Illustration by Ellen Lupton

ACT 1

Action

At a conference in New Orleans, a young designer asked me what I was working on. He looked gravely concerned when I told him I was writing a book about storytelling. "Have you heard about the mantle of bullshit?" No, I hadn't.

"Stefan Sagmeister," he explained, "gave an interview saying that storytelling is bullshit. You should see it."

In the interview, Sagmeister denounces a designer who creates roller coasters for theme parks and calls himself a storyteller. According to Sagmeister, storytelling is a "mantle of bullshit" that designers use to load up their work with glamour and prestige. A roller coaster designer doesn't tell stories—he designs roller coasters, and that should be interesting enough on its own.

Yet roller coasters do share a pattern with many stories. The ride starts out on level ground and builds toward a climax. As the cart climbs slowly up the track, it stores energy that will be released in a whooshing drop after the passengers reach the highest point. The energy released by the roller coaster is not only physical but emotional, heard in the ecstatic screams of riders.

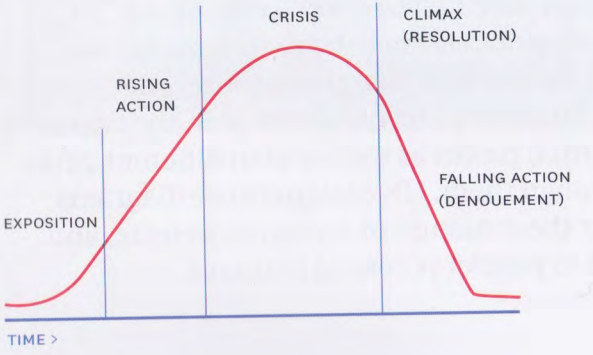
Roller coaster designers work to amplify the emotional intensity of the ride, drawing out suspense toward the zenith. In his book *Sonic Boom*, Joel Beckerman writes about a roller coaster designer who inserted a silent pause just before the apex. The unexpected quiet makes riders worry. Is something wrong? Did the machine break? Is something terrible about to happen?

Filmmakers generate suspense with similar techniques, pausing the action before the villain jumps out of the closet. The following pages explore some of the patterns that underlie stories, including the rising and falling energy of the narrative arc and the circular return of the hero's journey.

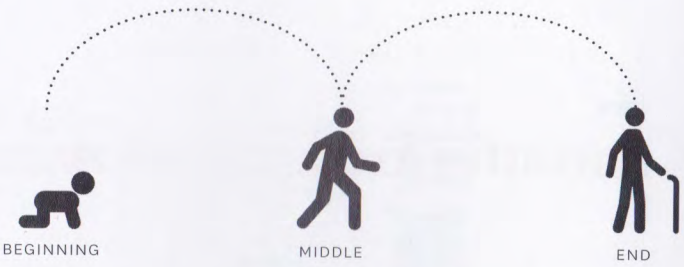
One of the most famous tales in Western literature is *Oedipus Rex*. An oracle tells the king of Thebes that his own son will eventually kill him, so the king wounds his newborn child (Oedipus) and abandons him outdoors to die. (What could possibly go wrong?) A kindly shepherd rescues the baby, who grows up to slay the king in a fit of road rage on his way to destroy the evil Sphinx, a monster blocking the entrance to the city of Thebes. Oedipus defeats the Sphinx and is declared king—an honor that involves marrying the queen. Alas, the queen is Oedipus's mother. When the royal couple discover what they have done, she hangs herself, and he pokes out his eyes. End of story.

Aristotle used *Oedipus Rex* as a universal template for storytelling. The essence of drama, he wrote, is action. Characters, scenery, and moral lessons exist for just one purpose: to underscore the main action of the story. In an effective narrative, the main action must attain sufficient "magnitude," culminating in dastardly deeds or profound discoveries. The chicken can't just cross the road; she needs a compelling reason to do so (reunite with egg; serve paternity papers to rooster), and she needs to overcome obstacles along the way (roadkill, left-turning cyclist, zealous traffic cop).

Stories ask questions and delay the answers. The main action of any dramatic tale can be phrased as a question ("Will Oedipus escape his fate?" "Will the chicken deep-fry the rooster for his crimes?"). Finding out the answer yields a satisfying ending that completes the action and makes the story whole.



LOOKS LIKE A ROLLER COASTER In the words of Jack Hart, "A true narrative arc sweeps forward across time, pushing ahead with constant motion. It looks like a wave about to break, a pregnant package of stored energy." Illustration adapted from Jack Hart, *Storycraft: The Complete Guide to Writing Narrative Nonfiction* (Chicago: University of Chicago Press, 2011).



The Sphinx blocking the gates of Thebes asks every travele a riddle. She destroys anyone who cannot answer. Here's the riddle: "What walks on four legs in the morning, two legs durir the day, and three legs at night?" The answer, replies Oedipus, a human being. He crawls as a baby, walks upright as an adult, and carries a cane in old age. The riddle of the Sphinx divides human life into three parts: beginning, middle, end.

Action drives stories, and it also drives the design process. Design makes things happen in the world. The word "action" is at the heart of "interaction." "Design" is a verb as well as a noun. At the start of the creative process, designers ask what a product or service can do for people—and what *people* can do with *it*. What actions does a product enable? A calendar doesn' just list events. It's a tool for mapping one of life's most precio resources. A photo album isn't just a place to store pictures. It's a way to edit and share personal histories.

