

Cohort of the “Smart”

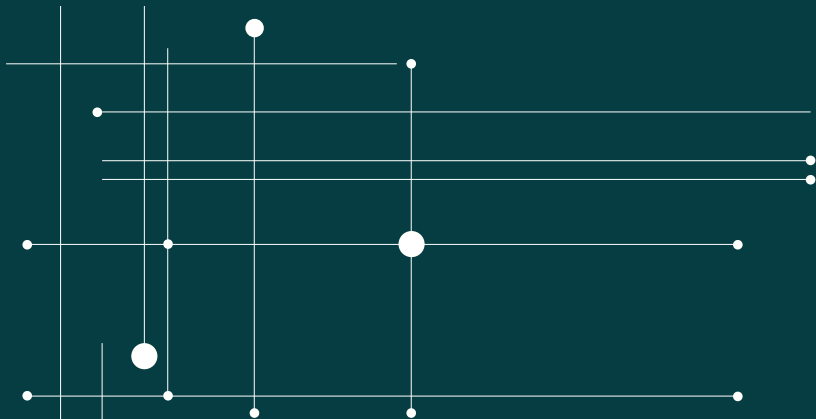
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Pratt Institute



The Battle of Intelligence



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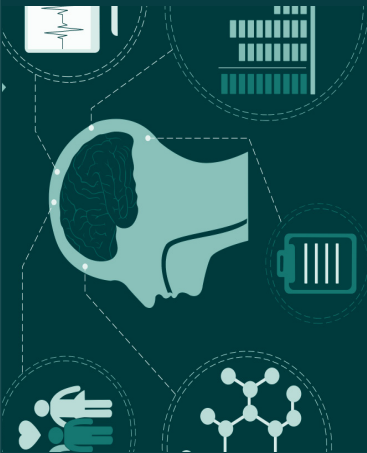
Further Directions

Acknowledgements

Bibliography

How can design be used as a tool to interrogate technocratic reliance on interconnected smart home systems?

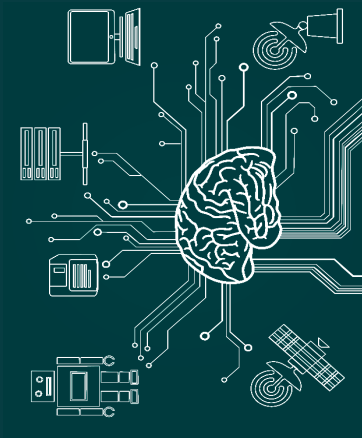
Abstract



We all have a shared relationship with the things we own. Human beings have a natural tendency to associate emotional attachment to the micro-ecosystems they are a part of. We tend to associate memories- good or bad to spaces, cities or countries. When objects have the ability to clearly communicate with us, understand us, and get closer to humanity, the depth of those relationships grows exponentially.

Through qualitative research methodologies, my thesis explores the rise of smart environments around us which have caused visible changes in the way people interact with the materialistic and humanistic fabric. "Siri, the AI assistant for Apple iOS and HomePod devices, is helping more than 40 million users per month, and according to ComScore, one in ten households in the US already own a smart speaker today"[Goosens,2018]. We get up to take showers, but the added activity of switching on the lamp, that effort of displacing our bones, has been eliminated from some of our lives. My thesis examines the

Abstract



pace at which devices are taking over our lives and tracks the experiences that makes us feel secure in their super-artificial phantom.

This thesis is thus an attempt to investigate the promises of the techno-evolution and how deep has the cohort of the 'smart' infiltrated into human systems.

Glossary of Terms

Umwelt

Literal Meaning: "environment"

The idea is that every creature- living or inanimate lives in its own reality based on what kind of information it derives from the source. The reactions, responses, and actions of the subjects on which an external force has acted upon vary for every being dead or alive. In my thesis, I am using this term to explain the "environments" that devices create for themselves by responding to each other giving rise to a fresh ecosystem of interaction and connectivity.

Internet of Things

Definition: A network of objects that are fitted with microchips and connected to the internet, enabling them to interact with each other and to be controlled remotely.

When the number of "things" on the internet have exceeded the number of "people", is when the term "IoT" came into the picture. IoT converts physical realities to virtual realities thus elevating connectivity to a "sacred" state. It is the idea of shifting control of all devices to a common network - the internet.

- ## Techno-evolution

Definition: The process of evolution that is driving our world which is totally in favor of the technology around us.

- The rapid development of devices, the rise of "smart" lifestyles, innumerable ways of seeking information, and the advancements in computer operating systems and obsolete applications inundated with updates.

Transduction

Definition: The process of converting one thing to another.

Transduction could mean different things in different contexts. Like in engineering, a transducer is a device that converts one form of quantity into another type of signal. In my thesis, I am using this word to explain the conversion of tangible connections into an intangible state as a result of the rise of the internet of things.

Autopoietic

Definition: The realization of living

In the context of my thesis, where my research revolves around the extent of the "smart" civilizations around us, the ability of devices to react, respond and talk and perform "human-like" functions is bringing them to life. Their capability to organize, store and assimilate information brands them as an "autopoietic system"

Persona

Definition: The aspect of someone's character that is presented to or perceived by others around you.

Each device has its own identity. Apart from its function and purpose of existence, which primarily define its identity, the ability of devices to communicate in a certain way with human beings has led to the evolution of their own persona. For instance, we now have a predefined mental voice that is expected out of our personal assistant in our phones/laptops or the echo dot (by Amazon) and the google home (by google)

The cohort of the “smart”

A group of components/species/items/things assembled together that complement each other, and function cohesively with each other to demonstrate quick intelligence and sharp mental capability to perform single/multiple tasks/actions with/without human effort to reduce human effort.

Micro-Ecosystem

Definition: An group of species that are dependent on a larger environment to function independently on a miniscule scale

A digital ecosystem where a collection of small systems interact closely as one unanimous system which is a significant part of the device ecology, where humans are the users of the systems and the corresponding interactions are the effective human inputs to produce a digital output.

De-systematize

To liberate oneself from the dependency on an arrangement of systems that perform various functions

Device-d

The idea of being engaged in an interaction constantly with one or more smart devices tends to inculcate a sense of habit and dependency. The realization of “contingency”, the feeling of helplessness, anxiety, insecurity, and restlessness when one is not around/using/interacting with systems/devices is I term - being “device-d”

Device Ecology

When we use the word “smart” for an environment or an inanimate system, we envisage that all the “things” have the ability to portray “intelligent” behavior. These environments are defined as a multiple of different systems built designed by grouping multiple instruments cohesively perform a specific function. These devices are information appliances which together form a part of this macro-ecosystem called the “internet of things” where the key organism of this digital ecosystem is the human who is the user and the integrator, all of which together forms the “Device ecology”

Artificially un-intelligent

The ability of an artificially intelligent system to portray dim and ignorant behavior to get closer to humanity.

