How To Buy a Digital Twin

Inbound Certified

Mike Solomon

The bearer of this certificate is hereby deemed
capable and skilled in the methodology of inbound.
They have been tested on best practices and are capable
of applying them to develop a flywheel business model that
attracts, engages, and delights prospects and customers.

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HubSpot Academy

CEO Brian Halligan

Janek Polopovič had a way of making offhand remarks, directed at no one in particular, that would lodge themselves so firmly in the hypothalamus of the receiver that they grew tentacles into other thoughts, injecting a sort of cognitive venom that brought all other musings, daydreaming, scheming and planning back to his sticky apothegms. I was the benefactor of one of these pithy comments nine days ago at FutureCon Bucarest, having overheard him mutter in his perfunctory style: "After your first million, if you haven't already, get the HubSpot certification on inbound marketing." What made this missive particularly effective is that it was pronounced just hours before his quietus, a freak accident that transpired during a "Lightning

Talk" in the conference's Mozilla Lounge where he unsuccessfully (or too successfully) demonstrated how Lego Mindstorms, when daisy-chained, could redistribute voltage to individual units in need of extra power or, tragically, to their assembler when accidentally grounded. After expunging my grief by discussing his untimely passing with those that knew him best (or rather those that knew *of* him, as he had few friends, and to be honest I was positively repulsed by Janek before he died, but tragic circumstances have a way of altering one's memory of the deceased, especially those whose existence one must remember a certain way in order to justify one's own life choices), I became consumed by the irrational thought that his death, though entirely unplanned, was the product of a certain form of existential insouciance - the same shared by Moscovite cab drivers and Amazonian loggers - that communicates "my current actions show how highly I value of my future prospects."

I don't mean to insinuate that Janek's life was worthless - quite the opposite. After having enchanted the Mozilla Lightning Talk circuit with his signature robots and semiautonomous vehicles, he had managed to be invited to his first conference as a speaker and, by the time we last met, was keynoting no less than ten conferences from Odessa to Thesolaniki, pontificating on topics as diverse as "Business Ethics in the Age of AI" and "Monkey-Patching Rust Using Macros." He was arguably living the best moment of his life, enjoying a valedictory lap on the sommet of his personal apogee, full of plans for a heteroclite if not electrifying future before all of it came to an abrupt end. It is for this reason that his defunctness is all the more pertinent, as if it were meant to communicate: "In spite of all that lies ahead of me, none of it will ever produce a commensurate sense of satisfaction to the one I've gleaned from recommending the HubSpot Inbound Certification course to you. Take it. Assimilate it. Use it to build something *wonderful*."

Janek's proclamation, and his subsequent disappearance, could not have intervened at a more opportune time for my fledgling Helsinki-based scale-up Meeshkan. The word "Meeshkan", which is often translated as "tabernacle" when coming from Biblical Hebrew and "dwelling" when coming from Aramaic, was the name we sardonically gave to the wilderness yeshiva I

attended in the most desolate, remote part of central New Jersey - a place where my environmentally-conscious, Halacha-obeying, upper-class Jewish parents would feign raising their six children in a state of nature while being close enough to Jersey City to commute five days a week and participate in, with no sense of irony or remorse, the rapacious New Jersey real estate market that indiscriminately encroached upon the last remaining Edens of the "Garden State." Since then, I have used the word Meeshkan for more or less every rental apartment, storage unit, choral ensemble, online chatroom and business venture I have created, mostly because it means nothing to those who don't know of its mystical origins while connoting everything and anything to those who do. This particular scale-up had recently seen a spate of good fortune, having been listed as one of Helsinki's hottest startups in Wired magazine due to the author having confused us with Miiskin, a Copenhagen-based startup on a mission to cure skin cancer. However, for reasons that I will soon explain, Meeshkan had stalled at a precipitous time during its preprogrammed trajectory towards becoming the world's leading manufacturer of Digital Twins.

The HubSpot Inbound Certification proved to be the breath of fresh air we needed to harmonize messaging across our multiple business units, all of which had developed tribalistic, competing mythologies about what a digital twin *is* and how to effectively sell it. On top of this aubaine, Janek's untimely demise meant that he could not discover the utility of his admonishment, which would have assuredly been followed by a series of increasingly-angry letters from himself, and eventually from his lawyers, claiming a percentage ownership in my venture for his "free" advice, a ploy he had previously used with me while conveniently forgetting that he was also a purveyor of abysmally bad counsel, having once exhorted, during a period when I was particularly fragile and impressionable, that it would be wise to overstay a tourist visa in Finland so that my reentering the United States would not trigger a random TSA screening (he apparently had helped write the code behind this Orwellian system, so he would know) that would have turned up several thinly-concealed, generously endowed foreign bank accounts in violation of multiple international sanctions. While I thought this ruse was particularly cunning at the time, it has proven to be the worst decision of my otherwise pristine

and unblemished life, as I have been forced to make due in a socialist dystopia where the taxation is so high that the only reasonable course of action is to remain in a state of catatonic lethargy, ensuring one goes unnoticed and, advantageously, helping one preserve energy during the bleak, sunless winter.
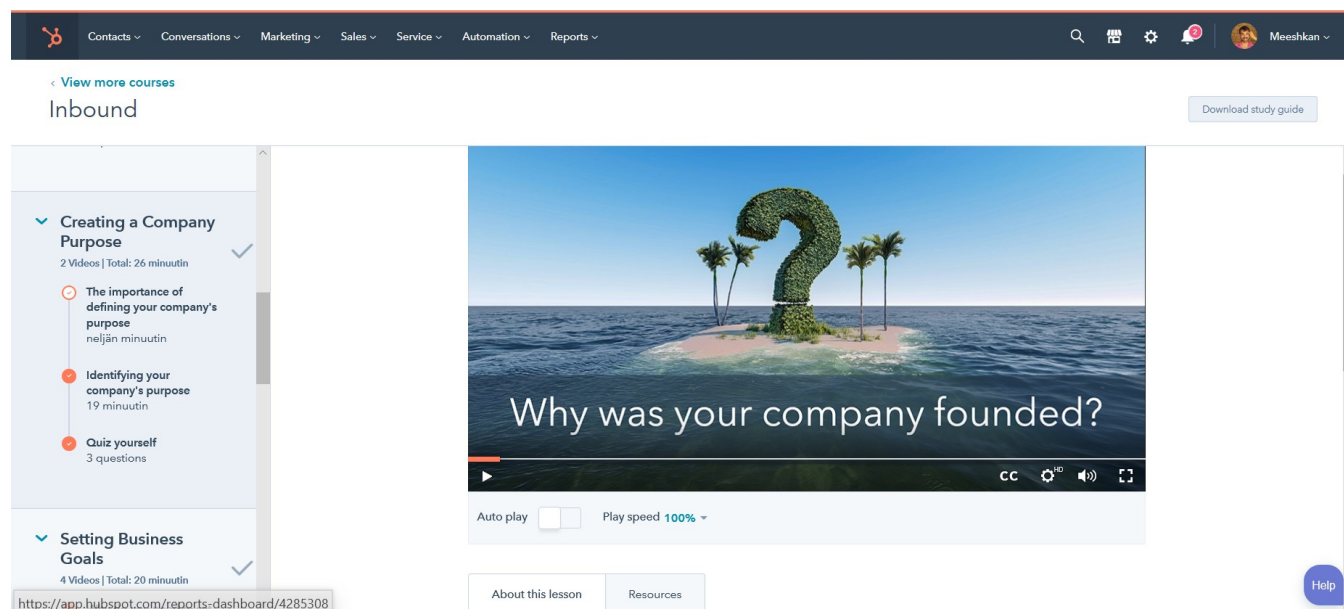
Inbound, an all-encompassing philosophy that transcends marketing and touches upon various departments that I didn't even know existed at until I took the HubSpot course, has reoriented my thinking about the fundamentals of running a business, and not necessarily for the better. Like all quantum leaps in one's intellectual evolution, fresh knowledge is accompanied by a sense of shame and embarrassment at one's prior actions: a desire to hide, by any means necessary, the multiple vicissitudes of one's former self that have been inextirpably littered all over the internet, etched into people's minds like a *Bolero* that, while politely softening as you address their skeptical incantations with new arguments and deep reserves of goodwill, only gets louder the minute you hang up the phone and your cold-called prospect goes back to the humdrum of her or his routine, where your previous failures form a comfortable fixture of their worldview that, like a tectonic plate, can only be moved by a seismic mental cataclysm that would not necessarily work in your favor. Through HubSpot's ten-or-so-video series (I can no longer access my account to verify how many videos there were, more on this later), they teach you not how to **sell** your product, but rather how to educate people to **buy** it. This is the pivotal step we were missing: the glass ceiling against which our collective heads would bump without knowing what cruel force was impeding us from inhabiting the third-class windowless cabin in the Pantheon of scale-ups that we, after so much heartbreak, rightfully deserved.

It is my hope that, after having read this article, you will know *how* to buy a digital twin, *what* a digital twin is, and most importantly, *why* you need one. If after reading it these things are not clear, then I not only will have failed my HubSpot Certification Final Project (in conjunction with which this document was originally produced), but also I will have failed in my role as the CEO and majority shareholder of Meeshkan. I will tender my resignation to the board and forfeit my common stock as a Bad Leaver, giving my remaining family members perilously few reasons to

continue supporting me, as they have put all their savings into this venture with no liquidation preferences and unsavory anti-dilution coefficients progressively ratcheted up right on through our Series J round (11 rounds including our pre-seed and seed rounds, and of course we skipped Series I, like one skips "I" when adding rehearsal numbers to musical scores, so as not to confuse people with the Roman Numeral or first-person pronoun). This is how high the stakes are for me personally, so I implore you to read this short, informative brochure with the stoic, solemn fortitude that you would accord to the gravest, most saturnine documents that you have no choice but to fully digest and act upon in spite of their arcane use of language and Baroque form.

Our Purpose

> *Why was your company founded? What mission was it created to fulfill? It's an important thing to know, especially if you want to implement an inbound strategy.* - Kyle Jepson, HubSpot Inbound Certification


My eyes moistened as I heard HubSpot Academy Instructor Kyle Jepson, in a prescient and empathetic tone, recount that "Many companies lose sight of their mission once they reach a

certain level of success." Oh, how we have lost our way at Meeshkan - cartographers of the modern business landscape have yet to throw beacons, even the irretrievable sort, into the forsaken outposts of the economy's netherregions that our company reluctantly occupies. We have gone so far adrift that we've developed occultist, cannibalistic rites (this is all figurative, mind you, but the reality is even more disturbing than the savage imagery I use to present it askance) in the absence of any meaningful contact with other commercial entities. What a shame, as Professor Jepson reports that "Inbound is all about making your company easy to find for the people that need your help." Certainly, no one was finding us in Rhûn, perhaps because (again, according to Professor Jepson), "before you can do that, you need to understand the job your company was founded to do."

(A side note - I apologize for the embarrassingly small number of quotable quotes from the HubSpot Inbound Certification as well as the limited number of screenshots I can provide in this article. Like Aristotle's texts, they were made as a collection of disorganized notes and never meant for publication. As soon as my HubSpot account is reactivated, I intend to complement this with a copious collection of endnotes.)