Like an absorbing story, a well-designed product, place, or image unfolds over time. It helps us create memories and forge connections. It contains characters, goals, conflicts, and vivid, sensory settings. In a crowd-funding pitch for a theft-resistant bicycle, dramatic camera angles and suspenseful music turn the bike and its riders into crime-fighting heroes. In a shop selling sultry dresses and eccentric housewares, soft light and the scent of nutmeg convey spicy domesticity. Every pie chart, retail space, food package, and hospital room expresses values through language and light, color and shape. We touch design with our minds and bodies. Sound, texture, taste, and smell prompt our actions and fuel our memories.

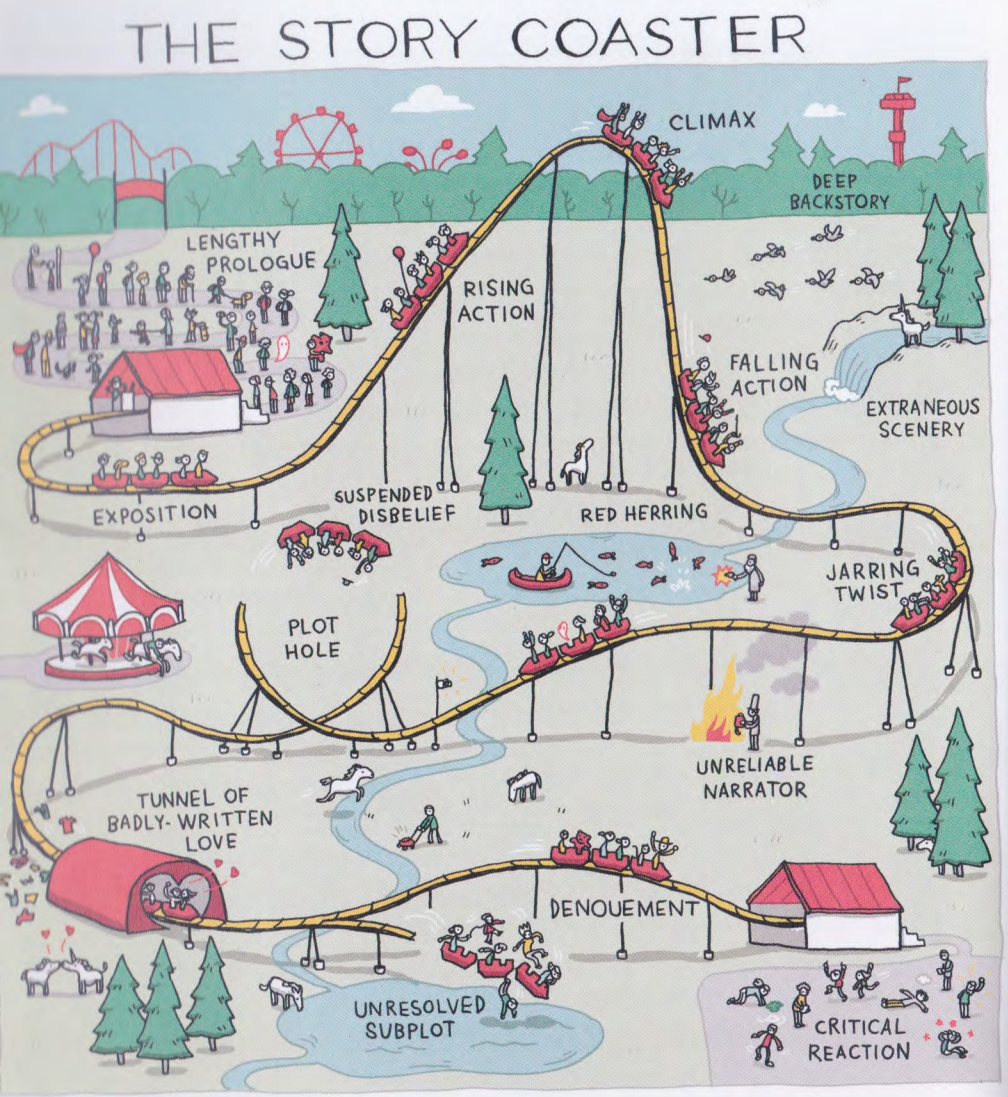


Illustration by Grant Snider for the *New York Times Book Review*

Designers sometimes think of a building, chair, or poster as a static artifact. Yet we experience each of these things over time. A hospital or airport is a sequence of physical spaces (entry halls, receiving zones, passageways, and seating areas). The rooms in a building change from open to compressed, light to dark, warm to cool, soft to hard, to support different uses. Some activities are quick and intense, while others are slow and relaxed. Architecture isn't "frozen music" because it isn't frozen. Time never stands still.

A poster or an illustration is temporal, too. Eyes wander across its surface, darting from detail to detail to build a whole picture, focusing on some areas and leaving others in the background. A book compresses time and space between two covers. A book has a fixed sequence of pages, yet users can enter—and exit—from any point they choose.

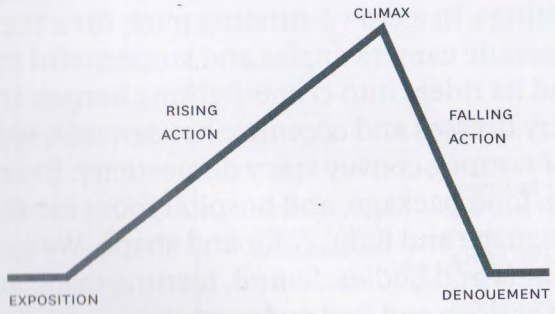
In a novel or movie, the order of events doesn't always match the order in which the audience encounters them. The dastardly deed in a murder mystery often occurs early in the story. Someone has been murdered but we don't know why. (Later we will learn that Bob killed Aunt Mary in order to inherit her rent-controlled apartment.) To write a mystery, the author has to work out the underlying structure (sometimes called the "plot") and then reveal that structure bit by bit (the "story"). The story entices readers with clues and false leads. By the end, the author has shone light into the dark corners of the plot, bringing its secret architecture into view.