Survival-kit

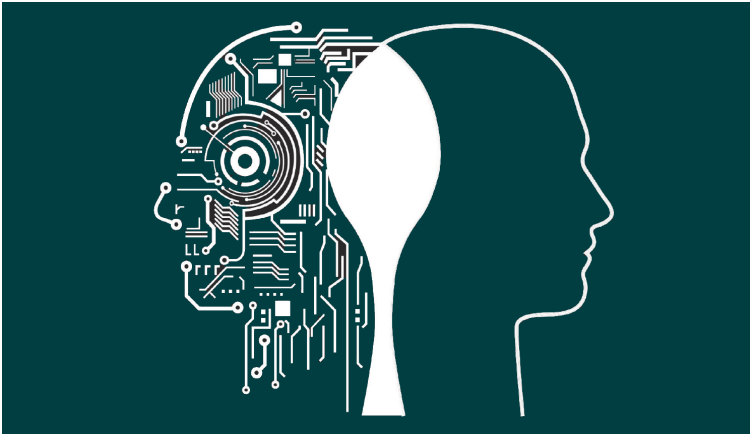
A set of emergency devices carried by the members of the ecosystem(humans), which includes a smart-watch, a laptop and a smart-phone with applications and tools to navigate, travel, eat, shop to lead a simple life in the age of information.

Co-Dependent

A state of sensitivity characterized by excessive emotional or psychological reliance on a system, machine or typically a device that entertains one who requires support on account of boredom or addiction.

Technocracy

A government or control of society lead by an elite of technical experts. A technocratic democracy (way of living) designed, curated and integrated by humans, for humans, of humans.



"Futurism exalted the machine as an external object that was visible in the city landscape, but now the machine is inside us: we are no longer obsessed with the external machine; instead, the 'info-machine' now intersects with the social nervous system, the 'bio-machine' interacts with the genetic becoming of the human organism."

- Franco Berardi

Contextual Framework

Contextual Framework

The human mind is being constantly redesigned to think, respond to and analyze all the real-life unique experiences to believe that “smart” is the way to go. “Futurism exalted the machine as an external object that was visible in the city landscape, but now the machine is inside us: we are no longer obsessed with the external machine; instead, the ‘info-machine’ now intersects with the social nervous system, the ‘bio-machine’ interacts with the genetic becoming of the human organism.”[Berardi,2009]

“Our capacity for figural abstraction is one outcome the cognitive revolution 70,000 years ago or so roughly, and it enabled the eventual establishment of Neolithic economies. With that, what Wittgenstein called the ritual animal learned to index, invoke, calculate, demonstrate, incant, perform, and prototype various future conditions into becoming. In doing so we also learn to confuse those means and ends. Confuse the symbolization with what is symbolized.”
[Bratton,2017] Abstracting brick and mortar spaces to intangible forms of infrastructure is demonstrating a new way of existence solely based out of the internet - “The Smart Home”

Describing two core concepts- “Internet-centrism” and “Solutionism”, Morozov states that “Internet-centrism” is the



idea that our society, and particularly its public intellectuals, have become fascinated by the notion that “the Internet” is a stable and coherent force in our life. “This technological advancement may be disruptive but is also revolutionizing the way humans interact with data, make decisions, travel across the world and plan their day-to-day schedule”[Morozov,2013]

Apart from spending hours of quality time with our devices, “machines” have made us oblivious to the technological invasion of our lives. From wearables to beacons, from sensors to home appliances; there are dozens of “connected things” within our systems, thus giving rise to “smart” environments. “Digital and bio-technologies have turned the external machine

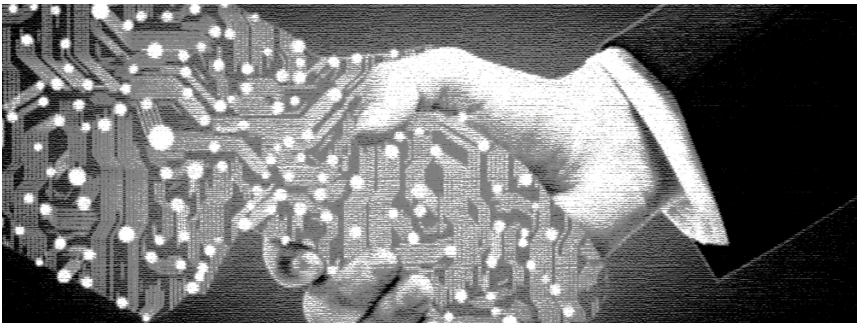
Contextual Framework

of iron and steel into the internalised and recombining machine of the bio-info era. The bio-info machine is no longer separable from the body and mind, because it is no longer an external tool, but an internal transformer of the body and mind, a linguistic and cognitive enhancer. The Machine is us.”[Berardi,2009]

Smart home systems are contagiously influencing the human fabric to transform and surrender themselves to weave an artificially intelligent ecosystem, which is becoming the strongest thread of interaction between the physical and virtual realities. “The question of the relationship between an unlimited expansion of cyberspace and the limits of cyber time opens at this juncture. Being the point of virtual intersection of the projections generated by countless issuers, cyberspace is unlimited and in a process of continuous expansion.”[Berardi, 2009]

Dennett’s 1995 book ‘Darwin’s Dangerous Idea’ is an extended understanding of the meaning of Darwin’s theory of evolution. In this context, “The Smart Cohort” could be easily interchangeable by the term “universal acid” to understand that we ourselves are products of evolutionary forces. “Did you ever hear of universal acid? Universal acid is a liquid so corrosive that it will eat through anything! The problem is: what do you keep it in? It dissolves glass bottles and stainless-steel canisters as readily as paper bags. What would happen if you somehow came upon or created a dollop of universal acid? Would the whole planet eventually be destroyed? What would it leave in its wake?”[Dennette,1995,63]

This is what I call “Techno-evolution”, a world where nothing will ever be the same again, and the worldview is constantly being redesigned, dissolved and reconstituted by the “**The Smart Cohort**”



Contextual Framework



"artificially un-intelligent" in their ecosystems. "The things that are of interest in the field of AI philosophically have less to do with how to teach the machine to think as we think, but rather in how they might demonstrate a wider range of embodied intelligence, we could understand." [Bratton,2017]

A broad-scale understanding of this ideology is a domestic expanse, being reshaped by application of human intelligence on devices to act human-like or rather, be better than humans using human reasoning and computing technical perception. "In the mechanical era the machine stood in front of the body and changed human behaviour enhancing its potency without changing its physical structure. Now the machine is no longer in front of the body but inside it. Bodies and minds therefore cannot express and relate anymore without the technical support of the bio machine." [Berardi, 2009] This concept is akin to the emergence of a smart home, where human-beings will continue to be the tangible forces but they may not be able to function without a "connected" device.