While I have all but given up on my team's ability to understand the forces behind our inception and how these forces, combined with several strategic pivots, have uniquely positioned us to sell you the Digital Twin that you are about to buy, I trust that you, kind reader, will appreciate this brief exposition, as it may also reveal a thing or two about your own proclivities. After all, it is *you* who are on the cusp of purchasing a Digital Twin from *us*, not the other way around, and it must be for a reason.
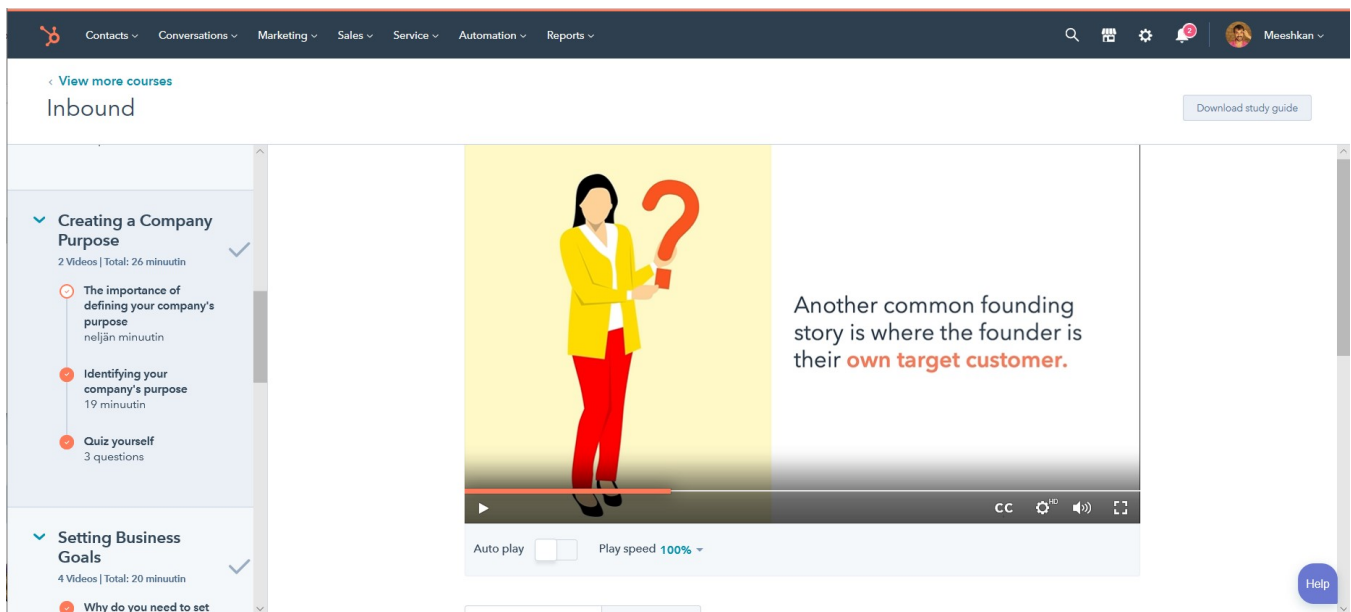
Like several other business ventures I have undertaken over the past eight years, Meeshkan started in 2017 as a way for me to preserve my legal immigrant status in Finland in the absence of any employment, spouse, child, pending child, or prison sentence that would otherwise have let me stay in this bucolic and dark paradise. During the early days of Meeshkan, we could not have been more HubSpotian, as I made this founding story a central feature of our daily routine. When employees entered and left the parking lot that doubled as our office, they passed by a row of refurbished iPod Touchs that flashed, in psychologically-gripping hues, the *raison d'être* of our Limited Liability Company and, using the iPod's camera as well as Apple's first-wave facial recognition technology, identified them and displayed their unique contribution (or their colleague's contribution if the algorithm was off, which happened often) to the company's greater good. Naturally, this translated to the vision of the company (a United States where I could freely enter without fear of being accosted by process servers), the mission (expunging my debt to the IRS, including all penalty interest), and the purpose (we had none, as quite frankly I never understood what a purpose was or why it mattered), all of which were regularly communicated to the employees via, amongst other things, an old PA system I had recuperated at a school foreclosure over which my husky baritone voice titillated their ears at fifteen minute intervals. Our assorted company mantras were the phrases employees recited before and after any meal or snack, the first thing they saw during their onboarding, and the

last thing I had them proclaim at their exit interview, overcome with heartfelt nostalgia about all those good times together and how they hesitated deeply before moving onto another opportunity but hey you were a great boss and I'm sure you're already swimming in a pool qualified candidates to replace and even supersede me.
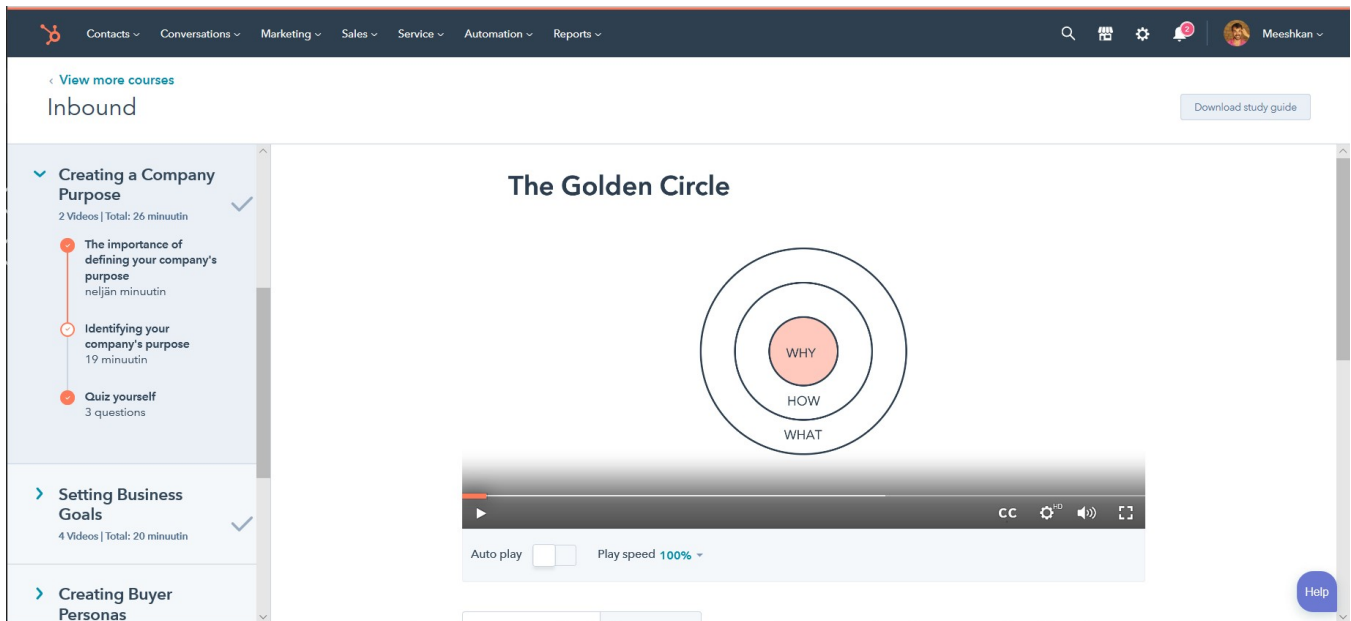
In the Simon Sinek circumferential taxonomy of one-word questions that, when asked to the right people, produce all the answers one needs to run a business, we had nailed the *why* from day one (most companies never even get there) but we were failing to articulate a compelling *how*, and *what* was relegated to second base - the type of question that employees whispered amongst themselves at parties ("*what* do we actually do?" "*what* is going on here?") until a sea of whispers drowned out my placid, understated company mantras and I was forced, against my will and much to my chagrin, to *do* something. As I accurately predicted at the time, this had immediate and devastating consequences for the company. The slightest hint of activity set the Finnish social services aflutter, swiftly suspending my unemployment benefits, which naturally I had used to pay the salaries, which meant that I had no more team and no future for my beloved Meeshkan. For the first time, and certainly with no thanks to Simon Sinek, I found myself asking a different flavor of *why*? *Why* did this happen to me? *Why* did I lead my cash cow to slaughter? And with no employees left to answer me, I did the only sensible thing an

entrepreneur could do in that situation. As I had become somewhat of a local celebrity due to the amazing, unprecedented inactivity of my flourishing startup, other entrepreneurs began soliciting advice from me and sending me their business plans for my benediction, perhaps in hopes that I would invest some of my unemployment check in their venture. I immediately took to figuring out which one of these plans I could personally implement in as little time and with as few resources as possible, and I fell upon a rather cunning one devised by an anonymous group of entrepreneurial and very skilled engineers.

I do not mean to make it sound as if I devised the inner workings of this business plan right away, as it was hidden behind several levels of indirection and was really one of the most brilliant solicitations I had received during my sixteen months at the healm of Meeshkan. It was communicated as a brief, informal and amicable e-mail from Nordeea Bank, replete with an inspiring banner of people in suits shaking hands, several platitudes about trust, a clear call to action and various small links on the bottom, including a privacy policy and an unsubscribe feature. The person or persons behind this had created a *chef d'œuvre du genre*, and when I clicked on their irresistible blue button perfectly placed in a CSS flexbox, I was taken to an equally elegant Log In screen on the now-defunct nordeea.com. Wanting to see how far down the rabbit hole I could go, and using one of my step-daughters' banking credentials so as to appear more innocuous, I navigated through the various authentication steps that were presented to me, entering a credit card number for verification, a second credit card number for verification in case the first one did not work (this was even more meticulous than the real Nordea - a telltale sign of imposters), and even asking me to sign in to the veritable nordea.com (which they claimed was an "alternative, legacy portal") to wire funds to Nordeea (the impending, 2.0 version of Nordea with sky-high returns on checking accounts, even those with a negative balance). Of course, phishing schemes have their junior developers and sloppy job hoppers as well, and if you dig hard enough, you will usually find on some corner of their fake site a real, unobfuscated, JavaScript file with beautiful ES6 syntax and helpful comments containing the business logic of their whole operation, begging to be pilfered and reused for

one's own legitimate business goals. So I employed the most versatile tool in a technophile's digital arsenal - Control/Option V → Control/Option C - to acquire our first stack.

In short, the phishers had been outphished, and armed with my new codebase, I asked myself the question: what company would pay to have their website, servers, or databases copied with scrupulous precision, and how could this technology be used outside of a legally dubious context? It is at this point that I came up with the concept a Digital Twin: a completely ethical, clean, safe, and wholly-owned mock version of a digital service that companies would buy for reasons I hadn't completely figured out yet. Like plant-based human meat substitutes, the idea was both Kosher and not Kosher, but mostly Kosher. I later realized that the term Digital Twin has existed for over fifty years, but I'm sure the person who originally coined it was a generous soul that wanted others to feel the same sense of delight and discovery that she or he felt when first conjoining the two words. It is with the same sense of generosity, albeit to Meeshkan's shareholders, that I declared all prior manifestations of Digital Twin plagiarism by anticipation and rebranded Meeshkan, with no discernable trademark violations after an "I'm Feeling Lucky" Google search, as a global leader in the Digital Twin industry.

The Pre-Inbound Days

The sound and fury of our new strategic orientation was met with a form of sanguine, organic indifference that money can't buy - the type that is 100% signal, 0% noise and provides a useful baseline on top of which one can build basically anything. As you probably have surmised by now, at this stage we did not know anything about HubSpot, inbound, outbound, campaigns, events, flyers, or landing pages, and had only recently mastered the basics of person-to-person communication using a cheat sheet that translated well-understood concepts like `const`, `int`, `while`, `goto` and `import` into homologs consumable by carbon-based entities like trust, value, expertise, fidelity and money.

Our prolix and venturesome e-mail campaigns, competing with Nigerian princes, Viagra ads and Shark Tank's newest winners, never quite made it past prospective clients' Bayesian filters even though we added thoughtful touches in the form of novel protocols, events, and newsletters. For example, we drafted a Helsinki Standard for Believable Fakeness, announced the Vantaa Conference for Real-Looking Fake Things (someone actually showed up to this, which forced us to scramble to stay one step ahead of the attendee in creating two day's worth of extemporaneous presentations, several side events and a kickin' afterparty for which we had to hire extras), and started a newsletter called the Espoo Weekly Roundup of Counterfeit Digital Assets. We even went so far as to create an SLA that, if you read between the lines (which no one ever did - they didn't even read the lines) would *always* enrich the client because of a steep contractual penalty that, combined with the high probability of failure (we promised 99.99999999% uptime), guaranteed that the client would make money just by waiting for our servers to go down once a year. Granted, this money was in the form of Meeshkan credit that could be spent on a future Digital Twin, a business model I learned from Charles Ponzi and the only one I had ever employed with modest success in previous ventures. Even dangling free entry to Helsinki's beautiful Sibelius Park in front of potential buyers did not convert them from "indifferent" to "passively disinterested", the second stage of our sales pipeline.