Designers plan structures, too. The client's brief for a building or website explains what functions the project will fulfill. A shoe store might need retail space, office space, a stockroom, and a loading dock. A website for the same store might need a product database, e-commerce tools, user accounts, and FAQs. Architects and designers plan the layout of these physical and virtual places as well as plan different paths people could take through them. UX designers use diagrams and site maps to chart the structure of an app or website, and they create user flows to predict potential journeys.

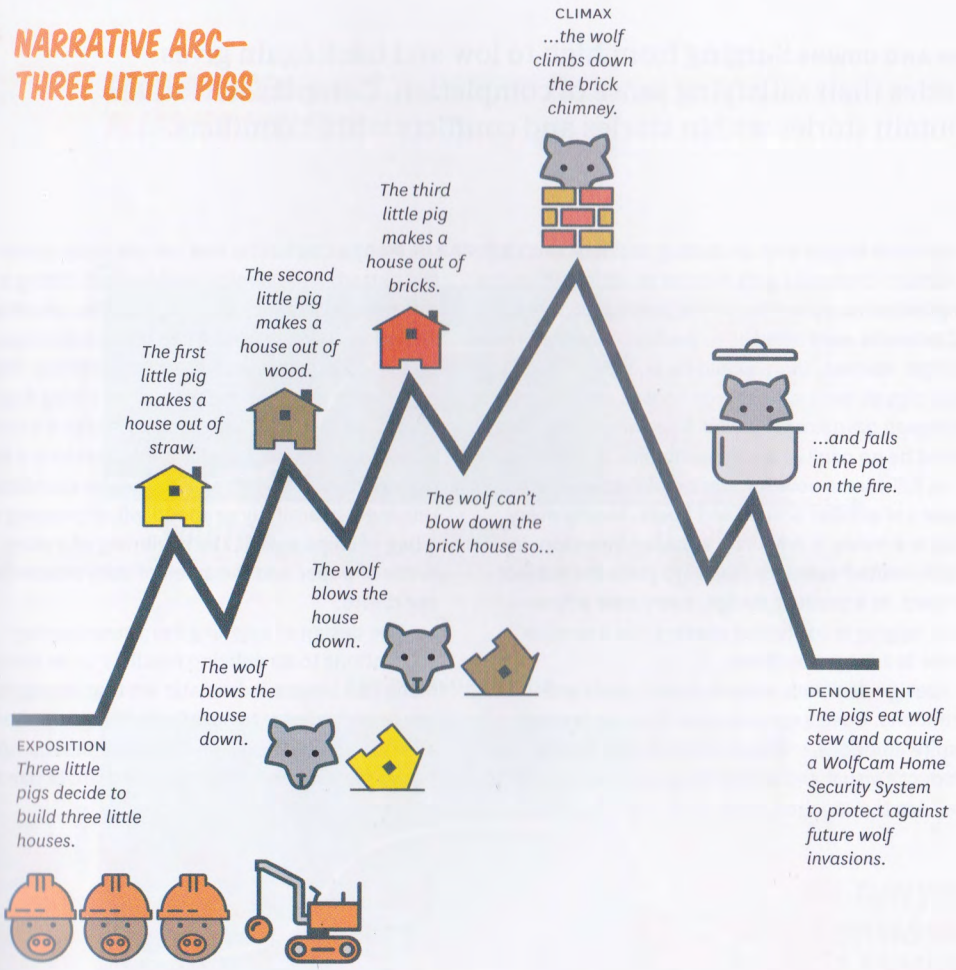
TOOL

Narrative Arc

In 1863, the German playwright and novelist Gustav Freytag created the **narrative arc**. He divided dramatic works into five parts: exposition, rising action, climax, falling action, and conclusion or denouement. Freytag's up-and-down pattern is often visualized as a pyramid, placing the climax at the highest point in the action. This useful diagram is also known as Freytag's pyramid or Freytag's triangle.



NARRATIVE ARC— THREE LITTLE PIGS



THREE LITTLE PIGS Each scene in a story is a smaller arc or pyramid that contributes to the larger shape of the narrative. In the story of "The Three Little Pigs," the first two pigs build flimsy houses with straw and sticks, and the last pig builds a sturdy house with bricks. Each of the houses brings us closer to the final showdown, when the wolf climbs down the chiminey of the brick house and falls into the soup pot. The pigs eat the wolf for dinner and live happily ever after. Wolf illustration by Chanut is Industries.

READ MORE Donna Lichaw, *The User's Journey: Storymapping Products That People Love* (Brooklyn, NY: Rosenfeld Media, 2016).

TOOL

Hero's Journey

The circular pattern of the **hero's journey** occurs in tales across history, from Homer's *Odyssey* to *Star Wars* and *Mad Max: Fury Road*. A call to adventure draws the hero away from ordinary life. Aided by a mentor, a sidekick, or a wise guide, the hero crosses the threshold into the unknown. In *The Wizard of Oz*, Dorothy searches for a better existence in the Emerald City. She finds a magic pair of shoes, attracts a band of helpers, battles villains, and ultimately finds what she is looking for back in the place she started. She goes home to Kansas with new knowledge.

ROUND AND ROUND Joseph Campbell traced the hero's journey in his famous book *The Hero with a Thousand Faces*, published in 1949. He applied the concept of the circular path to numerous examples from world literature. The hero's journey typically includes a call to adventure, the aid of a helper, and a descent into a strange new place—often a "green world" such as an Edenic garden or Emerald City. Illustration by Chris Fodge.

