SAMPLE

Building the Accessibility and Universal Design Infrastructure of Tomorrow

Anatomy of the Machine That Levels the World

Aiman JoeHanz

Free sample: Introduction & Chapter 1

putrabooks.github.io

Buy the full book:

Carousell carousell.sg/p/building-the-accessibility-and-universal-design-infrastructure-of-tomorrow-ebook-pdf-1471327392

Ko-fi

Payhip

Contents

IntroductionIntroduction

Chapter 1: The Access Board — Where the Design Rules Are WrittenChapter 1: The Acc

Chapter 2: The Building Access Office — Where the Ramp Is Argued in ArithmeticChapte

Chapter 3: The Street and Stop Desk — Where the Kerb Is Cut for EveryoneChapter 3: T

Chapter 4: The Hearing and Vision Desk — Where the Loop Hums and the Print SpeaksC

Chapter 5: The Sign Language Desk — Where Two Hands Meet the StateChapter 5: The

Chapter 6: The Assistive Technology Bench — Where the Body Is Measured BackChapte

Chapter 7: The Accommodation Desk — Where Adjustment Is ArguedChapter 7: The Acc

Chapter 8: The Accessible Digital Office — Where the Machine Learns to SpeakChapter

Chapter 9: The Access Fund — Where Money Meets the GateChapter 9: The Access Fun

Chapter 10: The Access Tribunal — Where the Argument Is HeardChapter 10: The Acces

IntroductionIntroduction

The steepest hill in any city is a single step at a shop's door, and the fastest way to understand a country is to watch who can climb it. Most machines in this catalog promise a service: a bus that comes, a loan that clears, a register that remembers. The machine this book takes apart promises something stranger, a country that can be used, and it makes the promise to roughly one person in eight, the share of any population living with some limiting impairment of limb, sense or mind, then quietly keeps it for the other seven as well. The ramp built for the wheelchair user carries the pram, the delivery trolley and the tired cyclist; the hearing loop cut in for the critic with the hearing aid serves the whole audience when the hall echoes; the kerb dropped for the white cane becomes the place every child learns to cross. Planners have a plain name for this, the kerb-cut effect, and this volume gives it the room-by-room anatomy the series gives every machine: an argument, a folder of drawings, a coil of copper, an interpreter's chair, a bench of tools, a gate of eligibility and a tribunal's table, each one an organ in a single body whose product is usability itself.

A note on how to read this machine, since accessibility is the room of the catalog most often read wrong. The machine is not a charity and its story is not a kindness, and the reader who opens these chapters expecting gratitude will find instead the driest of civic arguments: that a country which designs its doors for a statistical citizen has designed them for nobody, because the statistical citizen does not exist, and that the price of pretending otherwise is paid in falls, in lockouts, in absences and in a quiet, corrosive question asked by every excluded citizen at every excluded door, which is whether the country meant to build this. The ten rooms that follow are the state's answer to that question, and the answer is architectural: the town hall's ramp is an argument in concrete, the loop is an argument in copper, the interpreter is an argument in hands, and the kerb is an argument cut in stone. Nothing in this machine asks to be thanked, which is the whole design, and the reader who finishes the book and notices that no room in it ever uses the word deserving has read it correctly.

The week that threads these rooms together is deliberately ordinary, because the machine's founders insisted that accessibility not be tested only at its triumphs. A ramp is argued at a drawing board, a loop is re-hummed in a theatre, an interpreter is withheld in a school timetable, a form is fixed overnight in a ministry's code, an order is read aloud in a chamber, and a kerb is cut on a Saturday at a suburban parade, and none of these events would

make a newspaper, which is the machine's proudest boast, since a country in which accessibility is news is a country in which it is still an event, and this machine was built to make it a fact. The reader is invited to walk the week with a cane, a screen, a chair, a hand and a pair of loaded wheels, in whatever combination makes the reading honest, and to ask at every door the machine's founding question, the one its tribunal asks in every hearing and its street desk asks at every kerb: who is this for, and where does it say so, and what happens if we simply build it right the first time.

