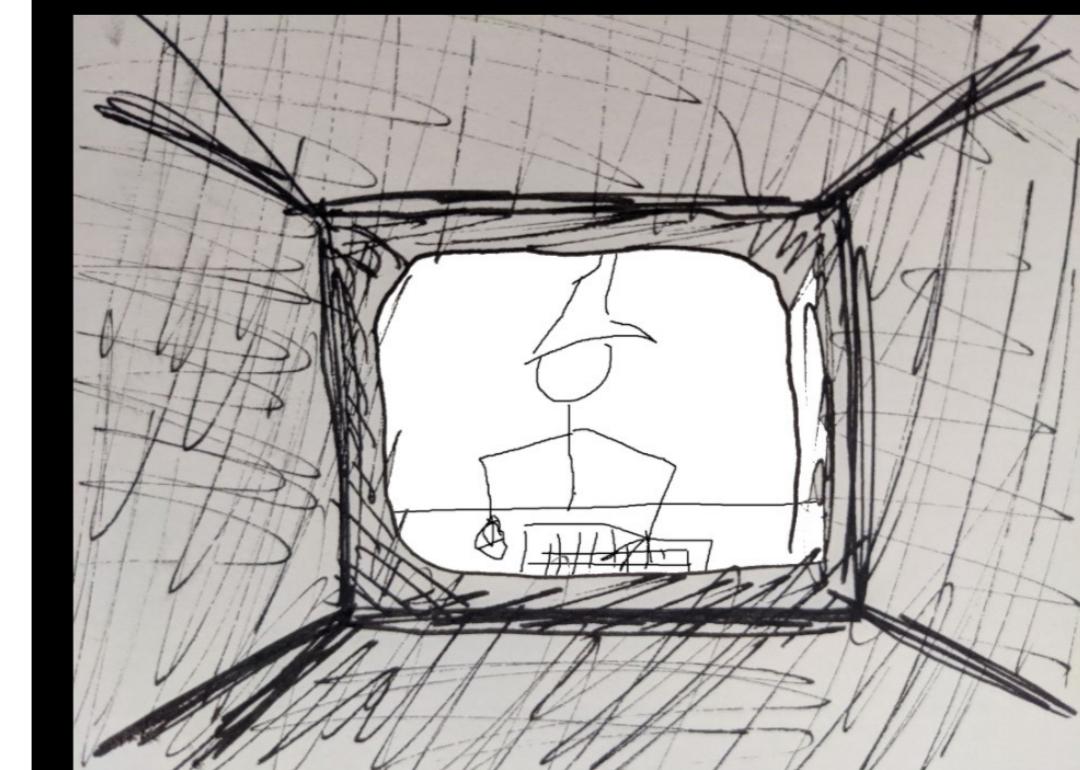
Activating MEM1029 Node...
Activated!