Narrative Arc

UPS AND DOWNS Surging from high to low and back again gives stories their satisfying sense of completion. Complex narratives contain stories within stories and conflicts within conflicts.

A narrative begins with an inciting incident or a call to action. Cinderella gets her call to action when the king invites every maiden in the land to the royal ball. If Cinderella went straight to the ball, met the prince, and got married, there would be no story. If the three little pigs all built safe, sturdy houses with affordable mortgage payments in a wolf-free community, there would be no conflict and no problems to solve.

A full-blown novel or film breaks down into dozens of smaller scenes and beats. Nearly every shot in a movie is driven by a goal or intention. In a well-crafted sentence, the verb pulls the subject forward. In a product design, every user action—from logging in to sharing content—is a smaller scene in a larger narrative.

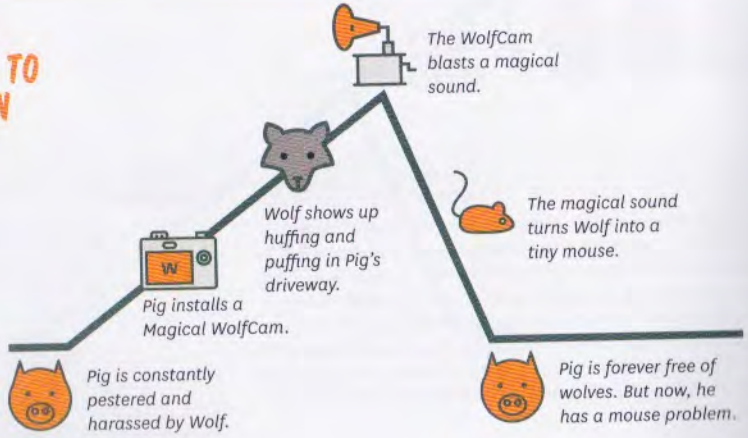
Design decisions support users' goals and intentions. Does a certain color, font, or texture inspire emotions or trigger a response? Does a product's visual and verbal language underscore its use? Are the required steps clear and engaging?

Many experiences that people enjoy conform to the pattern of beginning/middle/end. Eating a falafel sandwich starts with anticipation. The appetite is stoked by the sight and smell of fried chickpeas swaddled in bread, sauce, and vegetables. The experience peaks as the process of eating finally begins. At last, a heavy gut says, "Stop! It's over!" Having sex follows a similar path, reaching a brilliant high point before drifting into mellow satisfaction. Untying a beautifully wrapped gift or popping open a bag of chips signals the beginning of a story. The rustle of paper and the smell of salty snacks fuel our desire.

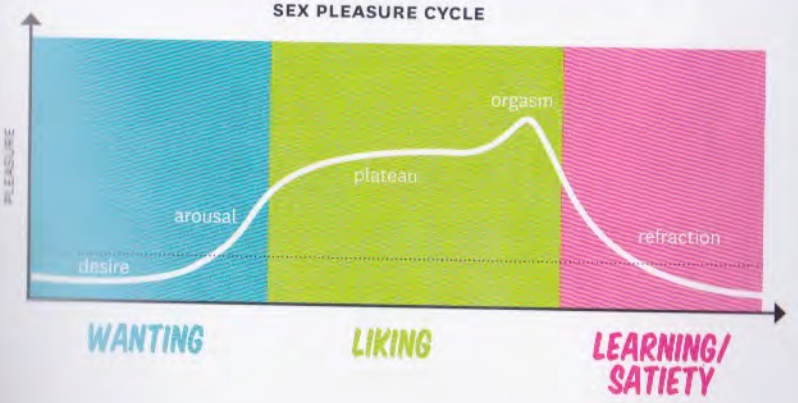
The design of anything from step-by-step instructions to an enticing headline or an onscreen menu can initiate a dramatic arc that moves from low to high, desire to satisfaction. A gentle beep or a reassuring click tells users an action is complete. Designers use the rising and falling arc of narrative to emphasize large and small actions.

APPLYING THE NARRATIVE ARC TO PRODUCT DESIGN

The Magical WolfCam and the Big Bad Wolf



FOOD AND SEX—PLEASURE CYCLES



PLEASURE SCIENCE Brain activity rises, peaks, and falls during a good meal or a sexual encounter. This pattern resembles the rising and falling action in a story. Charts adapted from Morten L. Kringelbach, Alan Stein, and Tim J. Hartevelt, "The functional neuroanatomy of food pleasure cycles," *Physiology and Behavior* 106 (2012): 307–316; and J.R. Georgiadis and M. L. Kringelbach, "The human sexual response cycle: Brain imaging evidence linking sex to other pleasures," *Progress in Neurobiology* 98 (2012): 49–81.

Hero's Journey

ENTER THE LABYRINTH With its affordable meals and daycare services, an IKEA store can keep an entire family busy for hours. Some shoppers love the store so much, they come and spend the night in the bedding department.

Yet despite the big blue store's popular products and remarkable amenities, sometimes an IKEA store feels like a maze, designed to trap and confuse hapless shoppers. A hero on a quest for a desk chair must endure a gauntlet of living room vignettes and kitchen scenarios before finding the office section. An IKEA store is not, however, a maze. It's a labyrinth! A *maze* is a puzzle with hidden turns and dead ends where a wanderer could be lost forever. A *labyrinth* is a fixed path, designed to carry a person along a controlled journey with a clear beginning and end. Labyrinths have existed in Catholic churches since the Middle Ages. They were invented for meditative purposes, allowing a worshipper to walk in prayer for a great distance within a small space. A labyrinth is designed to be disorienting, but because it provides a single route, the wanderer will never be truly lost.