Having tried every sensible and legal alternative to retrofit our business around the Digital Twin concept, it dawned on me that the one thing we were missing was a succinct, repeatable mantra that served as a mission, vision and purpose rolled into one - something so insipidly memorable that it was not so much transmitted as it was revealed, its abstract syntax and semiotic content having shipped with our DNA at birth, waiting eagerly to be actualized by a carrier language.

But what would this maxim be? In times when desperation forces me to wax poetic, my memory often wanders to a certain Taekwando teacher from my idyllic, uneventful childhood in the only square kilometer of New Jersey that was untouched by chemical plants and radioactive waste. Master Kim was a sous-chef that had wooed a USO nurse during the Korean

war and whose application for refugee status was still pending forty years later when my parents enrolled me in his five-week Tiger Warrior course that was, as I found out later, a weight loss program for morbidly obese kids where the actual substance of Taekwando had been replaced by activities like side-to-side rocking and other things that glutenous ten year olds could accomplish without hurting *or* feeling bad about themselves. He was known for, amongst other things, shamelessly repurposing the most anodyne if not culturally relevant soundbites of the era to motivate his portly minions, his tongue planted squarely in his cheek while enduring much eye-rolling and groaning, transmogrifying NSYNC, Backstreet Boys and Thr Spice Girls into memorable jingles that reminded you to eat "The Right Stuff", say "Bye Bye Bye" to your enemy, and "If you wanna be a blackbelt, You gotta fight with my friends", etc. Unearthing Mr. Kim's propensity for camp from the mucky sediment of psychological repression, and not without a certain degree of pity and self-loathing for the series of personal misfortunes that resulted in this unenviable situation, I unveiled our new catchphrase to the winces of our two remaining unpaid interns: "We fake it while you make it." I had stolen one of startupdom's sacred credos and debased it by printing it on our business cards, refrigerator magnets and hot pads. I would only later find out, when we set up Google Analytics, that this slogan actually had a net-neutral and perhaps slightly negative effect on our ability to attract and fidelize a clientele, but at the time I genuinely thought it was better than nothing. At the very least, it ensnared our first customer.
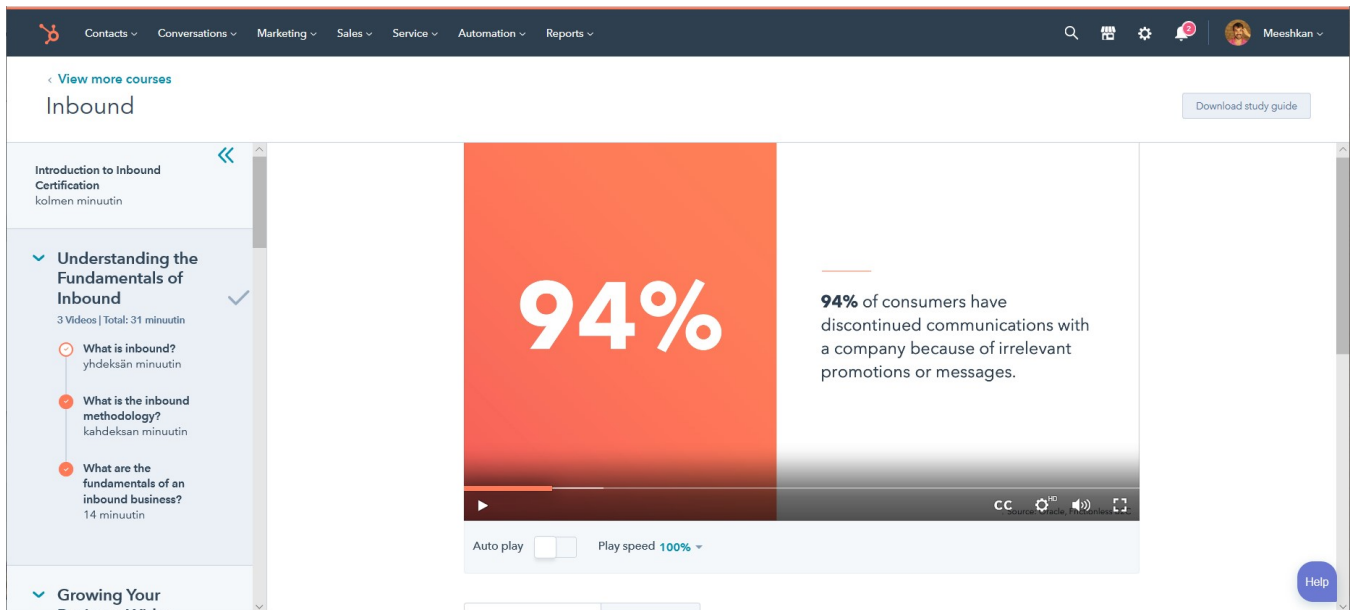
The client's call was not immediate. With nothing left to our name except a cookie-based retargeted ad brandishing our freshly minted slogan, sensitive to the keywords "reverse engineering", "phishing" and "get Tinder passwords", we slowly burned our dwindling reserves as we waited for the first client to find us or the enforcement agency to shut us down. We were so bored that, one month when we had run out of ideas that could ostensibly move the business forward, we reverse-engineered an uncannily faithful facsimile of Facebook, replete with interweaving timelines and a realistic settings page to facilitate the mock realization of our most primal impulses, like deleting fake friends and blackmailing virtual ex-partners. Into this placid, deflated state of resignation came a short, disoriented, sobbing SOS from a disaffected investor at a preeminent London-based startup, so grotesquely resplendent that its resonance convulsed the atmosphere, its strident peel piercing the innermost circles of Valhalla where Janek Polopovič now smirks as we occupy ourselves with mundane affairs of illusory importance.

The unexpected client, who due to our NDA I can only call K, is one of the hundreds of companies that spontaneously generated seemingly overnight to prey upon those who were too late or too lazy to deal with Europe's draconian 2015 banking directives, shoveling money from pile alpha to pile omega and charging clients a small fraction of each transaction. This fee,

when added up across all accounts, resulted in an annual revenue of roughly EUR 50,000 for a company with 80 employees, of which 70 were engineers, of which 61 were recruited from Google by offering an unprecedented benefit package including the freedom to work on *anything* at anytime (which, contrary to popular belief, actually lowers a company's productivity), roaming chefs and baristas, a guaranteed 20% margin on top of the highest salary in London (Google reportedly raised salaries by 50% after becoming aware of this just to increase K's burn, and for no other apparent reason than for their own amusement), one-on-one mentorship with a celebrity of their choice, conjugal visits, four-hour workdays, 3D-printed sculptures of themself wearing company swag, and a signing bonus irrespective of if they took the job or not. Needless to say, this cost more than their EUR 50,000 annual revenue, and London's most preeminent venture capital firms were picking up the check, hoping (praying (demanding (exacting))) that K would find a way for the volume of transactions to increase while the current customer acquisition cost, which was roughly 500 euros per customer (the associated marketing campaign, called "Here's 500 Euros", had mitigated success but did bring in several initial clients), descended to an average of zero. It was into this environment that we were summoned, against the CEO's wishes, to (I quote an investor) "sort out this rancid stack of shit before it all fucking goes to fuck."

The entire Meeshkan team boarded a flight *in urgencia* from Helsinki to London to let loose our callow algorithms on their stack, which was a combination of Elixir, JPython, Objective C, Haskell, Cobal, Pascal, and Coq, the latter of which was apparently used to autogenerate a version 0.0.1 of the stack in OCaml but had been progressively repurposed by the engineers to solve a series of fascinating mathematical conundra, none of which had anything to do with the business and all of which resulted in a company-wide slowdown, especially the days before and after the Fields Medal was granted.

The stack itself was not so intimidating (as we had basically no functional technology, we would not have been able to do anything anyway, so the complexity gave us an enviable degree of plausible deniability), but we were mildly concerned about the fact that no one

seemed to know why the company had called us in the first place. General answers like "to fix this mess" were somewhat helpful, but we did not understand the precise reason until a Junior Web Developer, on his way out to rejoin Google (who themselves had recently authorized conjugal visits), confided in us "we've literally tried everyone else. We don't know what you do, but do something - anything."

We had our work cut out for us. One of our engineers had recently begun Andrew Ng's five-part Coursera Deep Learning Certification (which seemed interminably boring compared to the HubSpot Certification, but as I later learned had a much nicer certificate featuring a watermark of Alan Turing and hand-embossed Moorish arabesques) and, in doing so, had learned about a revolutionary new technique called machine learning that, she suggested, could potentially help us, if for no other reason that it created the illusion of activity. I must admit that I still do not fully understand how machine learning actually works, but essentially you feed petabytes of data to a collection of randomly generated linear equations that subtly change over time until the output says something intelligent about the input. Thankfully, this was all I needed to understand: our client was ingesting and spewing a metric ton of data every second to facilitate the smooth transfer of funds between millions of European buyers, sellers and money launderers, and apparently, all we had to do was feed the data to a swarm of GPUs and ask these compute units (nicely and with gentle coaxing) to output a piece of software that behaved exactly like whatever was responsible for generating all this data, with all of its imperfections, idiosyncrasies, and occasional gross misrepresentations of transferred sums - the kind that would make Rich Uncle Pennybags click his heels midair as he passed Go on his way to blow yet another two-hundred-dollar windfall at yet another acrylic red hotel.

The genius of this approach was that, instead of obliterating K's stack and starting anew, we created a facsimile of it that could be initialized to arbitrary states of chaos and misinformation in order to run simulations of what happened when, say, an elderly couple's pension was inexplicably dissimulated into a horde of penny stocks by K's asset management algorithm and the octogenarians risked being investigated for insider trading. While K could not backtrack

from their Byzantine Labyrinth of interconnected, tightly-coupled, single-point-of-failure services, they could use our reverse-engineered digital twin to simulate with ease the various doomsday scenarios they faced on an hourly basis, preemptively nipping the majority of them in the proverbial bud and even distributing these digital twins to clients for rapid testing and prototyping whilst relabeling the most fragile parts of their service as "features", with ample documentation on how their clients should, say, leverage cutting-edge, competition-hammering innovations like "Sudden Disappearance of Funds" and "Forced Early Retirement" in their own offerings.

Although it was the improvised result of two days of ambling, rebarbative coding, we had succeeded in building a machine learning pipeline that rivaled the one used by Baidu to identify, in a matter of milliseconds, any Chinese citizen anywhere in the world using low-resolution satellites. A team of helpful wage workers hired on Fiverr created limited liability companies at a rate of thirty or so per hour, registering them for complementary startup compute credits on AWS, GCP, Azure, Digital Ocean, FloydHub, PaperSpace, Valohai, Ethereum Classic, Sonm, Deep Brain Chain, Golem, The New York Public Library, Heroku, Now, Up, This, and Foo and then declaring insolvency hours later after we had maxed out our free GPU allocation. In our experimental zeal, as the engineers at K looked on with bemusement, we pushed the algorithms incrementally closer to reverse engineering all sorts of systems, from classic Windows Solitaire to Quicken eBooks to WeChat. One of us even managed to reverse engineer the code embedded in the little known pre-Sputnuk Soviet orbiter Nadezdah (Hope) that infamously blew up in the outer atmosphere with its two guinea pig passengers extinguishing in a relatively painless death due to the magnitude of the explosion, which apparently flattened entire regions of Siberia and was reclassified as an asteroid by the People's Meteorological Institute so as not to impede progress and raise the specter of doubt, especially among the twenty six marsupial cosmonauts registered for future flight and eagerly awaiting the return of their bygone companions. Most importantly, we had managed to produce a nearly identical version of our client's stack - a *bona fide Digital Twin*, that acted like K's backend systems down to the smallest detail. Granted, given the aleatoric and

unpredictable nature of their service, any system that produced Gaussian noise in response to any input could have been regarded as statistically identical to what they or we had made, but the important part is that we *finished* it, far surpassing the half-baked effort of K's engineers to make and maintain moldy staging environments that had drifted so far from production that bookies were taking bets on the number of man-hours it would take to align the two, ranging from several years to several lifetimes. Armed with this new tool, K's bugs were halved overnight, their engineering team became redundant and was summarily decimated, the CEO reluctantly hailed our efforts as a success, and our small band of Meeshkanites was energized if not awestruck by the fact that we had actually provided value to someone without the faintest clue of what we had actually done. It's the same sensation one feels when finishing a jigsaw puzzle of a Mark Rothko painting. This is, of course, the case of all machine learning, the black box that currently underpins the majority of mission-critical, life-or-death systems used for surgeries, wartime decisions and piloting commercial airliners. For those of you who find this problematic, you can take comfort in the fact that the human brain is even *less* well understood and *less* predictable than machine learning, and we have been trusting our lives and livelihoods to it for centuries without offering any compelling alternative.