Preperations Complete
...
```



0x0000000

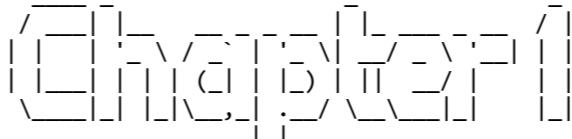
wait.



12 key pressed.

write to memory.  
lookup ASCII table.

# *Open Internet README File*



01000011 01101000 01100001 01110000 01110100 01100101 01110010 00110001

What page should I make??

Guide to the open internet

Volume 1

For use in the open internet exhibition

For information regarding this installation, please visit \* [boscoism.design/OpenInternet](http://boscoism.design/OpenInternet) \*

Luckily, this is an easy (and hard) question. You can make it about anything really.

But here are some ideas to get you started:

Make one about you! put a lil picture of your face, your hobbies, etc

Make one about your work! list the stuff you do and put an email or something

Make one honoring forgotten Gods! Draw an ascii demonic circle and have a digital altar to  


Make one about your cat! Look how cute it is!!!

Write a story! It's always nice to share some creativity online!

Curate a list of your favourite websites! You can have a little introduction, and then list all the cool netescapes.

Make 10,000 pages for your sonic OC! Create a deep rich world of interconnecting characters and stories, all centered around Blade the Hedgehog.

Make one critiquing this Exhibiition! How dumb or cool, you may say. Computers? Who would have thought!

Distribute Marxist literature!

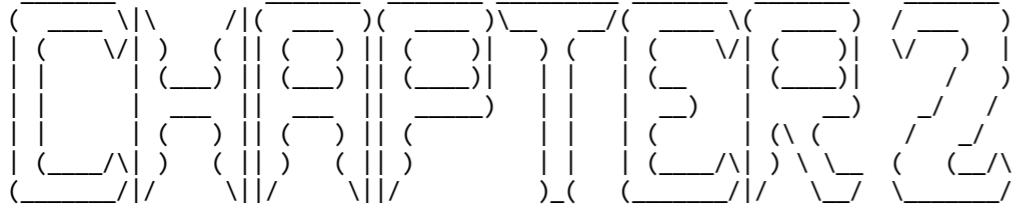
Call everyone you disagree with cowards!  
etc.

But why??

This one is a bit harder. But why does anyone make anything? If I handed you a pen and a blank piece of paper, you might draw a silly little picture or write your name. Why? Who knows.

But hopefully this site has a more clear meta purpose. The pages made here, from anyone, end up as a memento of this exhibition, a time capsule of what you thought was important or fun or novel or stupid at this point in time.

Leaving a page here is adding to a tapestry. It's leaving a mark for the sake of it. Not so your mark can be used as data or tracked or whatever else normal websites do. But purely because marks are meant to be made.



But how do I even do it? I don't know anything about coding!

Don't worry, this stuff is easy. The big secret of the coding world is literally anyone can do it. This book will give you the basic tools needed to express yourself through code.

This covers how to make a page, how to add text and images, and a tiny bit of how to add basic functions and looks to your stuff.

So, how do I even make a page?

A page is very easy to make. So, in the OpenInternet folder on the computer you are using, just make a file called "whatever.html", where whatever is any name you want.

In this weird program that's loaded, you can do that by right clicking on the black bar to the left, where you can see a big list of files already.

Then, in that big list of files, you'll see one called Copy-Paste\_Things.html. Copy that from there, and paste it in your "whatever.html" file.

Slam that big red button when you're done.

It's that easy! now you have your own webpage! You can access it from wherever now, by going to [boscoism.design/OpenInternet/whatever.html](http://boscoism.design/OpenInternet/whatever.html).

Send the link to your friends? add it to your bookmarks? share it on social media? neglect it forever? Do whatever with it, but now it exists out there in the """"INTERNET""". Even print it out and frame it on your wall

So I have my page, coolguy.html, how do I make it reflect the cool guy I am?

This is pretty straightforward too. We can start with a crash course in html.

Html is a programming language, but very easy to use. Basically, you have these little tags, like so: <heading></heading> the one with the weird "/" is the end

In this heading tag, if we put something between, such as lets say <heading> Cool Guy's Awesome Website! </heading>, then it will look like a heading when you open it in a browser.

You can see an example of this in your new website. <h1></h1> Stands for heading 1, and it just means a big heading. As you can see when you load your page, Edit Me! is in big letters.

Pretty nifty.

Html is all structured around these tags. You just put your content in them, and then the browser just shows them all in the order you type them in.

In your cool new site, you can see a few easy ones we can talk about.

<body></body> - Everything in here is the stuff that shows up on your web page. Stuff not in body (for instance the stuff in head or script) doesn't get shown. Put all your cool content here

<h1></h1> - We already covered this, these are your big headings. h1-h7 exist, each one a bit smaller. These make nice section breaks.

<p></p> - <p> stands for "paragraph". If you put text in here, it will automatically structure it in a nice readable way. Very useful, you'll use it all the time.

<img src=""> - This one doesn't even need an /end. This is a nice little thing for images. The "src" means source, and it defines what image gets shown. You can copy paste an image url from the internet into there, like you can see.

<br> - This also doesn't need an end. This one is just an empty line, it stands for break, as in line break. Very useful.

<button></button> - A button! So descriptive. This makes a button you can click on. You can see in the demo an ` onclick=""` thing. That's what the button does when you click on it.

<div id=""></div> - Divs, short for divisions, are generic blank boxes. You can put whatever in them, and they are used a lot because they can be changed so easily, and have no rules associated. We can cover the id later. (ch.4)

Html tags are all completely free. That is to say, you can use as many as you like, and no one can stop you. A billion buttons? Sure! 3 bodies? I don't know what would happen, but you could find out!

So try it out. Put a bunch of useless junk on your brand new page, and get a feel for it. We can dive into those weird <style> and <script> things after you got this.

Put em in other people's pages! This isn't a sacred space. Now you know how it works, mess with other people's fuzz. They probably deserve it! And don't get too mad if your fuzz gets messed up. The internet is a lawless place, when you don't have big tech companies enforcing things. Who even put them in charge anyway?

You can also get inspiration from and even steal content from other people's pages. It's all just text after all, copy and paste to your hearts content.

And now you've made changes again, press that big red button. And give it a few minutes, and you'll be able to see your brand new site. How cool! It's all yours.

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/\$\$— \$ \$ | \$ \$  
| \$ \$ \\_ / | \$\$\$\$\$\$ /\$\$\$\$\$ /\$\$\$\$\$ /\$\$\$\$\$ /\$\$\$\$\$ /\$\$\$\$\$ /\$\$\$\$\$ /\$\$\$\$\$ | \$ \$  
| \$ \$ | \$ \$ \\_ \$ \$ | \$ \$ /\$\$\_— \$ \$ | \$ \$ \\_ / | \$ \$— \$ \$ /\$\$\_— \$ \$ | \$ \$— \$ \$  
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\\_ / | \\_ / | \\_ / \\_ / | \$ \$ \\_ / | \\_ / | \\_ / | \\_ / | \\_ /  
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Ok so I have coolguy.html and its all my cool text and titles, but it looks lame. And arent sites meant to do stuff??!?! If i just wanted to write things, I could use a pdf.

Ok calm down cool guy, I get your point. It looks pretty terrible right now, thats for sure.  
Man, your website really sucks lol.

This is where that `<style>` tag comes in. All the stuff in that `<style>` tag defines how your fuzz looks. You can see in the demo, how it says