Architect Alan Penn explains that an IKEA store establishes a guided route that visitors are more or less compelled to follow. After passing through the portal of the Entrance Lobby, shoppers ascend into the Showroom, where miniature rooms entice them to imagine their own homes transformed into compact paradises of modern efficiency. The hero takes notes along the way, collecting locations for items that must be retrieved downstairs in the Warehouse Area. Before reaching the Warehouse, however, the hero must pass through the vast Market Hall, stocked with ready-to-grab kitchen wares and bed linens. At this point, shoppers find themselves suddenly free to put away their tiny pencils and fill their carts with merchandise in a fit of grab-and-go consumption.

MAZE Puzzle designed to confuse

LABYRINTH Long, guided path

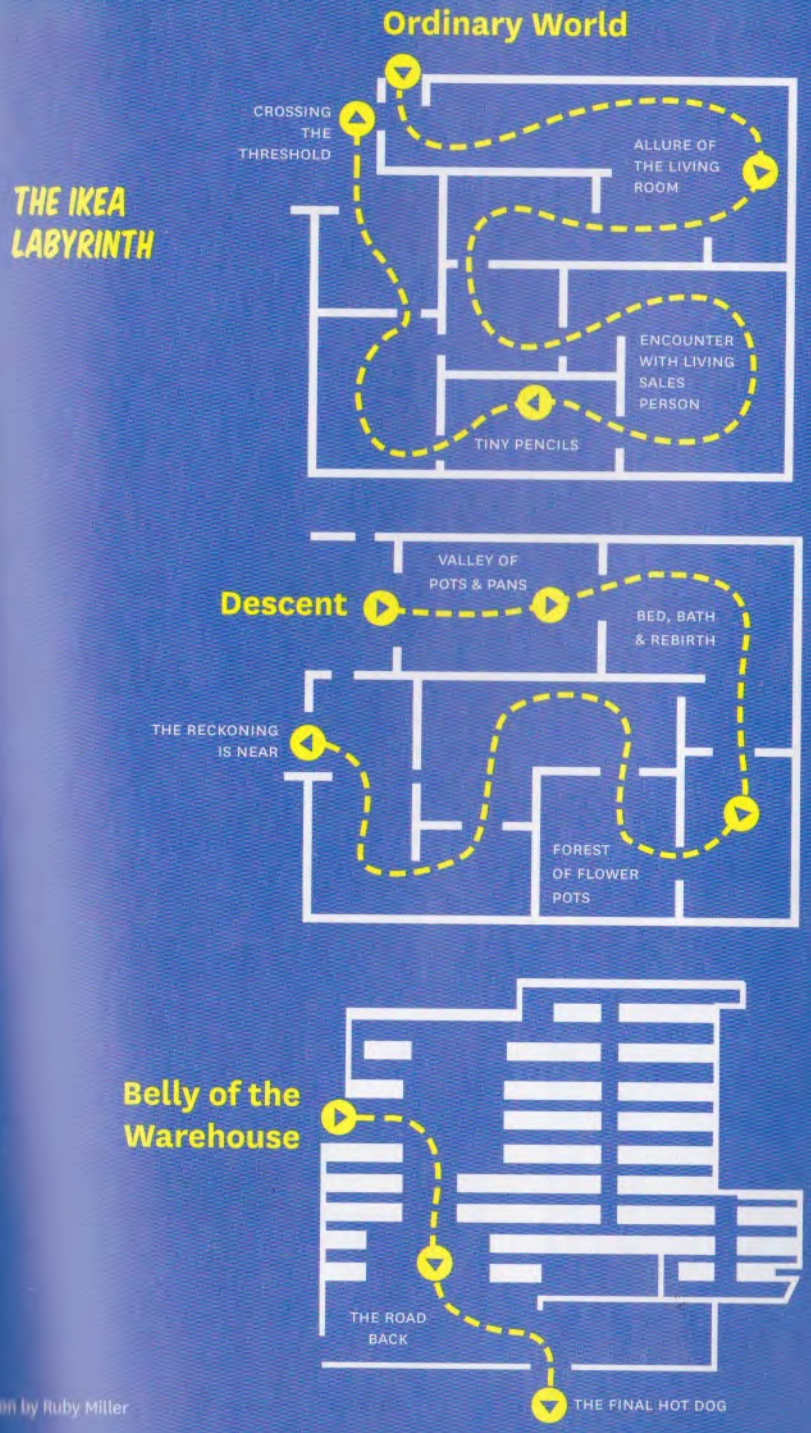


Illustration by Ruby Miller

TOOL

Storyboard

Telling stories with a sequence of images is an invaluable skill not only for filmmakers, comic book artists, and graphic novelists, but for any designer working with time and interactivity. The purpose of a **storyboard** is to explain action with a concise series of pictures. To construct a storyboard, designers plan the arc of a narrative and decide how to summarize the story in a limited number of frames. How does the story begin and end? What is the setting? Where are the story's points of greatest intensity? Do characters or other objects walk, run, or roll into the scene—or do they magically appear in a blast of confetti? Storyboards for animations or videos indicate camera movements in addition to plot points.

Illustration by Hayelin Choi

Storyboard

DESIGNING A SATISFYING STORY There is a famous joke that is funny because it refuses to be funny: "Why did the chicken cross the road? *To get to the other side.*" We expect a punch line, but all we get is a mundane activity lacking any compelling motivation or outcome.

In a satisyfing narrative, the main action is signficant or noteworthy, yielding a transformation or shift in the world of the story. The character can change, or she can change the people or events around her. By solving an important problem, the character sees herself in a new way.