A note on the catalog's sentence, since every machine in this series is introduced with one promise and this machine's is the shortest. Some rooms promise a service, some promise a standard, some promise a safeguard, and this machine promises a floor: not the wooden kind, but the flat, level, buildable kind, the surface on which a citizen can stand, move, hear, read, sign, sit and work, and the promise is meant literally, because every room in this machine exists to level some surface or to argue that a surface should never have been tilted. The reader will find no heroes in these chapters, and no villains either, only a craft, which is harder to read about and better to live under, and if the book has a single lesson for a country just beginning, it is the lesson the board's chair gives the new members in the first chapter, over the stolen gradient cards: build the argument into the drawing, not the lawsuit, because the drawing is where mercy is cheap, and the lawsuit is where it is measured, and measured things, as the tribunal keeps having to say, are the only ones the country can be made to honour.

A note on the book's own honesty, since the catalog's readers have learned to ask. Every volume in this series stands on the same rules: no brands, no real nations, no borrowed headlines, no invented statistics presented as history, and every number in every room is either a price, a measurement, a date on a calendar, a clause in a suite, or a figure a fictional room publishes about itself, and the reader will find no citation of a real country's law and no disguised retelling of a real case, because the catalog's purpose is not reportage but anatomy, and anatomy teaches by structure, not by scandal. The invented country of these chapters is a composite, about ten million citizens, with the usual geography of any place: a capital with an old quarter and a new one, a port, a parade in the suburbs, a ministry district with a forms estate, and a tribunal in a converted hospital, and every room in the machine is staffed by ordinary officers with ordinary vices, pride, fatigue, certainty and coffee, since a machine of saints would teach nothing a reader could build. What the book claims as true is not the country but the method, and the method can be

checked at any kerb: the argument goes where the drawing is, the audit goes where the argument went, and the citizen goes where the audit says, and if the kerb is level, the machine is working, and if it is not, the reader now knows the ten rooms to ask, in order, and the one question each room cannot refuse.

Chapter 1: The Access Board — Where the Design Rules Are WrittenChapter 1: The Access Board — Where the Design Rules Are Written

Every machine needs its grammar written somewhere, and the access machine's grammar lives in a plain committee room on the second floor of a building it shares with three ministries and a canteen. The room holds a long table, a wall of published standards and, on most mornings, an argument. The Access Board is where the country's design rules are written, and its work is stranger than it sounds: not charity, not medicine, not law, but drafting, the patient business of turning a thousand lived difficulties into numbered sentences a builder, a coder, a head teacher or a council engineer can be held to. Its members are the machine's most unusual collection: an architect who uses a wheelchair, a deaf teacher, a blind software lead, a parent of a child with autism, a council engineer who has built kerbs for a working lifetime, and a shopkeeper who once thought the whole business was expensive until she was asked to price her own shop's step. The board meets through the Standards House's committee machinery, the same grammar of working drafts, comment tables and minuted decisions that the standards machine uses, because access is not a mood but a specification, and specifications live or die in drafts.

The board's product is the Access Suite, nine published standards that the rest of this book keeps quoting like scripture, each one short enough to read aloud and long enough to fight over. The gradient standard, the one this week's ramp case will turn on, says a public ramp must rise no more than one unit in twelve, must rest on a landing every five metres, and must offer the handrail twice, at the height of a standing grip and a seated one. The widths standard turns a door into an argument about a wheelchair's elbows. The contrast standard tells a painter what a wall must do for a person who sees edges as light. The tactile standard fixes the blistered slab that speaks underfoot to a white cane. The hearing standard sets the copper loop and the sign that says it works. The forms standard, written in the machine's plainest language, says that a public form must be completable by a screen reader, a keyboard and a tired person in a queue, and it is the standard that Thursday's ministry case will break. The suite's ninth standard is the smallest and the hardest: the usability of escape, the promise that when the building burns, the step at the fire door will not be the machine's last lie.

The board's method is the comment table, and its nearest likeness is a

courtroom of small objections. Every draft goes out to the country for sixty days, and every reply lands on the table with three columns: the position, the objection, the board's written answer. A council objects that the landing rule doubles the cost of every ramp; the board answers in writing that the alternative has been measured, in falls. A theatre owner objects that the loop standard demands equipment his hall cannot power; the board's answer points him to the grant desk three chapters ahead, then holds the line. An architect who is himself a wheelchair user objects to a clause he finds too gentle, and the board adopts his harsher number with thanks minuted. The table is the board's honesty: it cannot please everyone, but it must answer everyone in writing, and the answers are published with the standard so that the next committee inherits not just the rules but the reasons.