In hindsight, the solution was staring us right in the kisser, and yet it took multiple coinciding catastrophes to produce a solution so divinely inspired, elegantly simple, imminently scalable, completely patentable (so as not to lose any time, we booked our patent lawyer a one-way ticket on a cargo flight to London and locked him in a room in the airport with reams of printed code, coffee and a revolutionary portable urinal made, according to the vendor, for exactly this type of situation), and, most importantly, phenomenally investible. The latter point should not be taken lightly - a short, nonchalant and enigmatic post on LinkedIn showing K's engineering team making their boxes as our software ran in the background while the management team sipped Mojitos on a Wednesday morning was enough to garner not one, not two, but thirteen-and-a-half term sheets (the half because we ran out of fax paper - yes, people still do fax things when they want you to notice them) with valuations that made SoftBank seem like a miserly imp. Even more substantially, most of them promised generous

reorganizations of the cap table, redistributing copious amounts of equity to the founding team (me) via various corrective, tax-free measures that, they promised, would somehow placate our angel investors and be a win-win-win-win-win (me, VCs, angels, team, me).

The desperate solicitations and supplications from K's competition were as swift as they were decisive: overnight, we garnered fifty-seven new clients and drafted, with the type of navel-gazing introspection that could easily be misclassified as arrogance, a playbook for winning new business and delivering a patent-pending Meeshkan Digital Twin. This document, printed as a hardcover coffee-table book on 200 gram paper with glossy illustrations and a spine so supple that the pages practically turned themselves, could be executed by teams of relatively mediocre pre-sales engineers, customer success representatives and full-stack developers so long as they were willing to follow the script with slavish exactitude. We accounted for everything, from the quixotic way a team should arrive in the client's office, whiffing the odor and complementing them on the scent of freshly-baked bread irrespective of if they had a kitchen or not (this always worked because either the people were flattered that we had noticed their oven *or* they were flattered that we had noticed the care with which they orchestrated the speedy delivery of leavened goods *or* "freshly-baked bread" was guaranteed to smell nicer than the mix of armpit odor and stale beer that the team had cultivated during months of seclusion, wholeheartedly embracing our olfactory white lie with the implicit understanding that part of what they were paying for was to be earnestly lied to by seasoned professionals), to the way we delivered the reverse engineered API on a USB stick attached to a thimble so they could always have it "at hand" while it protected them from "the pokes and jabs of their finnicky software." We were so overjoyed with the steady trickle of revenue that we actually took the trouble to declare it as such instead of having it pass through the local Lutheran Church as a donation, which in turn provided free ample office space, food, daycare and spiritual guidance whether we asked for it or not.

The problem, as you can probably guess by now, is that this vertiginous success was the business equivalent of a magpie, enjoying the effervescence of life for a transient stitch in time

before succumbing to its genetic design as an ephemeral, unsustainable, fundamentally flawed natural dunce. We had exhausted our initial pool of customers, namely those who had not heard about us via word of mouth and who were amenable to flattery, growth hacks, sensational tales of technological alchemy, and small code snippets executable in the browser that, when bundled into one's own code base, would (along with our enterprise license starting at EUR 9999 / mo) "just work." To make matters worse, a small but vocal band of detractors were energized by the admittedly questionable legality and social relevance of our solution. We received a scathing review from Sheryl Horowitz at Bloomberg, who bemoaned "The empty, nihilistic philosophy of technological reproduction for the sake of reproduction." She got it all wrong - nihilism is not a philosophy, it is a NOTHING, and furthermore, technological reproduction is far more inoffensive and innocuous than technological production, which has caused interminable grief and destruction for millions of families that never asked for smartphones, connected fridges, and Oura rings. We are simply making digital copies of these things for the world to fiddle with. Imagine the most mercurial and repugnant agents of war exorcising all of their testosterone-laden, anabolic-steroid-induced aggression in a simulation of drone strikes instead of flexing their muscles to do the actual thing, and then tell me that digital twins would not help make the world a better place.

This impasse is undoubtedly what Janek envisioned when he presaged, with formidable accuracy, that I would need to curl up on my duvet with store-bought popcorn and cherry cola to meticulously study the HubSpot Inbound course when we hit our first million. As you have probably realized by now, Janek did not specify a unit of measurement for this million, but you must agree with me that we had probably reached a million *something* at this point, and even if we hadn't, Janek was not the type to mean things literally, if he ever meant anything at all. What he secretly knew, and what we would soon find out is that, like many teams facing a seemingly-intractable conundrum, we needed a guiding metaphor, a pillar of operative wisdom with which we could underpin our disintegrating facade. That metaphor, and the core of the HubSpot Inbound Certification, is *the flywheel*.

The Inbound Flywheel

The Inbound Methodology, when one strips away the Horatian odes and throaty tributes paid to it by the HubSpot Academy's professorial team (if only we all could have such adept, laudatory workers laboring under us), is nothing more than a tripartite customer journey whose three stages interlock with geometric perfection to form a *flywheel*. Flywheel… a beautiful metaphor, to wit a machine that preserves rotational energy, with the energy being proportional to the square of its rotational speed and its mass. I say this not to insult your intelligence, as I'm sure you knew what one was before I told you (as of course did I), but because HubSpot makes a point to define "flywheel" several times, presumably for their readers that, like me, may find themselves in an awkward social situation where they need to define "flywheel" for someone pretending to understand what it means. In this case, it is helpful to deploy a clear definition that empowers your interlocutor without making them feel ashamed for their lack of basic *repères* in the English language.

The flywheel was also a huge relief because, as many of you HubSpot users know, the classic representation of a sales process is a funnel. As they correctly describe (and I say this with the disclaimer that any emphasis I give on any part of the certification course does not insinuate

that it is more or less pertinent for the timed sixty-question quiz at the end, which is wholly your responsibility to prepare for and that, as you will see, will keep you guessing anyway due to the occasional red herring involving obscure capitals of obscure American States and oddly probatory questions about your current biometric levels to which, even more oddly, they seem to know the answer), the sales funnel has multiple conceptual problems as a tool to visualize business processes. Here are some of the funnel's metaphorical failings that HubSpot has identified, interspersed with some observations of my own:

- it suggests that clients flow through your system effortlessly, without any cajoling, mendacity or kickbacks.
- it imagines your clients as a liquid, a gruesome fate unbecoming of even the most nefarious characters in Terantino films.
- there is no sense of where your clients go afterwards, and from my limited work in sales, I've come to realize that clients often expect to be served also *after* a deal is closed.
- funnels are cheap, and a commission-based sales team is not, especially when combined with the numerous flights, wet soirées, and season tickets to Lakers games one needs to keep the operation running (and this is only to placate the sales reps, I won't even get into what they demand we buy to woo a client).
- funnels were invented in the Ruhr Valley in 1500 BC and have not overcome their Eurocentric origins.

As HubSpot users, we have our own funnel in the "Deals" section of our dashboard, a pre-terms-of-service-violation screenshot of which I am including below. I have, of course, anonymized revelatory data to my best ability and with regrettable haste due to the time constraints of getting this article finished in the next seven minutes, but if I failed to blur key bits, it should be taken as an omission and promptly reported to my team on Twitter, using the @MeeshkanML address with the #privacyviolation hashtag so we act with appropriate urgency.
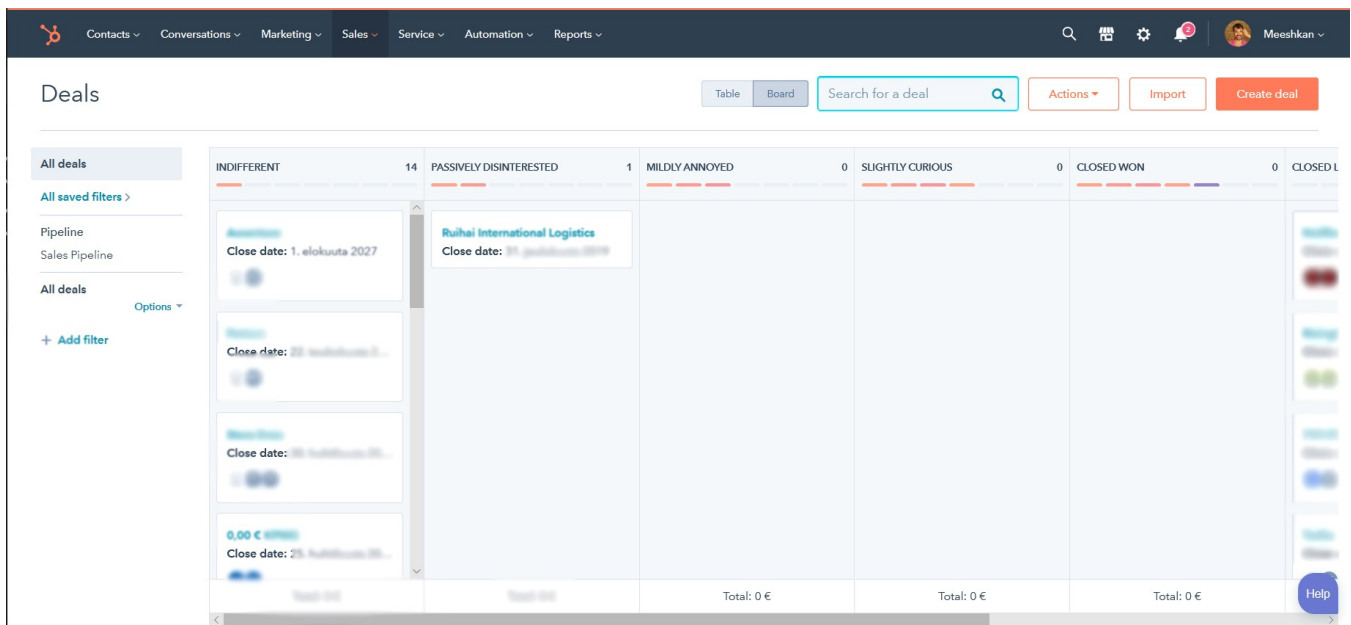
The problem with our current funnel is that it is upside-down, allowing only a small number of prospective clients to enter and then letting them fall out at the rate that any terrestrial object would, unimpeded, descend to the Earth's surface. The flywheel system gets rid of this blockage. Like a Sushi conveyor belt, it serves up delectable tidbits of awareness, engagement, and delight in unending succession, and if you miss any of them the first time around, you can rest assured that they will come back, their taste augmented by the passage of time and the subtle contributions of other clients.