```
h1 {  
    color: red;  
}
```

I'm about to set out some rules for what a h1 should look like : { all my rules go in here }

And as you can see, the rules you can set are pretty straight forward. You got stuff like color, font size, background color. And isn't it convenient, that you can just type in a color? Pretty cool, try different ones.

Those ones are all pretty self explanatory. So in your demo styles, you've decided that heading text should be red, paragraphs should be a normal size, and the whole site's background should be "whitesmoke"? What kind of color is that?

I probably wouldn't have made those choices, but it's your site I guess, you do you.

So you can define the style of any tag. You wanna make `<img>` tags red? I don't think it will look any different, but go ahead. Buttons should have 'x-small' font? Ok I guess, weirdo.

Now, if you think to yourself, "but I want my stuff to look different!" Theres some fun tricks. You know how theres a bunch of predefined tags? Well you can use literally anything.

So, `<asiyfgdsifhkdsbfd> Hi I'm really cool </asiyfgdsifhkdsbfd>` is a valid piece of html. and then in styles, you could say:

```
asiyfgdsifhkdsbfd {  
    color: blue;  
    font-size: large;  
}
```

and it will work! how weird is that. It just kinda lets you do whatever. If you feel yourself being limited, just do that. And you can use styles to define how they look and feel anyway.

Here are some other neat style rules you can try:

```
border: 1px solid black;
```

- This sets the border. You feed it a pixel width, a style (solid, dotted, double, dashed), and then a color
  - This changes the alignment within the tag, you could left, right, justified
  - Changes the style of the font! Try stuff like Arial, Tahoma, Helvetica, Georgia, Garamond, Courier New, etc.
  - Adds a margin to the element. Margins add blank space outside of the element.
  - Adds padding to an element. Padding is blank space inside the element.
  - Change the width and height, in pixels or percentages.

((\\_\\_||=||| ||=|| ||-// ||| ||==||| ||-// 4 4

\*This chapter is not for the faint of heart, and if you just want to make simple pages, stop here\*

Ok cool! But I asked about doing stuff as well.

Right, of course. My bad. (the chapter was getting a bit long so I split it in half)

The functionality, that big idea of "make things do things".

In the demo, you can see this thing that starts with "function". This is a function.

```
what it give it
  is      a name (must end with ())
    vv      vv
function myFunction() {
  all the stuff my function does
}
```

and then, when you want to do "all the stuff my function does", all you have to do is say its name elsewhere in the code.

In the demo, you can see that we have it in the onclick on the button.

as for the stuff you can do, it gets a bit complicated. You can do a lot of whacky stuff.

A basic thing is alerts. As you can see in the copied code, when you have "alert("message");" as a line, it makes a little popup. This is a function that javascript has baked in.

A big thing you might want to do is change the text or pictures, based on stuff being clicked.

so say you have your button onclick running alertMe().

Inside alertMe(), you can tell the html to change itself. To do this, the easiest way is with id's.

You can see the divs both have an id that's unique. We use that to talk about it.

So in our code, when we write: document.getElementById("first");

We are talking about the div which has the id "first". To change the contents, we can do this:

```
document.getElementById("first").innerHTML = "This is my new text inside the div";
```

innerHTML gets the inside of the div (which right now is nothing), and then we replace it with the text on the right.

This would put the text on the right side of the equals, into the thing you specify on the left side. This is a pretty standard pattern for making things be something new.  
Old thing = new thing.

So if you change your code to

```
function alertMe() {
  alert("Make something pop up!!!");
  document.getElementById("first").innerHTML = "This is my new text inside the div";
}
```

When you press the button, it will play the alert, and then change the text in the div.

Things to keep in mind with this, is that you can give an id to any element, including headings and paragraphs and buttons etc.

Some other neat things you can do include:

```
document.getElementById('myImage').src = *new picture url*;
- Changes the src of an image, so you can have stuff change on button press. You need to give your img an id to make this work.
```

```
document.getElementById('first').style.color = "purple";
- You can change things style on the fly! So your div can now have purple text, when you press the button.
```

And you can make lots of different buttons that do different things, as they are by far the easiest way to add neat functions to your code.

Go nuts, try it out!!

# *Bosco's Game of Life Test*

## **Bosco's Game of Life**

Please respond to this short series of statements. Your answers will influence what value gets adopted by the system. Each statement should be responded with true or false..

1: You always follow online etiquette

2: You publish some kind of content online (excluding instagram, twitter, and facebook)

3: You mostly use the same few sites online

4: You prefer to have your camera on in online meetings

	Question 1	Question 2	Question 3	Question 4
True				
False				

Please completely fill the squares with the marker.

# *Bosco's Game of Life Possible Outcomes*

## Possible Answers

Q1	Q2	Q3	Q4	Outcome
False	False	False	False	Apathy
False	False	False	True	Freedom
False	False	True	False	Isolation
False	False	True	True	Personal
False	True	False	False	Creativity
False	True	False	True	Expression
False	True	True	False	Community
False	True	True	True	Friendly
True	False	False	False	Privacy
True	False	False	True	Respect
True	False	True	False	Pride
True	False	True	True	Conformity
True	True	False	False	Jazziness
True	True	False	True	Exploration
True	True	True	False	Nuance
True	True	True	True	Online