Human beings have long worked toward creating machines and technology that revolutionize our existence. "The Internet" has been widespread for just over two decades and has already become indispensable in our lives. [Shen,2015] The rapid shift from designing "smart products" to "smart environments" is not only systematizing human communication but also making the devices autopoietic. "However, when we visit a new place - a new city or country, for example, we do not just concentrate on a particular object or series of objects; instead, we look around. In so doing, we become very aware of our specific position. This means that we cannot grasp the new place in its

By introducing "artificial intelligence" to a domiciliary environment, we are also transferring a futuristic hope of elasticity for devices to behave



Contextual Framework

totality and in all its nuances. The gaze from within is always a fragmentary one. We know we are inside a certain space, but we cannot visualize this knowledge in its entirety. Furthermore, this gaze is also fragmentary because it cannot be stabilized in time. It is visible and known, though not necessarily visualizable or reproducible.”[Groys,2018] The same can be said of a systematized space that is bound by an intangible form of network. There is a possibility that we may lose track of our position within a system-oriented ecosystem, thus increasing our reliance on the devices.



From round wheels to electricity-powered cars, we have evolved to create an assembly of “intelligent systems”, each of them performing a unique function to cohesively accomplish a bigger task. “Intelligence is an emergent property of material complexity -- it has less to do with whether or not the material - the substrate of this intelligence - is organic or inorganic than it has to do with generic structures and properties of the intelligent

phenomena that emerge from it. It also matters less whether or not anyone bit of this material substrate is itself intelligent; an ant is not particularly intelligent, but millions of ants together in multiple interactions are. Similarly, one neuron by itself is not particularly intelligent, but in the trillions of interactions of the brain it becomes so.”[Bratton, The New Normal, 2017] As a result of this embedded acumen within a space, we will not only evolve our physical interactions but have gradually inculcated the ability to process complex information and command conscious and subconscious responses to them. The rise of “smart homes” could be a convenience that will challenge our quick wits by demonstrating a new task that it can do every day, by manifesting a new piece of information, by introducing a new route, a new eat-out place in the city, and a novel form of venture that has never been heard of.

“The Smart Cohort” is making more headway for systematized interactions, but that doesn't necessarily make the communication less meaningful. The number of “connected spaces” that are making headway in the network is increasing with each passing day. “Approximately 12.1 billion Internet-connected devices were in use in April 2014, and the figure is expected to zoom to above 50 billion by 2020. In fact, the networking firm [i.e.

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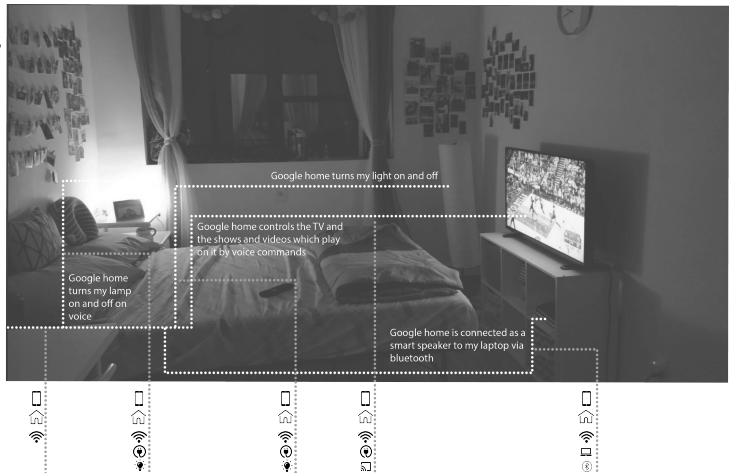
Cisco systems] says that about 100 “things” currently connect to the Internet every second but the number will reach 250 per second by 2020 “[Greengard, 2015,13]

things on the internet exceeded the number of people on the internet is when the concept of IoT came into the picture” [Houghland, 2014]

The Connections



This is where my Google Home is located in my room



A “smart” micro-ecosystem within my room

As a result of the home shaped manifestation of “The Smart Cohort,” devices are now creating their own “intelligent umwelts.” They can store more information, process voice input, keep track of activities and address not just humans but also other devices that share the same environment. The “umwelt”(environment) mentioned above is nothing but “the smart” network which is holding all these devices together enabling them to intuitively act on a common language. The phenomenon, thus, risen due to this what is termed “The Internet of Things”. “When the number of

“The Smart Cohort” represents an elevation of connectivity to a “sacred” state, where it is constantly capturing data about the “reality of existence”. Every piece of information, input, every activity- physical or digital, is being transduced into a fresh form of virtuality. “Transduction is a term used in many fields that refers to the process of converting one thing into another. I use the term loosely here to refer to the potential for the IoT to convert physical reality (“real” reality) into digital or virtual reality.” [Greengard,2015]. Transducing connectivity into our homes, is

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thus, creating a codependent domestic infrastructure of co-existence where both forms of realities are breathing on the same side of a coin.

The emergence of this extra intelligent domestic space is creating a fresh stack of ecosystems and making room for innovations to constantly engage itself invisibly in the home infrastructure. "As we link infrastructure at the continental scale, pervasive computing at the urban scale, and ambient interfaces at the perpetual scale, we will explore how these interweave and how we might build, dwell within, communicate between, and govern our worlds"[Bratton, *The Stack*, 2016] We are being subjected to an interlinkage of home systems that is beyond the outreach of our imagination. With each passing day, we are being 'device-d' at

every step, consciously and subconsciously.

The adaptation of the "smart" home system is thus, introducing innumerable complex stacks to the human-tech fabric. "To do this, it draws on the multilayered structure of software, hardware, and network "stacks" that rearrange different technologies vertically within a modular, interdependent order."[Bratton, *The Stack*, 2016].