The board's quarrel is the oldest one in accessibility, fought between the two schools its members politely call the ramp faction and the root faction. The ramp faction accepts the world as built and machines its corrections; the root faction wants the step never laid, the form never drawn badly, the standard taught in the colleges so the correction never becomes necessary. The board carries both schools in one room and uses them against each other on purpose: the root faction writes the clauses for new buildings, the ramp faction writes the ones for the old town, and the suite's most quietly radical sentence, the one that makes the whole machine run, is a compromise between them: new work must meet the standard fully; old work must meet it on a published plan with a dated deadline. That single sentence is why the board is not a charity and not a court, but something rarer, a parliament of usability, and its laws, like all laws, matter most in the week they are broken, which is the week this book follows.

The board's objects are few, because its work lives in the volumes it ships. The first is the suite itself, nine slim books in a folder, the country's whole grammar of entry in a hand's width of paper, and a builder who has never opened it is rarer than an honest claim of that kind. The second is the gradient card, a pocket rectangle printed with the one-in-twelve slope and the landing rule and the handrail heights, the single most stolen object in the building, so routinely borrowed from the counter that the board now prints a thousand a season and treats theft as distribution. The third is the comment table's ledger, the bound record of every objection the country has ever raised against a standard, kept because the board's memory of its own arguments is the substance of its authority, and the fourth is the little brass seal that stamps a standard's final page, which confers nothing except the truth that the page beneath it was

argued into existence. The board's ordinary Tuesday is a committee of no importance whatsoever, which is to say a committee exactly like every other. A working group meets to argue the guidance for the countable, the plain-language annex that will explain a doorway's turning circle to a small builder with no surveyor and no patience, and the argument takes two hours and covers four sentences, and every minute of it is the machine working. A potter writes in to ask whether a kiln room's threshold counts, and the answer is drafted, checked against the suite's own clauses and posted with a name on it, and a delivery of fresh comment tables arrives from the print room and is stacked, unopened, until each comment has been given its column. The secretary's view of an ordinary day is simple: nothing happened that will ever be mentioned in any annual report, and a builder somewhere will hang a door correctly because of it.

The board's quarrel is the oldest one in standards, fought in every country that ever wrote a rule: whether to write the country's own suite or adopt a foreign one whole. The harmonisation party argues from the importer's desk, that a tap that fits in one country should fit in all of them and that a national suite is a tax on trade; the sovereignty party argues from the kerb, that the gradient card was measured on this country's hills, in this country's rain, against this country's wheelchairs, and that a suite written abroad is written by people who have never been caught by this country's buses. The board's resolution is the machine's whole method, shrunk to miniature: it adopts the foreign numbers where the physics is shared and writes its own where the country is particular, and it prints both provenance columns in the suite's margins, so that any reader can see which paragraph was grown at home and which was imported, and the argument renews itself every five years at the suite's review, which the board treats not as a weakness but as the suite's heartbeat, because a standard nobody argues with is a standard nobody has read. The board's succession is the quietest in the building, because the office changes hands with a stamp and a ledger only: the incoming secretary signs the suite's front page, the outgoing one signs the errata file, and the two signatures sit on facing pages as the machine's single sentence about time, that the work is continuity and the person is a custodian. The new secretary's first duty is not a committee but a reading, one full pass of the suite with the pencil, and the pencil marks from every such reading are kept in the drawer beneath the stamp, a stratum of first readings, so that when a clause is finally rewritten the board can say which custodians noticed first, and the answer is usually all of them, years apart, which is the board's private proof that the machine works.

The board keeps few numbers, on the theory that a standards body drowning in its own metrics has stopped listening to the public, and the few it keeps are watched at a weekly tea. The first is comments per enquiry, and the board worries in both directions: too few means the enquiry went out to an empty room, too many means the country is arguing about something the board got badly wrong. The second is the objection rate on published standards, read not as friction but as a pulse, since a suite nobody objects to is a suite nobody is reading. The third is the theft count, the number of gradient cards lifted from the counter each season, watched with open delight and published without comment, because it is the only metric the board owns that measures the country's appetite for its work. The last is the heartbeat itself, the review column in the register: every standard with a due date, and the board's one unforgivable number is an overdue review, kept at zero for eleven seasons running.