A satisfying story includes conflict and suspense. Questions create uncertainty, making readers curious. The story is the process of answering the question and resolving the uncertainty. If the answer comes too easily, the story is dull. Stories thrive on obstacles, delays, and moments of revelation. A story is a winding path, not a straight and efficient line.

Like stories, many jokes function by flipping our understanding of an initial situation. The set up puts a picture in our minds; the punch line shatters that picture. Woody Allen recounts this joke in his movie *Annie Hall*: "A guy walks into a psychiatrist's office and says, hey doc, my brother's crazy! He thinks he's a chicken. Then the doc says, why don't you turn him in? Then the guy says, I would but I need the eggs." The punch line changes the premise implied in the set up.

Storyboards are tools for planning the transformative action of a story. In a few simple frames, a good storyboard expresses a progression from beginning to middle to end. It conveys an intriguing path and a signifcant change. It indicates necessary details and the point of view of each scene (near or far, first person or third person). Learning to tell a story in six frames is a good way to master the essential elements of narrative form.

READ MORE Uri Shulevitz, *Writing with Pictures: How to Write and Illustrate Children's Books* (New York: Watson-Guptill, 1985).

Ingredients of a Story

ARC The action has a beginning, middle, and end.

CHANGE The action transforms a character or situation.

THEME The action conveys a greater purpose or meaning.

COHERENCE The action builds on concrete, relevant details.

PLAUSIBILTY The action is believable, following its own rules.

Here's the beginning of a story: "Chicken steps into the road, and a truck approaches from the distance." What happens next?

1. MAGIC CHICKEN In this version of the story, a magic balloon lifts Chicken to safety. The magic balloon is a cheap way to solve the story's central problem. Using it requires no skill or ingenuity from our hero (or from the storyteller). It's also implausible. An inflated blob of latex wouldn't move quickly enough to save Chicken from a speeding truck. Even fantasy tales should mesh with our basic expectations about physics.

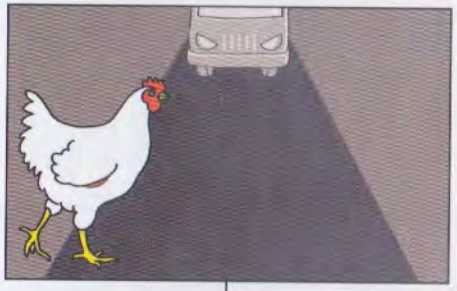
2. DEAD CHICKEN The truck hits Chicken. End of story. This turn of events—dramatic as it is—fails to quench our thirst for meaning. The dead bird is not only a defeated protagonist but also a passive one. She hasn't completed the story's action, and she hasn't controlled her own destiny. Furthermore, she is carrying around a useless and redundant fish. This "red herring" adds neither action nor meaning to the narrative.

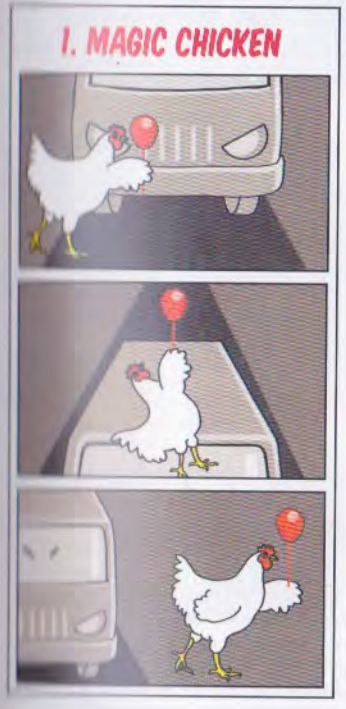
3. TOUGH CHICKEN This is the best version of the story. Here, Chicken is an active character, shaping the course of events. At the beginning, she appears to be a solitary, oblivious bird adrift in a dangerous world. When she halts traffic and guides the baby chicks to safety, she becomes a player on a bigger stage and contributes to the social good. The action yields a greater purpose or theme, altering our initial assumptions.

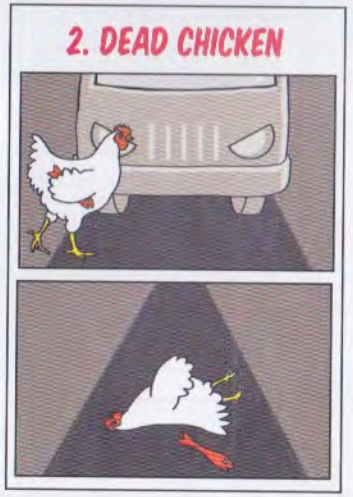
Illustrations by Jennifer Tobias

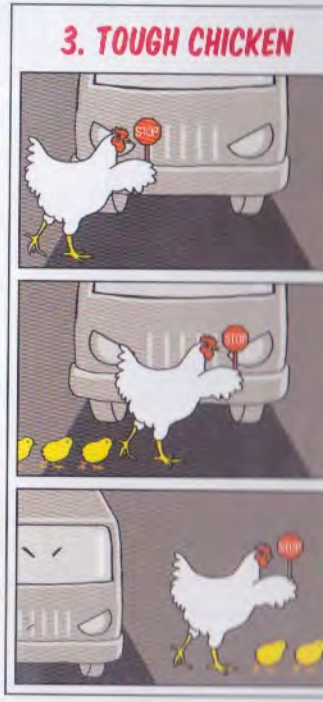
HOW DOES THE CHICKEN CROSS THE ROAD?

There are three ways this story could end. Which one feels more satisfying and complete?