The ability to demonstrate a multidimensional reality through "smart homes" will break down the barriers between different systems and regions, so that information from varying sources can be found and presented between them. Homes will be capable of providing us with multiple or even contradictory perspectives for carrying out our

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daily chores. "Because of the Internet's cognitive method of connecting everything, the links between different things have been strengthened and highlighted." [Shen, 2015]

"At first glance, the distribution of information on the internet is not regulated by any rules governing its selection. Everyone can use cameras to produce images, to write comments on them, and to distribute the results with little censorship or selection

mirror of our specific interests and desires. It does not show us what we do not want to see." [Groys, 2018]. Realistically, "smart homes" will function on the basis of a non-explicit set of regulations of selection by which users may do only what they already know or are familiar with. "In this respect, the internet is the opposite of, let's say, an urban space in which we are consistently forced to see what we do not necessarily want to see." [Groys, 2018]. The inclusiveness of a systematized



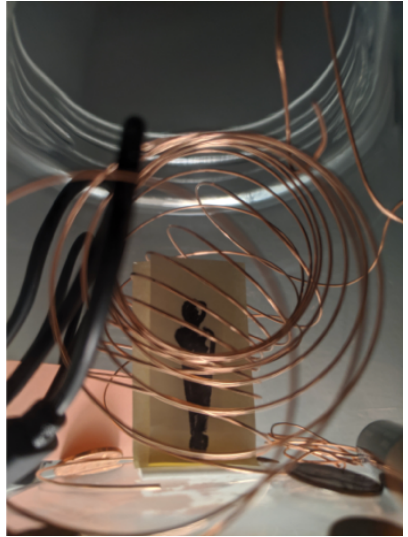
process." [Groys, 2018]. Similarly, "smart homes" will make domiciliary experience increasingly predictive. The devices residing within the space may start responding to what a user does- eats, sleeps or farts. It may become capable of instructing us over and over again to do only the things that we are "supposed" to do.

The non-selective character of the "smart" network is an illusion and its convenience may be delusional. "The internet is an extremely narcissistic medium - a

fabric into a comfort space may result in compromising the liberty to be unpredictable and de-systematized.

"The Smart " is coming to be framed as a system that is proving its existence but is not visible. It is succeeding in building a massively interconnected infrastructure but it is not disclosing its own skeleton. "The internet frames the world for its user, but it does not reveal its own framing" [Groys, 2018]. Then, why are we enticed by an

interconnected system which has no structural design, no set rules, and no policies to protect one's identity? Take for example the Facebook and Cambridge Analytica scandal - "Cambridge Analytica, a political data firm hired by President Trump's 2016 election campaign, gained access to private information on more than 50 million Facebook users. The firm offered tools that could identify the personalities of American voters and influence their behavior." [Granville, The New York Times 2018]. The main motive of this massive scam against user identity was to map personality traits based on what its users had liked on Facebook, and then use that information to target audiences with digital ads while browsing. What if these home systems keep track of my words, sleep patterns and organizational skills? What if they record my eating habits and direct me to order food from expensive restaurants?



"What remains of the world when it is being interpreted for us by machines?" [Welt, 2016]. The cohort of the "smart" is, undoubtedly, bringing about a huge impact on domestic being but the calculated responses of this infrastructure is manipulating actions at the macro and miniscule level.

- For a foundation, as fragile and hazy, what is it that is driving our belief in the future of this "smart home"

We are evolving not just as 'users' but more importantly as 'integrators' of this ecosystem who are playing an integral part in etching 'intelligence' into a domestic space, thus redefining a "smart home". "Most significantly, what we think of as "domestic space" is being completely redefined." [McGuirk, 2015].

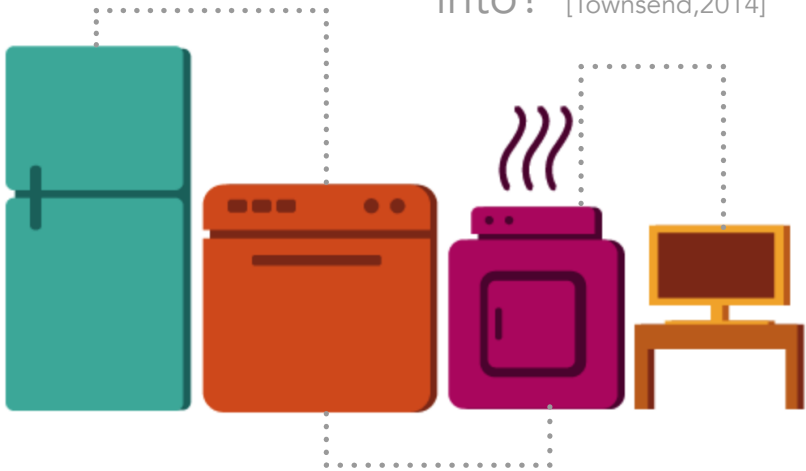


"As we link infrastructure at the continental scale, pervasive computing at the urban scale, and ambient interfaces at the perpetual scale, we will explore how these interweave and how we might build, dwell within, communicate between, and govern our worlds"

- Benjamin Bratton

For the first time since the mid-twentieth century, the idea of a “smart” domestic is systematizing homes to transform into the site of radical change. “And though domestic space appears to fall within the realm of architecture, architects themselves have been almost mute on the implications of such change”[McGuirk, 2015].

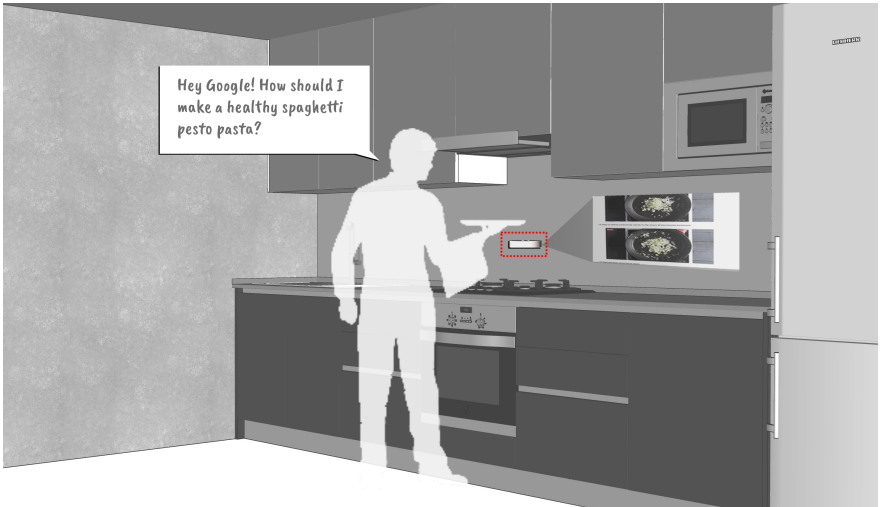
“What if the smart cities of the future are buggy and brittle? What are we getting ourselves into?” [Townsend,2014]



Architects today, are finding it difficult to keep up with the pace at which things one might imagine living his life. “What if the seeds of smart cities’ own destruction are already built into their DNA? I’ve argued that smart cities are a solution to the challenges of 21st-century urbanization, that despite potential pitfalls, the benefits outweigh the risks, especially if we are aggressive about confronting the unintended consequences of our choices. But in reality we’ve only scratched the surface.