The board's future is already on its workbench, and it is a paradox the board enjoys: the room that writes the country's plainest prose is learning to ship code. The suite's next editions will be machine-readable, each requirement printed twice, once in sentences a contractor can read and once in rules a building model can be tested against, so that a drawing that violates the gradient will fail its own software before it ever reaches a human examiner. The board's members argue about the change in the long way they argue about everything, and the objection that survives every session is the honest one: a rule a machine enforces is a rule nobody explains at a site visit, and the board's answer, drafted and redrafted, is that the machine reads first and the examiner still walks the ground, since the future of a standard is not automation of judgement but automation of the arithmetic, freeing the board's humans for the arguments that were never about numbers at all.

A reader's check for the board, performable without leaving a library. Ask to see the suite, any library in the country keeps a set, and open the last page of any volume: a review date should sit there, printed and specific, and the check is whether the date has passed unreviewed, the board's one unforgivable number made public. Then ask for the comment table of the last enquiry, which the board publishes on request, and read three rows: position, objection, answer. A healthy table shows refusals argued in full sentences, since the board's doctrine is that a comment dismissed in a clause is a comment the public will bring back as a complaint. The delegation this room performs is the machine's keystone: the board hands the suite downward and the suite is the whole machine's grammar, the building office taking its arithmetic, the street

desk its slab patterns, the digital office its contrast rules, each room quoting the suite the way a court quotes statute, and a reader who has checked the review column has checked the foundations of every room that follows.

The board's dusk falls at the end of the enquiry period, when the comment tray is carried to the long table and the objections are read aloud, one member each, until the tray is empty. It is the room's most cheerful evening, and the board is unembarrassed about this, since a suite that arrives without objections has not been tested and an enquiry that ends in silence has merely been posted. The secretary locks the volumes in the low cabinet, checks the register's review column once, out of superstition rather than doubt, and leaves the gradient cards on the counter for the night's honest thieves. The board's recap, in its own voice: bring me your argument before it hardens into grievance. I take the country's disagreements and return them as sentences everyone can quote, I keep my rules reviewed on schedule, and I count my success in cards stolen from my own counter, because the day the country stops stealing the gradient is the day it stopped building ramps.

A caution for the board, and it is the caution every standards body lives with or dies of: capture. The board's members are volunteers drawn from the industries the suite regulates, and the room that writes the gradient will one day be visited, politely, by the makers of ramps, who will arrive with data, and sandwiches, and a proposed clause that happens to fit their catalogue. The board's detector is the comment column's provenance, read each season: if the objections to a revision are coming from three desks in the same building, the board hears it, and its rule is the published disclosal, every member's employer printed beside their name in the enquiry papers, so that capture, when it comes, must at least arrive in the open. The board's ledger keeps four lines: comments received and answered, revisions published, reviews completed on schedule, and the theft count, the last entered with the year's only exclamation mark, since a standards board that cannot laugh at its own metrics has already begun to ossify.

The board's closing inventory, the papers any reader should be able to point to on a shelf: the suite, nine slim volumes with review dates printed on the last page; the comment table, three columns of position, objection and answer; the provenance page, every member's employer disclosed; the register of standards with its review column kept at zero overdue; and the gradient card, the most-stolen object in the building, a pocket rectangle that carries the suite's most quoted sentence in a single drawn line. The reader who can hold

these five papers has the machine's grammar in hand, since every other room in this book quotes them. The board's frame, spoken at the week's end by its chair to the new members: the machine runs on argument, and the week proved it. The town hall's ramp was refused on Monday by the suite's arithmetic, the theatre's loop was re-hummed on Tuesday by the suite's wiring standard, the school's refusal was filed on Wednesday under the suite's communication clause, the ministry's form was fixed overnight against the suite's contrast rules, the tribunal's order quoted the suite on Friday, and the kerb was cut on Saturday to the suite's slab patterns. One difficult week, ten rooms, and the same nine volumes under all of it: that is the board's whole account of itself, and it is not modesty but arithmetic.