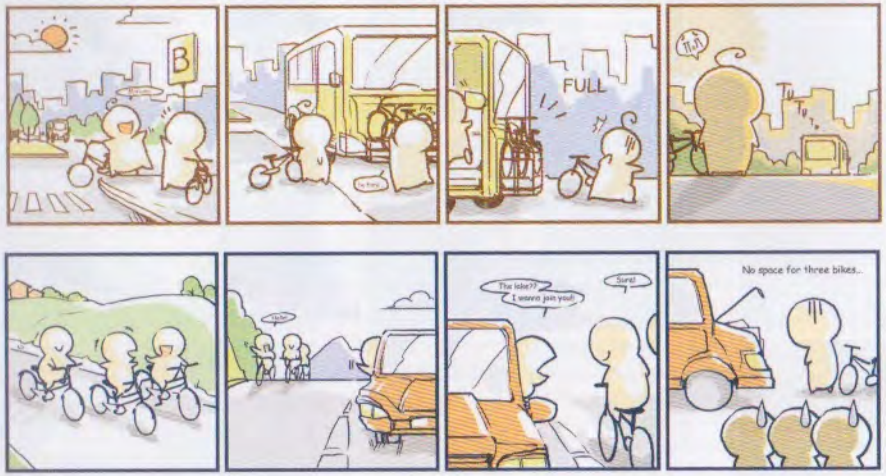


Storyboard

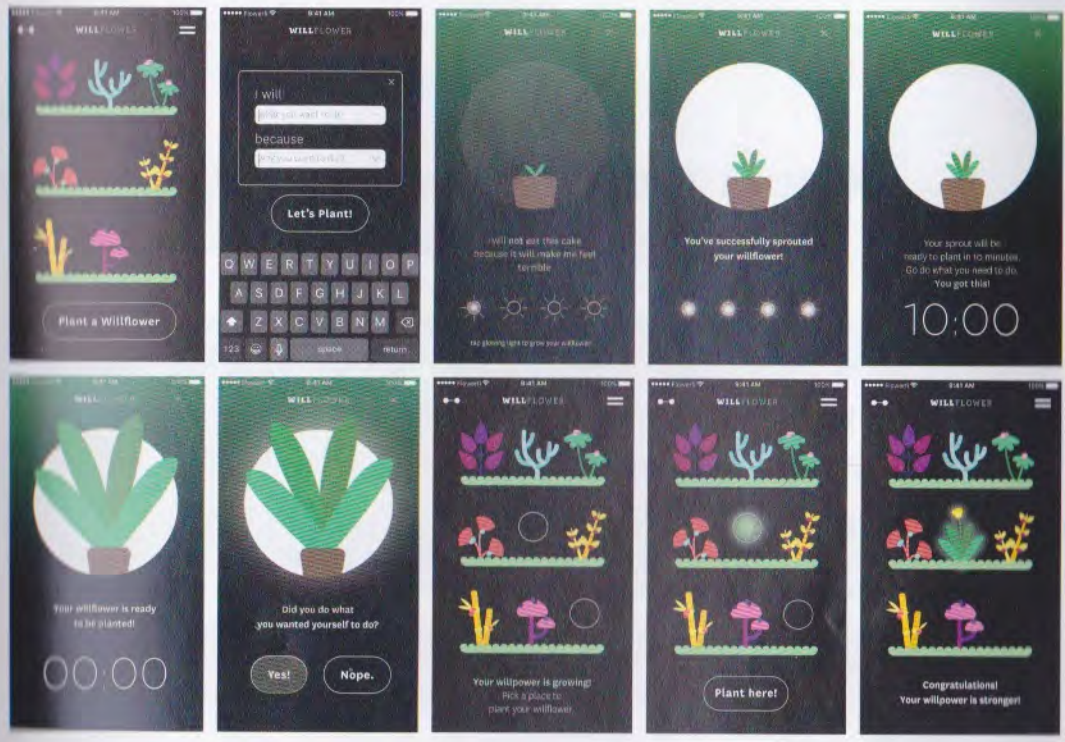
THINKING WITH STORYBOARDS Designers use storyboards to communicate their ideas to clients and collaborators. Designers also use narrative illustrations to think through a problem, sketch ideas, and empathize with users as they confront everyday challenges.

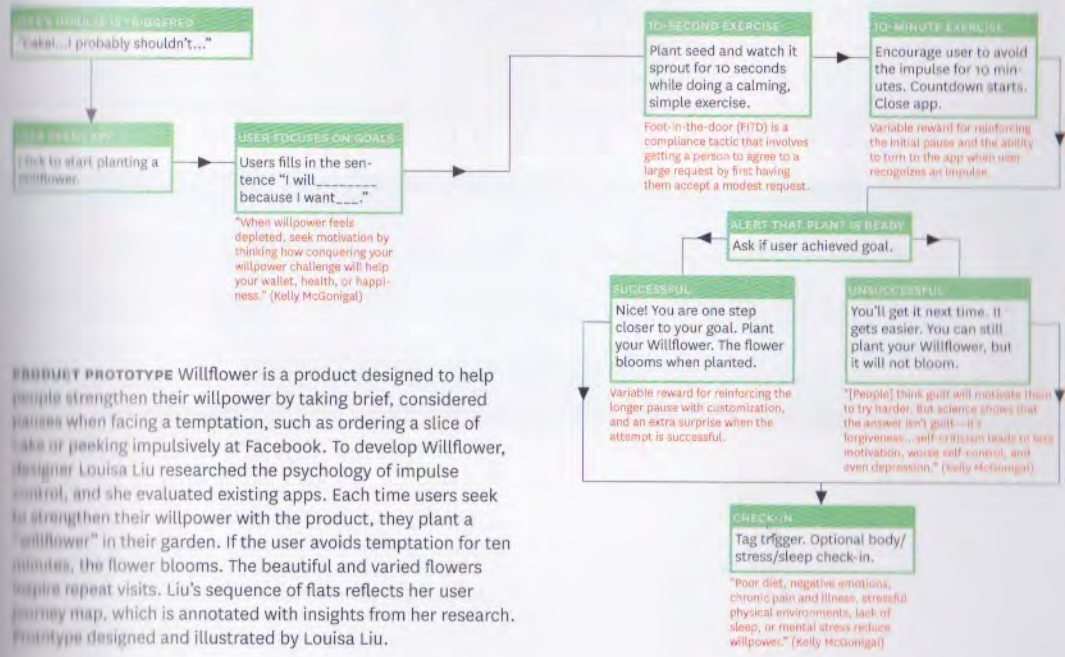
Storyboards are a crucial tool in the human-centered practice of industrial designer Mengyan Li. She starts her design process by searching for "problems and opportunities" that involve users in personal situations. To brainstorm product concepts for cyclists, Li imagined situations where people get frustrated trying to bring their bikes on a car or bus trip. Li says, "Storytelling is the most effective tool to make audiences enjoy a presentation, make them patient and curious to accept an idea, help them better understand an instruction, and keep them awake in lectures. People love cute stuff." Her storyboards convey the emotional quality of a user's experience.