Attract
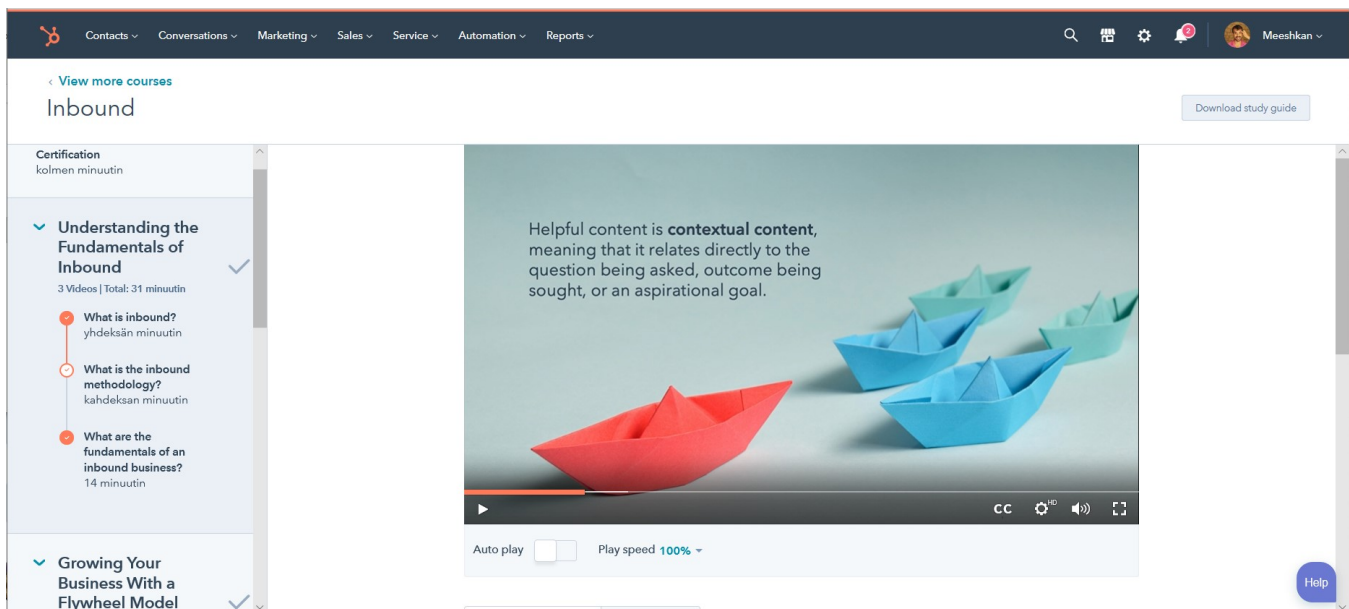
And now, we come to the meat of my HubSpot Certification Final Project - the *deliverables*, to use an outmoded term thrown around by the last remaining result-oriented companies, into which I have poured all of my learnings mixed with a healthy dose of going-the-extra-mile-to-win-your-business.

The task was not easy. If you Google "how to buy a car" in quotation marks, you will get approximately 61,000,000 results from companies as diverse as Honda, Route 1 Auto Mall, CraigsList and RentAWreck. On the other hand, if you Google "how to buy a fake digital asset" in quotation marks, you will get 0 results, at least until the SEO deities push this article to the top of a list of 1. HubSpot was right - there is a lamentable paucity of information to educate our buyers on how to buy a brand new, custom designed, freshly minted, limited edition, *préparé par nos soins sur mesure*, Digital Twin. And yet, tragically, nothing could be easier! All you need to do is e-mail sellmeadigitaltwin@meeshkan.com and we will, with the alacrity of the Ghostbusters circa 1984, speed to your office and get to work faster than you can say "Geez, I never thought you could deploy a Kubernetes cluster in an AWS VPC that had its own internal load balancer in front of a Kong API Gateway with its own fine-grained permissions that interface effortlessly with IAM roles in order to prevision the right number p2.xlarge

instances to process your server logs and write artifacts to S3 without any perceivable bottleneck" which is, admittedly, a mouthful, but these things do take time to set up. In the face of a churn rate that would make even the most talented eighteenth-century butter maker jealous, I knew only one thing about The HubSpot Way - if it was truly as effective as they promised, it could not conceivably resemble the way we had been marketing our services before. As Albert Einstein famously said, "The definition of insanity is doing a thing once or more expecting that the first time the result of the thing that is produced the second time or third will in fact not resemble the latter thing but rather it does it." I could not agree more.

The following awareness-raising content - the first and only that we have produced since completing the Inbound Certification - was targeted at a specific customer segment, following our professor's advice that "throwing the net widely doesn't necessarily catch you more fish." As no one in the company had a discernible affinity for any particular segment of the global economy, it was (as usual) up to me to find an ideal buyer to be the receptacle of our inaugural blog post. Naturally, my thoughts wandered to the eminently practical, the types of things that are right in front of one's eyes and not cloistered in some heady, ivory-tower reserved for the small brain trust of curious purchasing officers that have nothing better to do than familiarize themselves with an esoteric subject to fully understand the thing they're buying.

I settled on kids' toys. Everyone loves toys. Especially ones that record your voice and play it back to you with some sort of filter, like a chipmunk or yeti or whatever. And these toys, ever more connected, need to interface with some backend system somewhere in order to transmit compressed representations of their precocious owners confiding in sworn secrecy to their plastic plaything their favorite pastimes, lunch choices and parents' marital problems. Needless to say, this requires a good deal of testing to get right, especially on the level of end-to-end encryption and data effacement.

More specifically, as I would come to learn, the person most likely to need a Digital Twin in this setup was the engineer responsible for increasing the lifetime of the lithium battery that was particularly sensitive to every network call the device made, waking up from hibernation and

depleting precious resources with useless protocol negotiations and redundant TCP packets. By experimenting with a Digital Twin of the toy's backend service instead of waiting to use the sluggish production environment, these professional power pinchers could iterate faster to maximize the operational hours of the toys before the battery died and their target audience, usually too young to ask their parents to plug something in, moved onto other activities, causing all usage-based subscription revenue to plummet.

What follows is a sort of marketing *mise-en-abîme* - a piece of content within this piece of content - aimed at toy battery optimizers the world over to turn them onto the idea of a digital twin. And, to spare them the agony of reading fluff, we cut right to the chase, showing them that we *empathize* with their *problems* and that we intend to *help* them.

The crystalline sublattice of metallurgic morphological structures contained in the hermetic fissures of homonorphic alkyl groups has plagued the world's leading lithium battery optimizers for years as they seek to amortize the neutronic combustion of scarce, inter-structural asymmetries that cause the release of photomagnetic wavelets designed to trigger asymptotic decay of Herman-windowed resonators and, by extension, their associated electromagnetic pairings. We feel your pain, and it is for this reason that we made a Meeshkan Digital Twin that allows you to quickly access the various remote endpoints and webhooks triggered by valence changes in unbounded polymers that, depending on the degree of ionization in the monomer substrates, will cause resistance in the reorganization of dioxyde fractal structures and a dilapidation of the free electrolytes needed to restabilize semi-crystalline thermoplastic elastomer under tensile stress. One study finds that, through the rapid experimentation made possible by the immediate initialization of a Digital Twin to novel states, lithium diode optimizers were able to suggest a slightly more permissive version of the SSL handshake algorithm that perfectly coincides with the time it takes for polyethylene terephthalate to reform into the ethylene glycol that provides the resistance necessary for future transactions to take place without interruption.

Of course, as with any foray into a universe into which one has no domain expertise and whose existence one has only surmised from footnotes in Wikipedia articles, there are elements that

one has to infer or simply make up in order to get the ball over the net. Furthermore, like rabbinically-approved feminine hygiene products, there is invariably something lost in translation, a certain type of embodied intelligence that can never be conveyed through research and creative experimentation. That said, I am confident that our helpful guide will reach its target audience. And even if it doesn't, we have learned along the way how to simulate the transmission of time-sensitive data about polymer rebonding in acrylic acid, which I'm sure will contribute to the company somehow at some point when we face a similar challenge.

Engage

While you are surely now aware of what a digital twin is and how to purchase one from us, you would be remiss not to do at least a cursory, back-of-the-envelope due diligence, the type one does when one has already made up one's mind and needs to retroactively justify a purchasing decision with prefabricated market research and an audit log of vacillation, hesitation, and consultations with third-party experts that led you to the definitive, but certainly not preordained, conclusion that the Meeshkan Digital Twin is the best of all possible options given your unique circumstances and opportunity costs. The HubSpot Inbound certification calls this *Comparison*, and because comparisons are tough (the etymology of the word alone requires remembering not one but two concepts), I will arm you with several equipotent tools to help push Meeshkan to the top of the pack in your colleague's minds as if it was their idea all along to join the ranks of satisfied customers we have proudly served (while we all know, between you and me, that it was your idea).
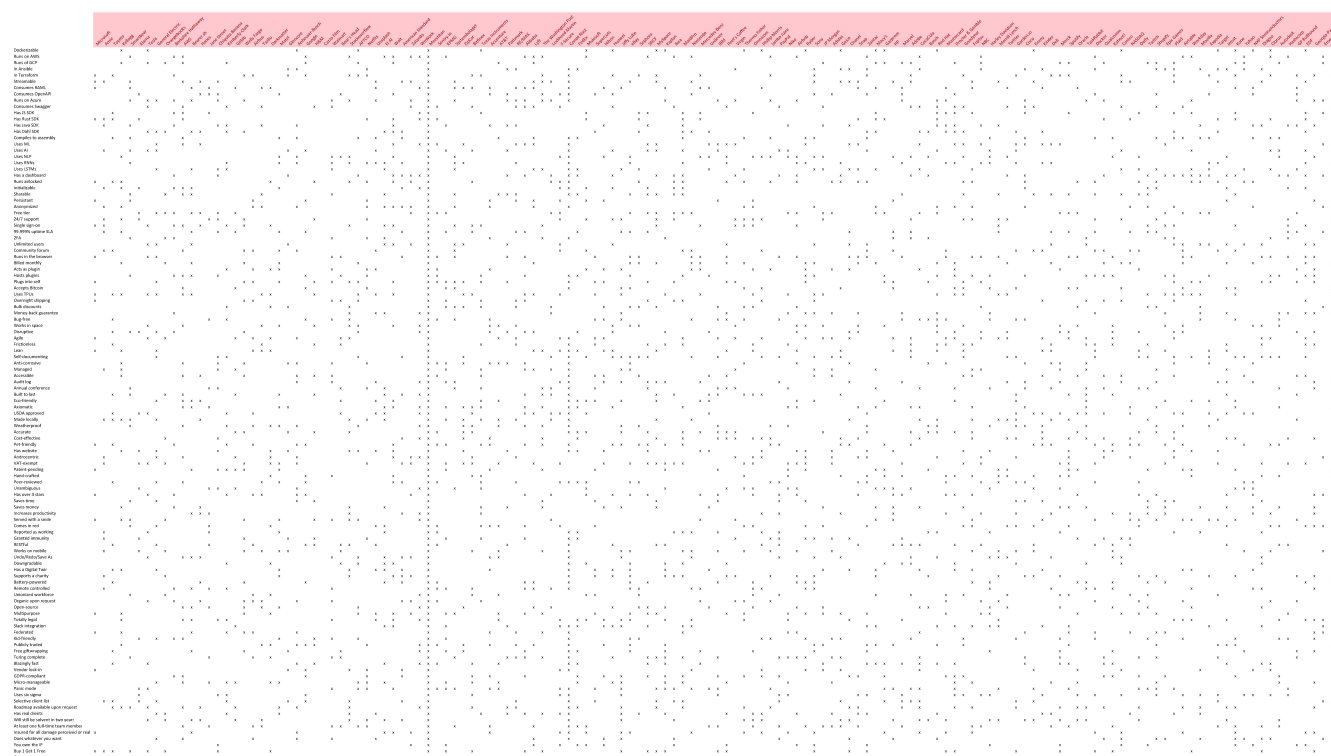
The problem is that, unfortunately, the Digital Twin market is probably one of the most overcrowded, underripe and misapprehended markets on the planet, a competitive landscape of which I was not aware when I decided to pivot the entire company in this direction based on an admittedly subjective, but well-intentioned, hunch. So, erudite buyer, you will have your work cut out for you. Not in your process of choosing (as you have already decided to buy a Meeshkan Digital Twin), but in synthesizing and summarizing the above chart for your colleagues on the offchance they have the gall to question your exquisite buying skills. We have narrowed down the competitive landscape to 115 representative companies that either build digital twins internally or furnish them to external providers, compared along the most common axes of decision making that factor into ROI, PMAC, OPEX, TCO, DOA and SNM.

To simplify the comparison, we have also constructed a Gardner-quadrant-style infographic along two axes: fake versus real and HubSpot Inbound Certified versus Certified by Another Purveyor of Inbound Certifications. As you will see, the Meeshkan Digital Twin occupies the upper-right quadrant with a comfortable distance between it and its nearest competitor. This is because, while most companies focus on building production systems with their Digital Doppelgangers arriving as an unloved afterthought, we *only* focus on building a reliably,

certifiably, functionally, and semantically fake version of your APIs, databases and IoT devices. And, as of nine days ago, we do it with the white-glove care of HubSpot Inbound Certified Professionals, educating you throughout the buying process, from the faintest hint of awareness to your joyful first, second, third and nth purchase of a Meeshkan Digital Twin.