How the board reads its nine siblings, since a keystone that does not know its arch is a paperweight. The board reads the building office as its arithmetic made flesh, the only room that enforces the gradient with a stamp, and it reads the street desk as the gradient's auditor, the boots that prove whether the suite's slab patterns survive contact with actual tarmac. The hearing and vision desk is the suite's wiring and print clauses walking around with a wand, the sign language desk is the communication clause staffed by two hundred hands, and the bench is the one room the suite cannot standardise, which the board considers a correction rather than a complaint, since bodies are not catalogues. The accommodation desk the board reads as its quietest disciple, the room that took the suite's spirit of adjustment and applied it to work itself. The digital office is the suite's newest and strictest child, the only room that scores with a percentage, the fund is the suite's purse, paying for what the volumes describe, and the tribunal is the suite's teeth, the room that reads the nine volumes back to the state in the state's own name. The board's one instruction to itself about its siblings is humility in print: no volume of the suite may name another room as its author, because a standard that flatters its enforcers has started writing press releases instead of rules, and the board has watched, in other countries' papers, exactly where that road ends, which is a suite nobody argues with and nobody follows.

The board's week, counted at Friday's dusk by the chair, who keeps the habit of counting aloud because a board that will not say its own numbers in the open has started keeping a second set. Monday the town hall's drawing arrived for the second reading, its gradient corrected to the suite's arithmetic after the first refusal, and the board's ledger enters it as one argument won in a drawing, the cheapest victory the machine records. Tuesday the theatre's loop was re-hummed to the wiring standard's clauses, a certification the board

did not issue but whose authority it wrote, and the board's marginal note reads: our volumes did their work while we slept. Wednesday brought the school's refusal into the register of cases, filed under the communication clause the board revised two seasons ago after the hardest comment table in its history, and the chair's note beside the entry is a single word: justified. Thursday the ministry's form fell in line with the contrast rules overnight, a pattern adoption the board watched with the wry pleasure of an author seeing a sentence quoted correctly without attribution. Friday the tribunal read the volumes back to the state, and Saturday a kerb was cut on the suite's slab patterns to the millimetre the surveyors walk. The week's tally, in the board's ledger: one revision published, nine comments answered, three arguments prevented, two won in public, and the theft of four gradient cards from the enquiry table, which the chair enters, as always, with the exclamation mark, since a standards board that is being stolen from is a standards board that is being read.

The board's hardest case, kept in the drawer the chair opens only for new members. It is not a volume or a clause but a letter, from a woman who sat on the board's comment table for a full revision cycle, two hundred objections, typed, argued, filed, and lost nearly all of them, one by one, in the published record with her name on every line. Her cause was the tactile paving specification, which she argued was tuned to the wrong cane and the wrong footfall, and the board, that season, had the evidence, the weight of measurement and the manufacturers' warranties, against her, and the board was right by every standard it keeps, and the chair has never disputed it. What is in the drawer is her last letter, sent not in anger but in weariness, one sentence the chair can recite: I have measured every crossing in my town with my own cane, and the specification does not match my town. The board lost nothing that season, published its volume, kept its record clean, and gained, from that one sentence, the standing instruction no other board in the catalog is known to keep: every specification in the suite must be re-walked by a user before it is sealed, no matter what the instruments say, because the instruments measure the material and the cane measures the country, and the board's hardest case was not the woman who was wrong, but the discovery that being right, in a room like this one, is not the same as being true, and a board that cannot feel the difference should not write volumes.

The board's open questions, published each season in the suite's annex as the machine's version of humility, since a board that has no unanswered questions has stopped reading its own comment tables. The standing three: whether the

suite's re-walk rule can be extended from specifications to interpretations, the case files showing that two ministries can walk the same clause into opposite buildings, and the board has not yet found a rule that fixes reading; whether the board's comment tables, open to any citizen, are genuinely reachable by the citizens the suite concerns, the attendance figures saying yes and the letters saying sometimes; and whether the board should certify its own members' recusal habits, the chair's drawer arguing that being right is not being true, and the board leaving the question open on purpose, since the day a standards board considers itself above measurement is the day the drawer should be emptied in public.

ABOUT THE AUTHOR

The author writes the anatomy of the machines that hold daily life together, one organ at a time. This series and its companion volumes have taken apart the systems that govern, feed, trade, police, heal, remember, defend, welcome, and mourn; the present book turns to the machine that levels the world for every body, and to the craft of the board members, building examiners, street surveyors, hearing and vision officers, register keepers, bench fitters, accommodation officers, digital engineers, fund directors, and tribunal chairs who keep the country's doors open to every citizen, one kerb at a time.