The built infrastructure of homes is technocratically rushing towards that void to get “smarter” by the day. “That tired old trope of ‘the house of the future’ has been replaced by what is now called the ‘smart home’. The smart home is the network’s great white hope for ubiquitous connectivity.”[McGuirk, 2015]. It could be viewed as an architectural representation of the internet of things, tied together by walls, doors and windows, and virtually by “the internet” to form a “micro-ecosystem” within a “macro-ecosystem”.

Contextual Framework



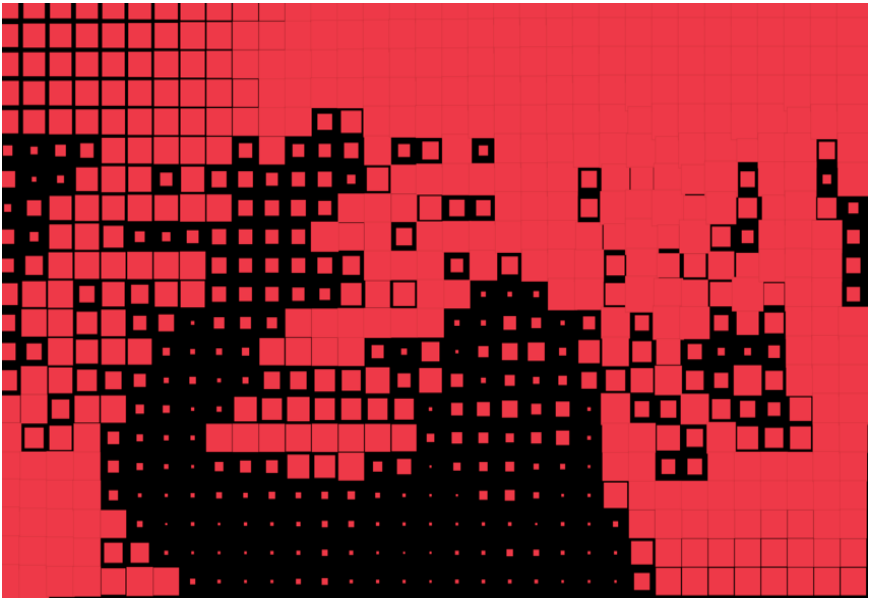
This "intelligence" of tomorrow has reached a level of overpowering the human domestic landscapes. "When dumb, smarter [AI] is safer. Yet when smart, smarter is more dangerous." [Bostrom, SuperIntelligence, 2014]. Spaces are fashioned to adapt to new things, develop and improvise and act on problems and propose viable solutions to it. But by fusing artificial Intelligence with homes, we are carving out a predictive cave of constant vigilance for ourselves.

We keep asking ourselves if AI going to replace human existence. "An AI might not play nice in order that it be allowed to survive and prosper. Instead, the AI might calculate that if it is terminated, the programmers who built it will develop a new and somewhat different AI

architecture, but one that will be given the same utility function. In this case an earlier model of the AI may be indifferent to its own demise knowing that its goals will continue to be pursued in the future." [Bostrom, SuperIntelligence, 2014]. In this progressive era where we are striving to overcome the fear of machines overpowering our existence, why are infusing our lives on in creating a domestic landscape that is a resultant of the uncertainties of "The Smart cohort"? Why are we continually convincing ourselves to engage with the techno-evolutionary epoch?

"Smart" home systems are un-ornamenting human actuality. "It is the expanded capabilities of smart, connected products and the data they generate that are ushering in a new era of

Process + Methodology



The Liar's Light

We are at an early stage for AI to be truly humorous; to be very human-like. But the value of training artificial systems to understand and interact with us in more familiar, intimate ways is vast and is continuously expanding, but we need to do it ethically. The goal with Liar's Light is to create automated and targeted mind-reading technologies that tailor communications to a given individual, by redefining man's feelings as a machine of emotions in the form of colors and pixels.

"The Liar's Light" is a speculative design that attempts to make the composition of everyday life visible- that is in large part invisible and only partially perceived by the one experiencing it. It is the narrative quality of our personal histories, even if only as a visual metaphor.

Link to the project -----

<https://www.swatzoid.com/the-liars-light>



I am any device!

All journeys begin with an unknown end. Each journey's start is a canvass where the protagonist who must undertake the voyage has to paint the picture or write the story of that quest. I am, everything, of humane or inanimate experiments – the beginning and the end. I can mold, sense, improvise and hold, an ocean full of data, images and perhaps control this entire ecosystem. I might be a piece of paper right now, but I AM be every device you hold, scroll over, sit on and interact with, only if you want me to.

"I am any Device" is an exploration of Object Oriented Ontology which investigates the Cohort of the "Smart" by using methodologies and mediums of visual language. Here, a piece of paper is seen as any device that a user interacts with which helped me gain a better understanding of the usability and associations of interconnected "smart" home systems.

Link to the project -----

<https://www.swatzoid.com/deviceion-times>



Remix Culture

Remix culture, sometimes read-write culture, is a society that allows and encourages derivative works by combining or editing existing materials to produce new creative works. This experiment is a humorous and speculative fun aspect associated with my thesis- "Cohort of the Smart" – the invasion of human life by smart home systems. Nick Bostrom in his book – SuperIntelligence writes — "When dumb, smart [AI] is better, but when smart, smarter is dangerous."

Today we're building another world-changing technology that is using machine intelligence to create "smart" ecosystems. We know that the boom of the new "smart" home assistants is affecting the world in profound ways, changing the way the economy works, and have knock-on effects we can't predict. But there's also the risk of a runaway reaction, where a smart home assistant reaches and exceeds human levels of intelligence in a very short span of time.

Link to the project -----

https://www.youtube.com/watch?time_continue=6&v=F6CFeHv3jaY&feature=emb_logo

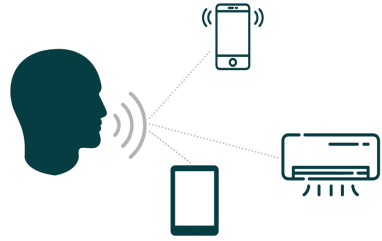
Delimitations

Delimitations

The main intent of my thesis is to investigate the extent to which smart ecosystems have blended into the human fabric, thus making them an essentiality of life. What these smart home systems also succeed in bringing to the table are the reliance and trust in their novel ways of conveying, receiving, processing and responding to human information along with finger tip easy convenience.