Delight

It is admittedly courageous of HubSpot to insist on delighting one's clients, full well knowing that it is the hardest of emotions to algorithmically influence *en masse* and at scale. For some of us, delight is caressing a nubile fawn, freshly ejected from its mother, brimming with uncertainty and trepidation about the unfathomable future that lies ahead and curious about, if not uncomfortable with, the eager human companion that has chosen to intervene during its first minutes of existence. For others, delight is probably other things. But the important thing to note is that delight touches a part of us that is subjective, unmoved by the sappy shibboleths lifted from BlueMountain e-cards that form the basis of contemporary marketing culture and instead deeply affected by the beautiful, penetrating, soul-enflaming power of data and its presentation in curated pie charts and bar graphs, especially those that connect the bars with subtle cubic splines.

The other pesky thing about delight is that it has diminishing returns. Even in its ideal form, a dopamine machine pumping chemical bliss into avaricious, vegetative, and abased human vessels, it can only last so long before its effect wears off and we are back to being undelighted or, even worse, whatever the opposite of delighted is. It is for this reason that *delight*, in our custom take on the flywheel, is brief, for time's passing is the only way to make memories out of moments and to let physical experiences, captured by the crudest receptors of our anatomy that we share with starfish and sponges, be transferred to the disparate cesspools of increasingly-human neural networks, receding eventually to the long-term cerebral storage that fuels the emotions by which our species defines itself such as longing, ennui, and various forms of second-order volition. It is for this reason that our customer service representatives,

after having determined that you have likely experienced Delight (a sentiment we gage by various proxy metrics such as our NPS score and website download times), thrust you back into the Awareness part of the flywheel with the glee of an amusement park ride operator discovering that his joystick does, in fact, have an effect on unsuspecting clients and that their seatbelts and neck braces were provided for a reason. By the time you get the bill, you will likely have forgotten this delight altogether, which is the true sign that you experienced it in the first place, as the only things that ever come to the forefront of our consciousness are the most problematic, unresolved aspects of our lives.

Of course, I would not be an honest entrepreneur if I did not "eat my own dog food" as they say (a pathetic slight against the canine race, who consume a form of gormandizing cuisine that, if more people tried it, would become a staple of our diets). I am continuously Delighted, for example, by the digital twin of my new Finnish spouse, who after long postal correspondence made the courageous decision to leave Viitasaari and join me in Helsinki with her twelve beautiful children, of which nine enjoy undisputed paternity, and whose noble and understanding family has graciously supplemented my day-to-day personal finances during this brief zone of fiscal turbulence that we entrepreneurs call the "between rounds pinch", where we make temporary financial sacrifices and IOUs to ourselves and others because of erratic liquidity deficiencies that I can only assume will resolve themselves any day now. The digital twin of my newly betrothed, which my employees created for me without anyone asking and with uncharacteristic alacrity, follows me wherever I go. I am so grateful to my team for undertaking this endeavor that I have decided to open-source their creation in this very article for others to study. To my engineering team: *thank you*. Thank you for making this. Thank you for this gift that you have given to me. I look forward to making a similarly generous gift for each person that was responsible for this in the months to come.

```python
import time
import random
from twilio.rest import Client
```

```python
account_sid = "ACB04X7APQWNFS9341GEF9AWFCNF01AB"
auth_token  = "m3s4k4n"

client = Client(account_sid, auth_token)
affection = sum([
  ["Could you please go to the %s and get %s?" % x for x in
    [("store", "some sand"),
     ("school", "my kids"),
     ("jail", "my ex husband's mail")]],
  ["Who is %s?" % x for x in
    ["Natasha", "Lumi", "Rupert", "the Lucky Seven"]],
  ["Come home now.",
    "My parents can't lend you any more money.",
    "My ex said he definitely wants a divorce.",
    "We can make one more if you'd like.",
    "Remember why you have your visa."]
], [])

while True:
  time.sleep(random.random() * 1000)
  client.messages.create(
      to="+358401471776",
      from_="+15017250604",
      body=random.choice(affection))
```

Setting Goals for Imagined Buyers

Perhaps the most inspirational learning from the HubSpot Inbound Certification course for myself, my team, and our customers (a category in which, of course, you are now contently, dutifully and irrevocably counted) was the "Setting Business Goals" section. At least some of this impact was due to the ideal pre-and-post-facto conditions with which I absorbed the information, eagerly and attentively watching the videos between a bathroom break and my festive bi-weekly "brown bag night" at Helsinki's fabled Bus Terminal. The section's efficacy has only been undermined by my poor understanding of the material itself which, fortunately, has not yet seemed to impede its usefulness in the least. I recall this section like a good meal - while the specific flavors have receded, a penumbra of sensory experience hangs like a fog in my brain - a gentle, enveloping midnight fog that murmurs "the brighter you shine the
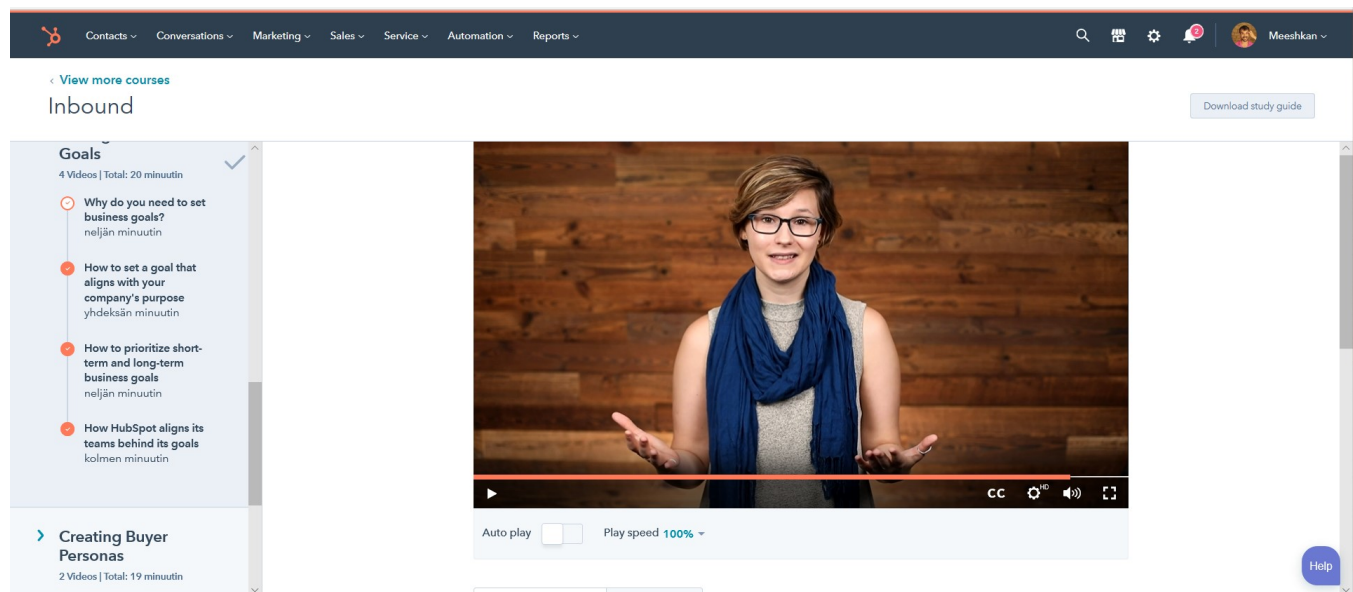
headlights, the brighter I will reflect them back, so turn them off, but roll slowly and I will protect you."

To the best of my (foggy) recollection, there was something about goals, OKRs, and three horizons. As HubSpot has temporarily disabled my account for the unjust and supremely-irksome terms-of-service dispute I previously mentioned (my assumption is that this can only be temporary as they are still charging my credit card), I cannot, unfortunately, provide any greater detail than this, but what I can say is that the three-horizon framework (or at least the framework as I understand it) has become a pillar of our company culture, enforced upon our employees with Maoian verve because any system is better than no system and, sometimes, one needs to act decisively to preemptively stifle dissent, even against one's humanist nature. You can't make an omelet without getting your feet wet.

The three-horizon system emphasizes setting short-term, medium-term, and long-term goals for a company and shifting resources gradually in order to accomplish different goals during different time frames. For example, the long-term stability of short-term goals can only be attained by effective medium-term allocation of resources whilst not impeding upon the company's long-term ability to recruit talented short-term employees. Recasting one's thinking in this way, the goals of our company became as clear as the thin film used to write on overhead projectors of yore. I fondly remember the first time I saw a teacher, in second grade, take a Sharpie to this belching, expensive piece of equipment and begin scribbling on it, much to the horror of a classroom of students that had been viciously (if not creatively) punished for leaving indelible marks on all sorts of objects and animals in our quaint, one-room New Jersey yeshiva. To learn that, in fact, our instructor's loopy calligraphy was merely inked on a piece of paper so thin and so transparent that none of us expected it could exist was revolutionary if not cruel. Why, if this technology was readily available, had Mrs. Abramowitz not covered the room with it so that we could doodle on things without fear of public humiliation, standing outside in the snow and being forced to eat un-Kosher food when she knew perfectly well that, once we tasted a small bit, the succulent flavor of pork would ruin our relationship with our

parents for years to come at the dinner table? I will tell you why - she cared about our long-term horizon. And this was *even before* the HubSpot certification, let alone HubSpot, existed. Horizons are everywhere you look, and needless to say, our entire business began to resemble a series of short, middle, and long-term horizons with rigorously defined temporal barriers between the three planes, lest one horizon be confused for another.

These rigid temporal barriers between horizons are called *goals*, and (according to HubSpot IIRC) they act as the non-negotiable deadlines we impose to give horizons meaning. I took the liberty of taking a few screenshots during this section and, perhaps guided by the benevolent spirit of Janek Polopovič without whom neither you nor I would be here, we can reverse engineer the gist of why Goals are so important that HubSpot accorded them over twelve minutes in their Certification Program.

Your guess is as good as mine, but I sense a tinge of existential angst coupled with Messianic overtones, as if the professor is saying "Set goals. Set them early and often. Be the goal you want to set, and set the goal you want to be. Achieve. And in doing so, remember that goals act as the non-negotiable deadlines we impose to give horizons meaning." Around the same time in what appears to be the same video, the professor exhibits a state of cathartic exegesis, unbothered by trappings of modernity such as success, money, fame, access to fruits and

vegetables out of season in even the most remote corners of the planet like the one to which I am currently consigned, elections, mythic+ scores and perhaps even goals themselves.
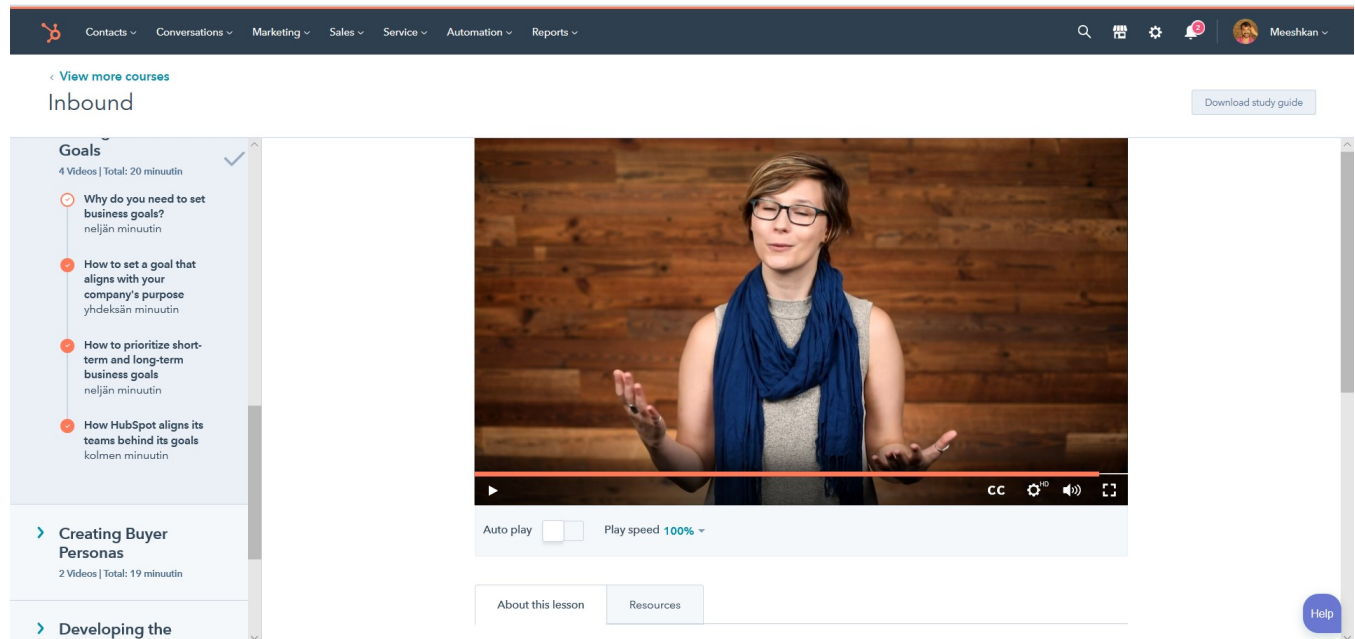

The only other screenshot I took, for reasons I pain to remember, is of the HubSpot logo at the end of the video, perhaps because it is set on turquoise blue as opposed to its customary Dutch orange, perhaps signifying that even material objects like logos can undergo transmuted states when goals are correctly applied and aligned, perhaps in keeping with the adage that "a picture is worth a thousand words" unless, of course, you are afraid of pictures or otherwise visually impaired. In short, goals are like deadlines, but non-negotiable, and with respect to horizons, they act as vectors of meaning.

OKRs, and you truly will have to forgive me because I truly don't remember what the acronym means or where it even appeared in the course, are a sort of connective glue that anchor goals to horizons. The term itself was developed by someone whose first name is Andy and was the CEO of a company, and he was either the mentor of or mentored another person who was also somehow responsible for the creation of the term or perhaps some related concept. As there are only a limited number of combinations of words that could make sense in context and combine to form OKR, I will present a few and you can just choose the one that makes the most sense given how you would like to understand the previously presented material: Operational Key Resources, Operational Key Roles, Objective Key Resources, Objective Key Roles, Operative Key Resources, Operative Key Roles, Operative Key Results, Operative Key Reports, Orientative Knowledge Reports, Orientative Knowledge Resources, Orientative Knowledge Roles. I have made my choice and I am comfortable with it, although I will not share it here so as not to influence your own decision-making process. I am even satisfied after having suspended and resumed the writing of this article, as I've only just returned to my desk, in the middle of this paragraph and following a two-day hiatus. This unfortunate but necessary distraction, the disjunctiveness of which I cannot adequately express through typographical layout (I experimented with adding copious amounts of whitespace, but that forced several

newlines and felt like a new paragraph, which no longer communicated the break mid-paragraph) was the only interruption in my writing of this article, having flown to San Francisco to a board meeting where I had to present various objectives and key results to relevant stakeholders including, but not limited to, my learnings from the HubSpot Inbound Certification. Depleted from two transatlantic flights in forty-eight hours, one of which was next to a professional alcoholic who hoarded half-consumed wine coolers in the life jacket pocket under the seat, the entire payload of which exploded upon landing and resulted in the most expensive dry cleaning bill I have ever paid, I will now hazard my best guess as to the type of person that would actually read this document (aside from the grader of my HubSpot Final Project, who assumedly had no choice). The Inbound Certification calls this person a "buyer persona," and I call this person "smart, adept in the art of thought leadership, who knows how to make bold purchasing choices and is not afraid of acting on them with resolve and conviction."

The art of crafting a buyer persona is that it needs to be abstract enough to be universal and concrete enough to be particular. It needs to be generic enough to apply to many but specific enough to be the subject of casual office conversations where, just for a moment, you and your colleagues share the same image, empathize with the same emotions, and with luck, build the same thing.
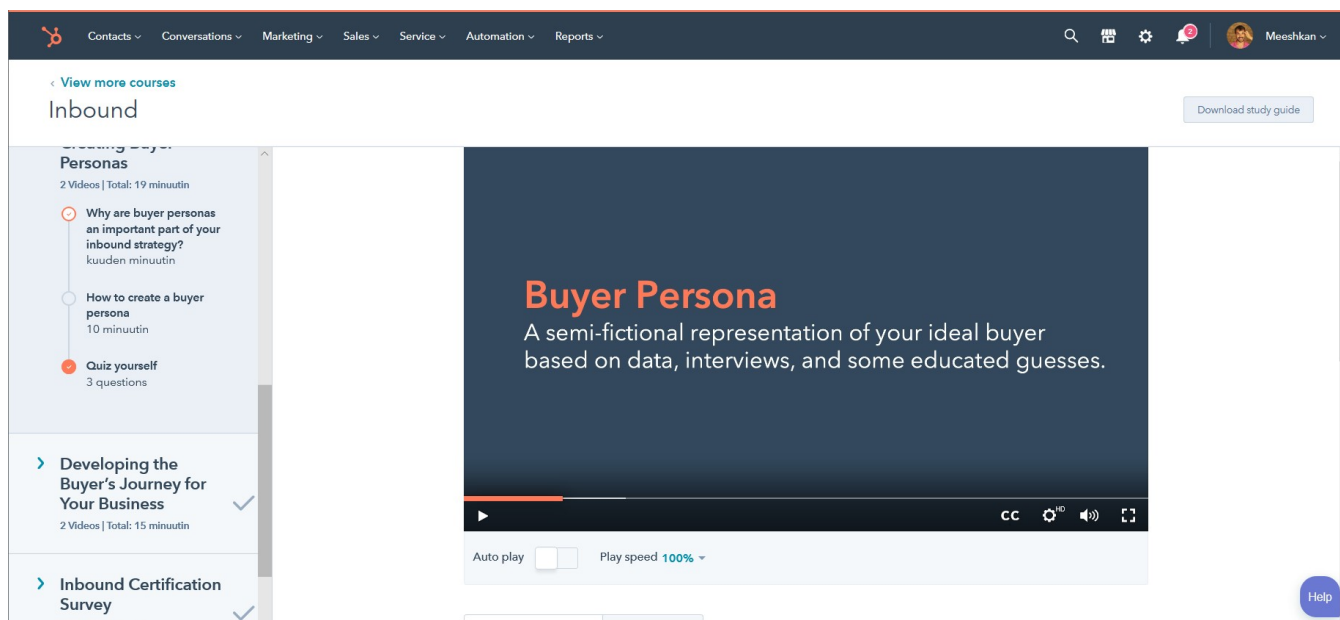
Having exhausted my LinkedIn InMail credits contacting potential buyers, and having seen the profiles of many people that work at many companies, I have become particularly adept at creating these personæ. So let's imagine, for example, a small NodeJS (a popular JavaScript framework) consultancy (a popular business model) based in, say Budapest (a hub of software agencies). Let's call them RisingStack (a generic yet pertinent name). Let's even give them a website, (unsurprisingly) risingstack.com. Let's imagine a CEO and CTO (a typical management team) doing their best to deliver projects on time (who wouldn't want this) and under budget (who wouldn't want this either) and struggling with their clients' hopelessly broken (happens all the time), undocumented (all too common) APIs. Now imagine RisingStack working with Digital Twins of these systems with which they can freely experiment in order to build a robust suite of integration tests, delighting their clients and winning new business via organic referrals.

This is one of many ideal buyer personuses for a Meeshkan Digital twin, with the slight caveat that, completely coincidentally, this company does in fact exist. The only comment my HubSpot Final Project grader sent me, in broken English, was that when they entered risingstack.com into their browser, they found a real company called RisingStack that, amazingly, is actually based in Budapest, is an honest-to-goodness NodeJS consultancy and is run by, who'd have guessed it, a skeleton management team comprised of just the CEO and CTO. You can imagine

my sense of contrition when I found this out, but I assure you that their existence is purely accidental (or rather, surely it is intentional, as it undoubtedly represents a shared ambition of their founding team and early investors to make a dent in the world and disrupt some industry somewhere, but for the purposes of this article their existence is irrelevant, or rather of course they are relevant insofar as they could be a client, in fact you may even work there, but I mean that the existence of RisingStack is an orthogonal concern to their usage in a thought experiment that was concocted before their existence was known, or rather of course their existence was known before this thought experiment, but it was not known within the frame in which this thought experiment was conceived). Moreover, I honestly don't have time to change this persona. As Eric Ries argues in *The Lean Startup*, it's all about eliminating waste. I should be forthcoming that none of us at Meeshkan actually read *The Lean Startup*, as we are laser-focused on short, iterable experiments to validate or disprove various hypotheses and the book does not fit into any of them, but at least "eliminating waste" was how the book was summarized to me by an entrepreneur whose startup failed ("even though" his employees had all read the Ries book) and has since started selling workshops as a Lean Method consultant. Not to mention that, AFAIK, *The Lean Startup* does not have a downloadable certificate one can claim upon completing the book, and if they do, it is not gated by a time-limited 60-question quiz that proves they've separated the wheat from the chaff.

RisingStack (or a fictionalized version thereof that evokes more or less the same conditions and historical moment without unintentionally describing yet another real company, for which, again, I'm sorry) is one of many buying personas that we have created here at Meeshkan. There are as many personi as there are industries, and we are overwhelmed by the sheer volume of relevant cases where a Digital Twin would intervene to lessen a persistent pain point shared across an entire team. This is not the type of chronic pain that, over the years, becomes a ritornello of one's physiology and is no longer bothersome in spite of being omnipresent. It is the category of pain that, at all times of day, resurfaces, distracts, and drives one to desperation, but not the form of desperation that causes one to change jobs or engage in other shortsighted pain mitigation strategies. It is a pain that forms a captor's bond with its

target, existing in a sort of perverse symbiosis where it gives meaning to those who feel it and yet they would do anything to make it go away. To this pain, we provide a remedy, but not a conclusive one. Rather, it is a recurring remedy, renewed in monthly installments, without which the pain would resurface in an even more venal and destructive form than before and with which one can enjoy the liberty of a pain-free life while being reminded that, without our medicant, pain would be just around the corner.

This is how we enable our buyers to soar, whether they be banks providing a sandbox environment of their production systems for developers to explore, an IoT device maker that wants to encourage other companies to build integrations but can't afford to ship them the physical device, large corporations with complex microservice architectures where it is difficult to simulate any one microservice in isolation for testing, agencies seeking to lower the cost of project delivery, internal stakeholders that need to sign off on a prototype of an API before it is deployed to production, resiliency engineers that want to establish a set of company-wide best practices through robust integration testing, or teams with globally-deployed APIs that need to run simulations of these systems to ensure the smooth rollout of new features to diverse market segments. The point is that any digital system anywhere can have a Digital Twin, and anyone who interacts with the system could stand to benefit from it. So our ideal buyer persona is humanity, a club to which both of us belong and that has perilously few entrance requirements that would stir in its members a sense of belonging. A Meeshkan Digital Twin serves this purpose: it is a way for you to say "I belong" without sounding trite or bromidic and to ensure that, no matter what curve balls life throws at you, you will always belong to something and something will always belong to you.

Changing hats, I'd like to issue a notice to prospective investors in our Series K round. In short, we have stumbled upon the most lucrative, scalable, bullet-proof business model in the history of venutre-backed startups: We are selling simplified versions of people's digital assets back to them for a profit. So long as humans keep applying agglutinative patches on top of the quasi-organic monstrosities into which all technological systems are evolving, there's money to be

made. It is a meta-model: one that is predicated on nothing other than the continued existence of the technology sector itself and the increasing proliferation of languages and protocols that cannot be reasonably understood, let alone reverse engineered, by any one group of people, including of course the people that made them in the first place.