My thesis is a story, a story of all the interconnected devices in the domicile environment which may or may not add value to human existence, but surely puts some load onto the energy consumption cycle. Throughout the process, I have experimented with various speculative design exercises to reflect on the positive side of these systems and convey to my audience that the future of smart home systems is definitely on the brighter side. I have also thrown some light on the impact of these emerging technologies on the architectural design of domicile environments and it may or may not challenge the principles of design used by architects worldwide.

With the unprecedented growth in science and technology, still, it is a long road to declare a full comprehensive knowledge of the



same. Like many other hypotheses in the technological world, discoveries and new questions have always raised more questions than answers. The intent of this paper is not to prove anything, but it is more likely to make the users of these systems more aware and mindful of their interactions with their personal devices. The essence of this paper lies in understanding the discoveries and theories associated with the building of a virtual space and realizing its potential in totality.

Contribution Statement

Contribution Statement

We spend a lot of time with “smart” devices and everything we need to get done is turning out to be finger-tip easy. With the evolution of “smart homes” as an idealistic expression of an efficiently controlled environment, the entire information architecture of domestic life is literally just a voice command away. But, this democratic reliance on the era of the “smart” has increasingly begun to raise questions of varying standards. At the same time, technocrats are gaining control of the ecosystem due to which data corporations are increasingly rising to inconceivable power.

From home thermostats to watches that monitor our health, the novelty of traditional devices being “connected” is convincingly controlling our life. High-tech systems are weaving a survival kit for the ecosystem and the group of “smart” has become the new panopticon with data combinations that establish human identity more accurately than a fingerprint. The impact of this “connected” age on urban life in the early twenty-first century are not utopian, but quite intense. Immaterial labor has led to a flexible but precarious existence in which, for the young at least, “permanent nomadism” is not so far from the truth. Objects, meanwhile, are dematerializing into live streams, downloads, e-books, smartphone apps, and the so-called “sharing economy.”



We have witnessed the primacy of software over hardware. [Mcguirk, 2015]

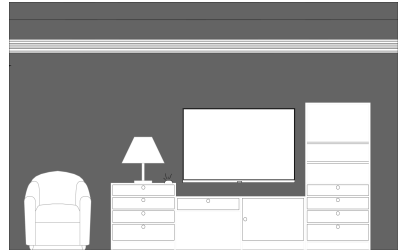
More significantly, what we think of as our “domestic comfort space” has been completely remodelled. The “house of the future” has been replaced by “smart homes”, which is a brick and mortar manifestation of the internet of things - a new domestic space with ubiquitous connectivity, surrounded by absurd devices talking to each other. Integration of artificial intelligence with physical realities is making life convenient and insecure intimidated by the “intelligence” by these autopoietic systems.

With labor-saving household appliances and rising quality of life - the domestic is once again the site of radical change. “Added to this is the fact that the proliferation of smart, connected products will turn the home into a prime data collection node. It is estimated that there will be fifty billion wi-fi-connected devices by 2020, and all of them will collect data that is transmitted to and

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and stored by their manufacturers. In short, the home is becoming a data factory.” [Mcguirk,2015] Though domestic space appears to fall within the realm of architecture, architects themselves have been almost mute on the implications of such change. Technology is continuously rushing to bridge the void of re-imagination of a new way of living that architecture is failing to do. As an effusive cover story in the Harvard Business Review put it recently, “It is the expanded capabilities of smart, connected products and the data they generate that are ushering in a new era of competition.” For better or worse, the smart home is the new New Domestic Landscape.

However, the real question here is, what is the impact of these “connected” physical realities on the architecture of the space? Should architects plan and build in new ways to accommodate this technological surge, or is it just a case of running a few extra wires into the walls? Can this intersection between the design of virtual and physical interfaces allow architects continue to design according to age-old principles of good form and sound proportions? Reyner Banham in his book “The Architecture of the Well-Tempered Environment”, states the effects of successive environmental revolutions, such as electric lighting and



air-conditioning, on built form. In the invention of the suspended ceiling, in the late 1940s, it was required to hide the electrical services once concrete floor slabs had done away with the “dead spaces” in which that messy tangle used to be hidden. Banham gleefully pointed out that the advent of the suspended ceiling, now ubiquitous in commercial buildings the world over, passed without comment in architectural literature. [Mcguirk,2015]

Before revolutionizing architecture, air-conditioning was slow to catch on. It was initially tested in factories and cinemas, where it proved to be the most cost effective. When it finally took off as a domestic revolution, millions and millions of consumers knew exactly why they wanted it. One cannot yet say the same of the “smart home.”

The integral technocratic change here is for humanity to start living with the “smart” in a seamless fashion and not expect any failure from the system. These designed technological developments are raising questions on the need for

Contribution Statement

spatial ramifications on the principles of architectural design. The physical hierarchy of public, semi-private and private space is evidently being overshadowed by the transparency in the "smart home systems." However, it is worth thinking about what a "private space" would mean to architects when it becomes possible to record someone just as easily by intruding into their homes and how the modesty of brick and mortar will be maintained when it is being interpreted for us by machines.

Capstone



"Smart Home" Alone

The effects of the "connected age" have led to the dematerialization of "things" into live streams, downloads, e-books, applications, and the so-called "smart systems." The "cohort of the smart" is an epic power grab by the lords of the network. We are witnessing the primacy of software over hardware. My thesis examines the Invasion of personal spaces by smart home systems and is using design methodologies to visually convey the seamlessness, novelty and proclaimed "privacy" associated with "smart homes" thus leading to an unconditional reliance on these technologies.

Bruce Sterling, in his book "The Epic Struggle of the Internet of Things," argues that the internet of things has nothing to do with the consumer and everything to do with the business interests of the service providers. My target

audience will consist of two categories - the users of the system and the designers who are involved in the "making" of these systems, who also, are a part of the clique who rely on "smart" home systems. I intend to investigate two different perspectives of user -

- 1) Users who are creators, curators, and integrators of the system
- 2) Users who are just using these systems.