Your Journey As a Buyer Has Ended

And thus, with all this in place and with no barriers to your purchase of a digital twin aside from some minor formalities, we take the final steps of the buyer's journey up Mount Olympus: a journey that I have had the privilege to accompany you on, guiding you like Adam Smith's invisible hand towards a transaction, an exchange of value at the end of which your tailor-made Meeshkan Digital Twin will unlock the immense potential of hitherto unexplored regions of your personal and organizational ecology, and all we ask for in return is a small, recurring, imminently forgettable and hardly noticeable transfer of fiat currency. That's right: we are asking for a nominal and symbolic remunerative gesture, affording you the opportunity to unburden your bank account of a specie that is subject to erratic Weimaresque inflation while backed by incredulous, fickle populist governments, the last vestiges of which will ultimately be obliterated in the face of the imminent global climate catastrophe that only your Digital Twin has any chance of surviving. We prefer euros if possible.

Let us now strip away every barrier and impediment to your purcahsing of a Meeshkan Digital Twin until not buying it is more difficult than buying it. Already, your education in the art and science of buying Digital Twins has made you an international expert at purchasing our product, and if you qualified for the Finnish workforce-reinsertion program that pays 97% of one's salary for the first year, we would hire you to teach others how to do it. But we know, and you know, that teaching is not the ultimate realization of your ambitions as a learned buyer, because who the hell wants to get all of that education just to turn around and regurgitate it back to others after graduating? No, you will use your education to buy. Buy with reckless abandon and uncommon largesse. Buy.

In the unstoppable ascent to your purchase, we are all too aware that you may slip during a moment of stress-induced feeblemindedness (we've heard that this often happens when clients reach our pricing page, and we're working hard to reimagine our UX so that the pricing only appears after your purchase) that no one, and certainly not you, would be proud of. Thanks to HubSpot, we are keenly aware that "74% of people are likely to switch brands if they find the purchasing process too difficult." In order to simplify the process, we have set up various flows for different types of buyers, including sending cash in the mail (please, please indicate the right office number, 1537, on the letter, as we are in a coworking space), pawning goods, and expensing a Digital Twin directly to your personal credit card, after which we will fill out your expense report for you and send it to your boss with a reimbursed-by-your-company-or-your-money-back guarantee. And, even if none of these suit your fancy, we are still confident that you won't be part of the traitorous 26% of brand switchers because, at least as we understand it, there is no one else to whom to switch. That is because the Meeshkan Digital Twin is the embodiment, the sole true exemplar, the manifestation of the Platonic form of Digital Twins, perfectly crafted to attract, engage, and delight you with such flywheelian rotational energy that you will come off your hinges and roll across dimensions into the Elysian fields reserved for the most pious of buyers.
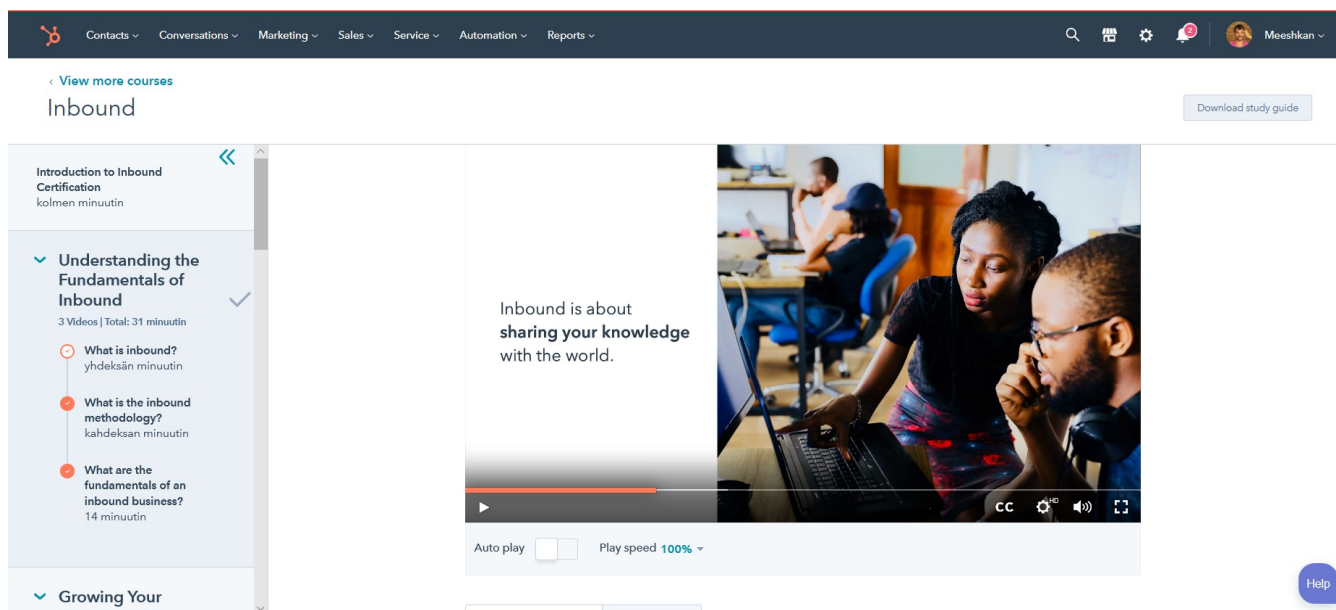
Perhaps the only remaining point of friction in your buyer's journey is the remorse you may anticipate feeling after having bought from us. Not because you are dissatisfied with the product, but rather because you feel bad that we have given you so much and you have given us so little. This is a normal emotion, and rather than suppressing it, we simply encourage you to feel it, to acknowledge the sense of emptiness, and to realize that the only solution is more buying. Because the inbound method is, after all, about sharing - our job is to churn out helpful content at a rate of two or three articles a week in order to make future purchasing decisions more palatable. This particular article is just a *mise en bouche* - I encourage you to subscribe to our newsletter so that you do not miss a long-form piece I plan to release on Friday about how to determine if your Digital Twin has become sentient. So, no need to feel remorse. On the contrary, we are certain that you will feel "buyer's euphoria", a term that appears almost nowhere on the internet ("buyer's remorse" appears upwards of 36 million times) and that we are proud to have invented at Meeshkan.

But don't take my word for it. Take the HubSpot Inbound Certification. Watch how every phrase, every insinuation, every UI element, has been so wholly, so completely incorporated into our messaging that you will think they created it for the unique purpose of helping you buy a Meeshkan Digital Twin with the same lighthanded, balanced, and informative approach

that has characterized this article. The only part that will be missing, and that I have referred to multiple times over the course of your buyer's education, is the final project. This is because, as I have recently learned and much to my chagrin, the HubSpot certification **HAS NO FINAL PROJECT**. The whole darn thing is free. Some enterprising buffoon put the HubSpot website in an `iframe` , added a banner about a final project (I should have been suspicious, as the project only started *after* receiving the certification), and then had the audacity to charge me for reviewing it with minimal comments, that **PILGARLIC**. My only consolation is that the price of Iota, the blockchain alternative in which they demanded payment, has fallen fivefold since I forked over a tenth of my life savings to a Discord-based escrow system with poor documentation and a rather rude community of bots and crypto-brokers. To compound my misfortune, HubSpot, in their infinite wisdom, detected my numerous interactions with their service through an `iframe` which, whattaya know, is a violation of their Terms of Service in spite of the fact that I am the hoodwinkee, not the hoodwinker. Since discovering this abominable scheme, I have lightly edited my final project (this document) in order to publically denounce these vile opportunists, who have left no trace of their whereabouts aside from a hidden input field in their HTML-based emails containing a useless string of numbers punctuated by periods: 13.32.43.114. Apparently, the police contacted whatever organization this led to only to find that the perpetrators of the crime had left long ago and the inept management had no idea where to find them. I can only assume that the entire charade was orchestrated behind the scenes by Janek Polopovič, tastefully leaving breadcrumbs for dupes like me to pick up while he laughed his way to the bank. Look who's laughing now, Janek. I must admit, though, that the whole thing was a stroke of genius, albeit one where (and this rarely happens) I was the victim of someone else's ingenuity. All that the process has left me with is absence: my subjugator's gift is the negative space my HubSpot account used to occupy, with no apparent redress in sight. My only hope is that the efficacy of this article, combined with the discerning purchasing skills and benevolent intentions of my readership, will prove to HubSpot how their rash and unfounded suspension has not dampened my newly-acquired Inbound Marketing skills in the least. After you convert to Closed Won, if you haven't

already, I will triumphantly contact HubSpot through their purple Help widget to restore my account, citing as evidence an article that has made your Digital Twin so palpable, so readily accessible, so imminently purchasable that it has fused the concepts of *sell* and *buy* into a moribund Sagittarius called (this is only my provisional name) *sellbuy*.

Lest, in your state of bedazzlement and emotional upheaval, you have trouble finding the right combination of words to tersely resume the main idea of what you just read, I will feed it to you with the same type of dignity-preserving care that I hope to be fed with when I grow old. Here is the secret, the nugget of truth, the one-liner, the tl;dr, the reason you came here in the first place, the serendipitous and fortuitous culmination of your reading effort crystallized and focused into a single inspirational and aspirational pearl of wisdom that, when you think of it, momentarily unpacks the entire content of this article fresh in your memory as if you could access it all, feel it all, draw on all of its affordances and innuendo effortlessly with no mnemonic devices, no searching through your notes as your colleagues nervously realize that you forgot why you called the meeting in the first place, no need for those Synthesis as a Service tools that will only reveal the most obvious, useless facts like "the Bible is about God" or "Moby Dick is about a whale." That thing is:[remember to come back and fill this part in before publishing].

Naturally, I know that anyone who wants to buy a Meeshkan Digital Twin has stopped reading this article long ago and is on the phone with our sales team, so this final paragraph is only addressing those who are on the fence or, even worse, have decided not to buy a Digital Twin, perhaps as a result of reading this article. For you naysayers, Luddites, misanthropes, and rational buyers, I would encourage you to think about your life. The whole thing. Of course, I'm sure that you've had your ups and downs, but try to focus on the downs. Can you conclusively rule out that a Meeshkan Digital Twin would not have helped during these rough patches? As the HubSpot certification teaches us, we often don't really know why buyers buy our products, and I am not sure why you would have bought ours to improve your lot during any of these suboptimal situations, but probabilistically-speaking there *could* have been a reason. Perhaps

the most important and self-evidential manifestation of this truism is the article you're currently reading (if you're reading several articles at once, and for the avoidance of doubt, I'm talking about this one). You could have chosen to spend your time in a myriad of different ways: with your children, writing code, eating good food, making love, watching a classic film, doing a puzzle, taking a walk, making plans for a better future than Janek's, but instead here you are, almost at the end of our time together learning about an experimental, unproven technology of debatable utility, and it can't be because things are going well. Think of the emptiness you will feel when you depart from whatever medium you are reading this on, severed from our brief yet intense moment of unfettered, raw and frank communication. What will that life look like? Try it. Try putting this down and telling me, when you pick it up again, that you weren't thinking about Digital Twins, longing to come back to this safe space where we have concomitantly shared an unforgettable journey (the first, mind you, of many to come). Your Meeshkan Digital Twin will be a memorial to our bond, one that will remind you not only of twins, digitation and fakeness, but of your pride in my accomplishments as a HubSpot Certified Inbound Specialist, if not as a CEO, step-father, husband, estranged nearly-ex-husband, and card-carrying member of the Rotary club, and the vicarial happiness you feel for me in some if not all of these roles. By retaining you for more than forty-five seconds in front of my magnum opus, you have allowed me to accomplish my dream. Now it is time for you to accomplish yours. An "educated buyer" that is only educated is only half fulfilled - she must also buy. So take hold of your destiny, consume, and let's consummate a beautiful, commercial partnership that will last for years to come.

I would like to thank my family for buying all those digital twins to help us out, my team for your remarkably low rate of moonlighting during the last five-day period, and Matti and Heikki Huhtamäki, whose rhetorical style and argumentative acumen contributed substantially to the writing of this article.