Although smart home systems are inscribing convenience in physical forms, this thesis is an effort to deeply investigate the challenges of virtual connectivity at homes and its impact on the architectural connectivity of spaces. I will be presenting the final form of my thesis as a series of sketches in the form of a comic book that will be a result

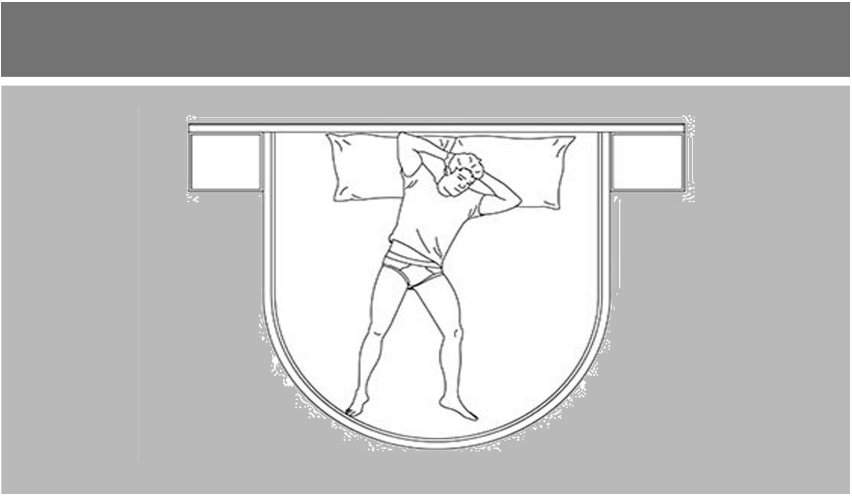
Capstone



of user research, user interviews, and workshops designed to visualize a speculative idea of what a home "smarter" than the present "smart home" would look like and how it would treat its users. It will compare the existence of two micro-ecosystems within an extra intelligent macro techno-ecosystem. I collaborated with some amateur writers, researchers and did some extensive study on AI humour that helped me iterate what life in a "smart home" would look like in 2030. The intention of this story is to convey a strong message, through a humorous act that will record the extent of

It is a speculative demonstration of human life around device autopoiesis leading to the evolution of a tech-realistic umwelt.

I have given a brief introduction of my speculative experimental story in the next segment.



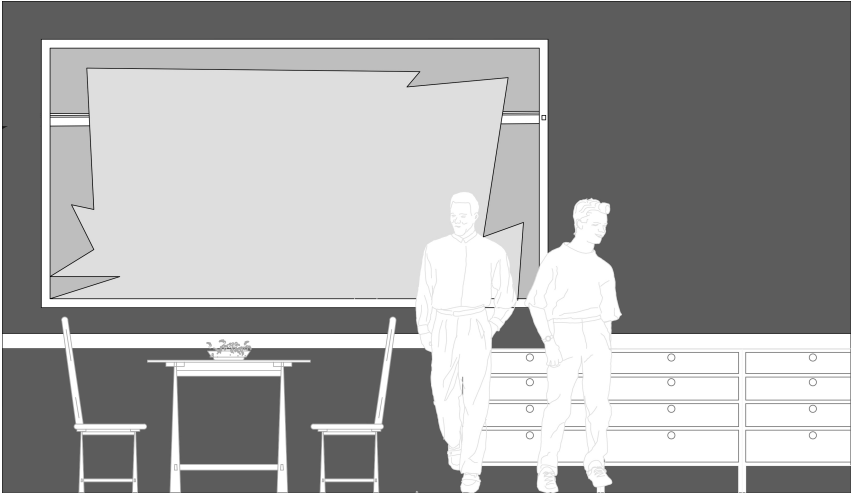
"Smart" Home Alone

I am one of those people who never put off their phones. The effects of the "**connected age**" have worked their magic on me and I have sort of started getting emotionally attached to the devices I own. We are "**smart**" people but only the inanimate "cohort of the smart" making us smart, isn't it?

By cohort of the "**smart**", I mean the group of devices which have pretty much become an integral part of our daily life. This epic power grab by the lords of the network is not only weaving an intangible system of connectivity, convenience, and comfort in our personal spaces but are also molding the way we function in domicile environments.

Speaking of domicile environments, how many of you own a "smart home system?"

Capstone



Well, I do and my day is pretty much being recorded, by my google assistant. This thesis is an attempt to investigate the promises of the techno-evolutionary assistants and here I am envisioning a fun future of how deep have these 'smart' home concepts infiltrated into the human systems.

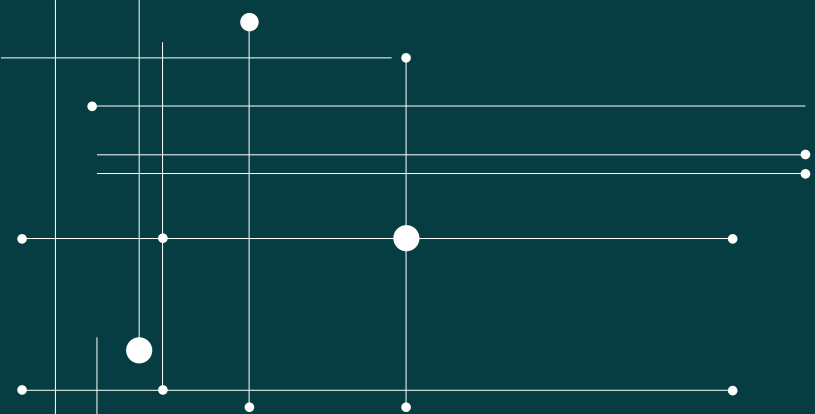
Do not worry folks. This appearance of reality is purely an illusion or a trick of the mind!

Link to the project -----

https://issuu.com/swati.balasubramanian/docs/capstone_project-storyboard

Further Directions

Further Directions



"Cohort of the smart" is an attempt to understand the extent of interruption our daily devices have caused after the rise of smarter and finger tip easy advancements. But the rate at which smart ecosystems have accommodated themselves into the human ecosystem is immeasurable. This thesis currently focuses on how design methodologies can be used to investigate different aspects of artificial intelligence and smart living.

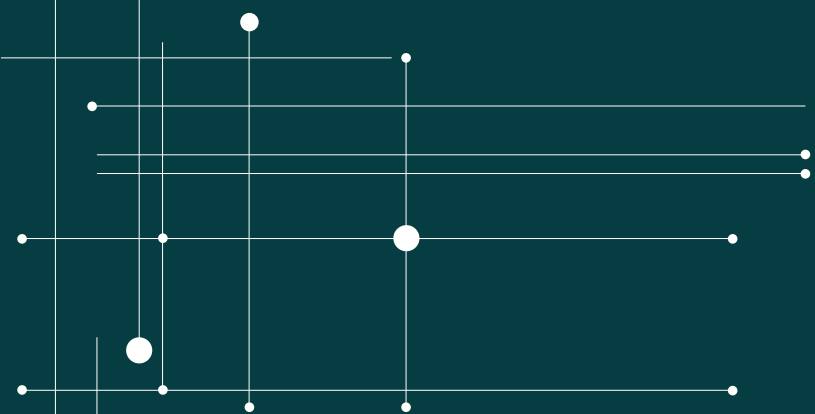
But there could be innumerable attempts and methodologies that can be creatively incorporated to investigate the subject. In this study, I have focussed on the users of the systems, thus stating that smart devices are all designed and curated to be user centric. Although, it is oblivious to say that there are other demographics in the system who are also being affected by the co-existence of these virtual systems.

There are architects, interior designers, engineers, technologists, etc. who are not only users but also designers of the system who are being widely affected by the novelty associated with these systems and their extensive application into domicile environments. The arguments that I have raised and the questions that I have tried to answer through a series of design experiments along the way have given rise to serious concerns one can investigate using other methodologies.

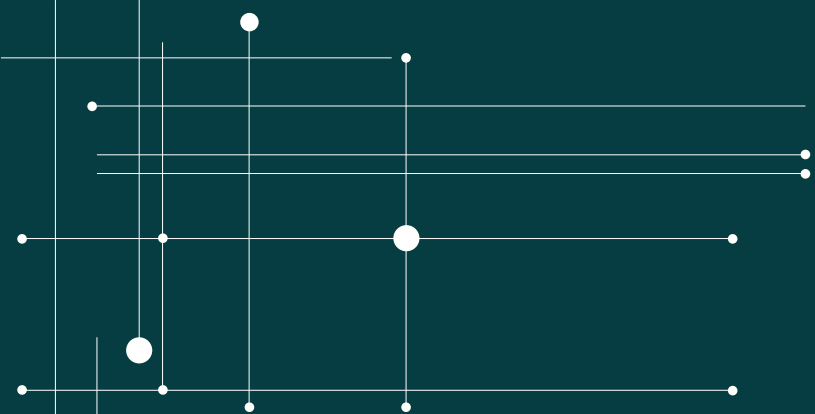
Since my thesis covers the visual and UX strategy of the evolution of smart home systems in domicile life, there is a wider scope for a plethora of disciplines to emerge and extend my research. This subject could be an extension to many current and existing fields of studies such as Tech-friendly architecture, a connecting bridge to the design of Artificial Intelligence and Architecture.

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Acknowledgements

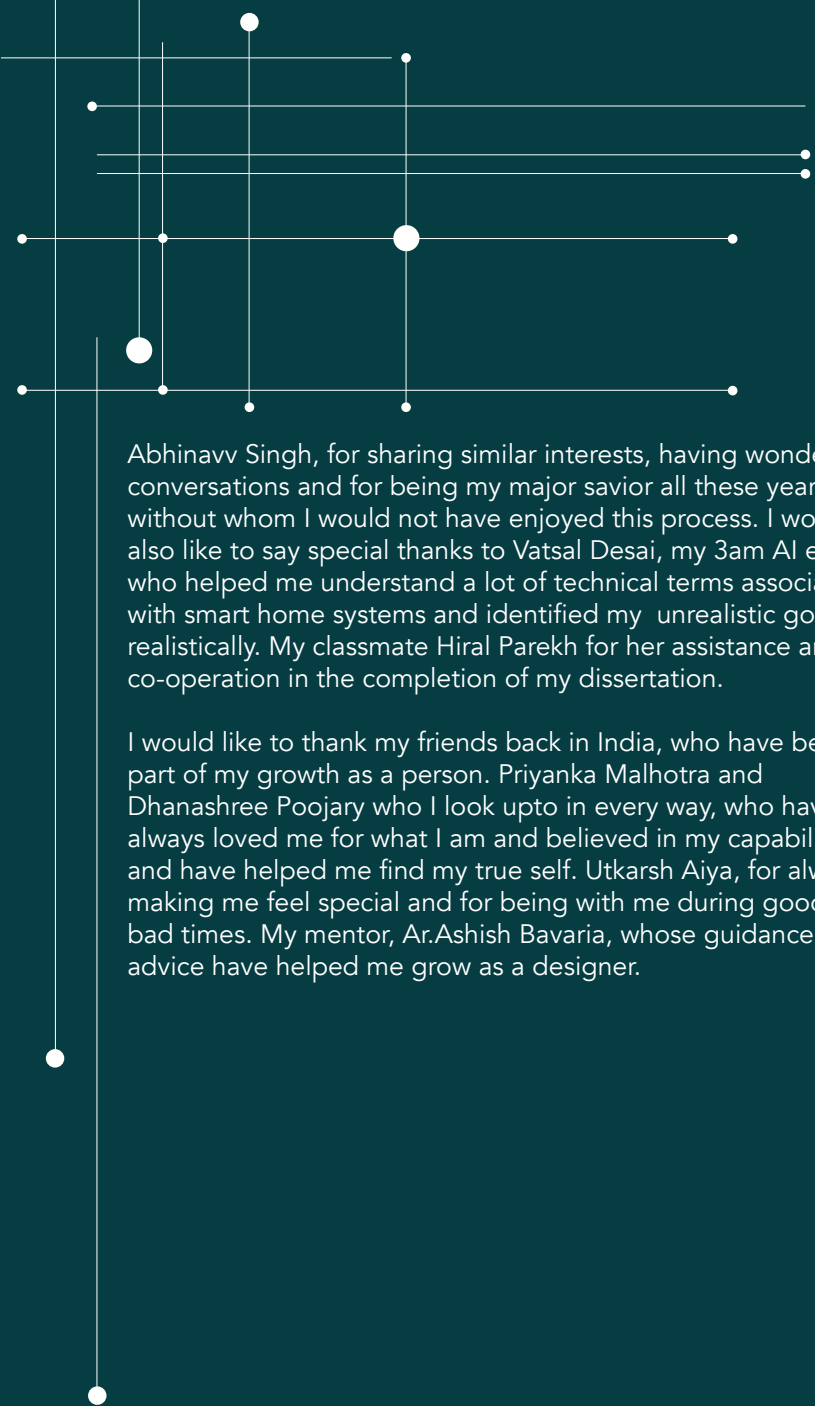


This book is based on the research that broadly started off with learning about the technology and the emerging world of artificial intelligence eventually evolving into a detailed dissertation emphasizing on intelligent interconnected device systems in domicile environments which we now refer to as smart home assistants or intelligent personal assistants. This research would not have panned its way out if it weren't for these people. First of all, I would like to thank my parents, for putting up with me during the entire span of my life and helping me in whatsoever manner possible.



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