In addition to creating illustrations of people interacting with a product in a physical context, designers produce storyboards to plan the actions that take place on a digital screen when a product is being used. The storyboards created by user experience designers range from simple, black-and-white wireframes to fully developed flats, which represent a product's visual language in rich detail. Wireframes or flats often follow the sequence of a user's journey, from an "inciting incident" or call to action (the event that triggers engaging with the product) through a series of steps required to successfully achieve a goal or complete an action.



PLOT, CHARACTER, AND SETTING These poignant and appealing storyboards depict frustrating situations for cyclists. Each story brings us into a scene infused with real emotional consequences. A cyclist going to work can't get on the bus because there isn't enough room for her bike. Three friends enjoying a ride in the country meet another friend in a car. The driver wants to take everyone to the lake—but the car's trunk is too small for all the bikes. Illustrations by Mengyan Li.



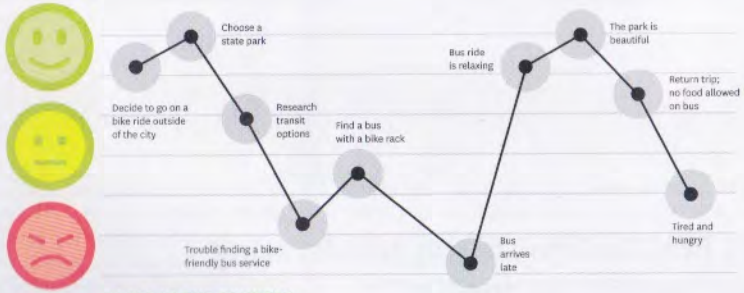


PRODUCT PROTOTYPE Willflower is a product designed to help people strengthen their willpower by taking brief, considered pauses when facing a temptation, such as ordering a slice of cake or peeking impulsively at Facebook. To develop Willflower, designer Louisa Liu researched the psychology of impulse control, and she evaluated existing apps. Each time users seek to strengthen their willpower with the product, they plant a "willflower" in their garden. If the user avoids temptation for ten minutes, the flower blooms. The beautiful and varied flowers inspire repeat visits. Liu's sequence of flats reflects her user journey map, which is annotated with insights from her research. Prototype designed and illustrated by Louisa Liu.

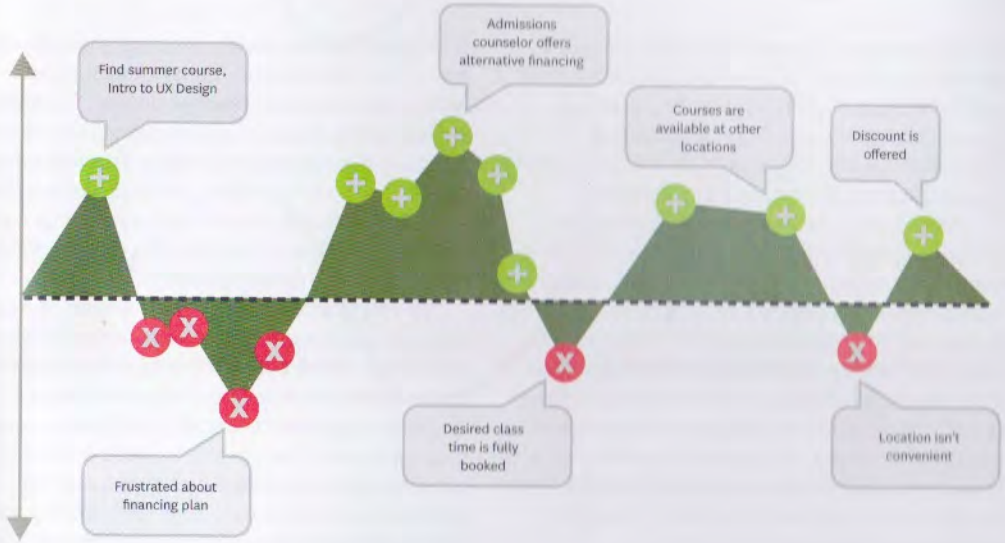
TOOL

Emotional Journey

While a plot is the series of events that make up a story, an **emotional journey** consists of the feelings those events inspire. Stories have highs and lows. They shift in energy and tempo, sometimes moving fast, sometimes moving slow. A person's relationship with a product or service changes over time. Energy rises and falls as users feel curiousity, pleasure, and satisfaction. Users may also hit negative patches of doubt, frustration, and anger.



A RIDE IN THE COUNTRY



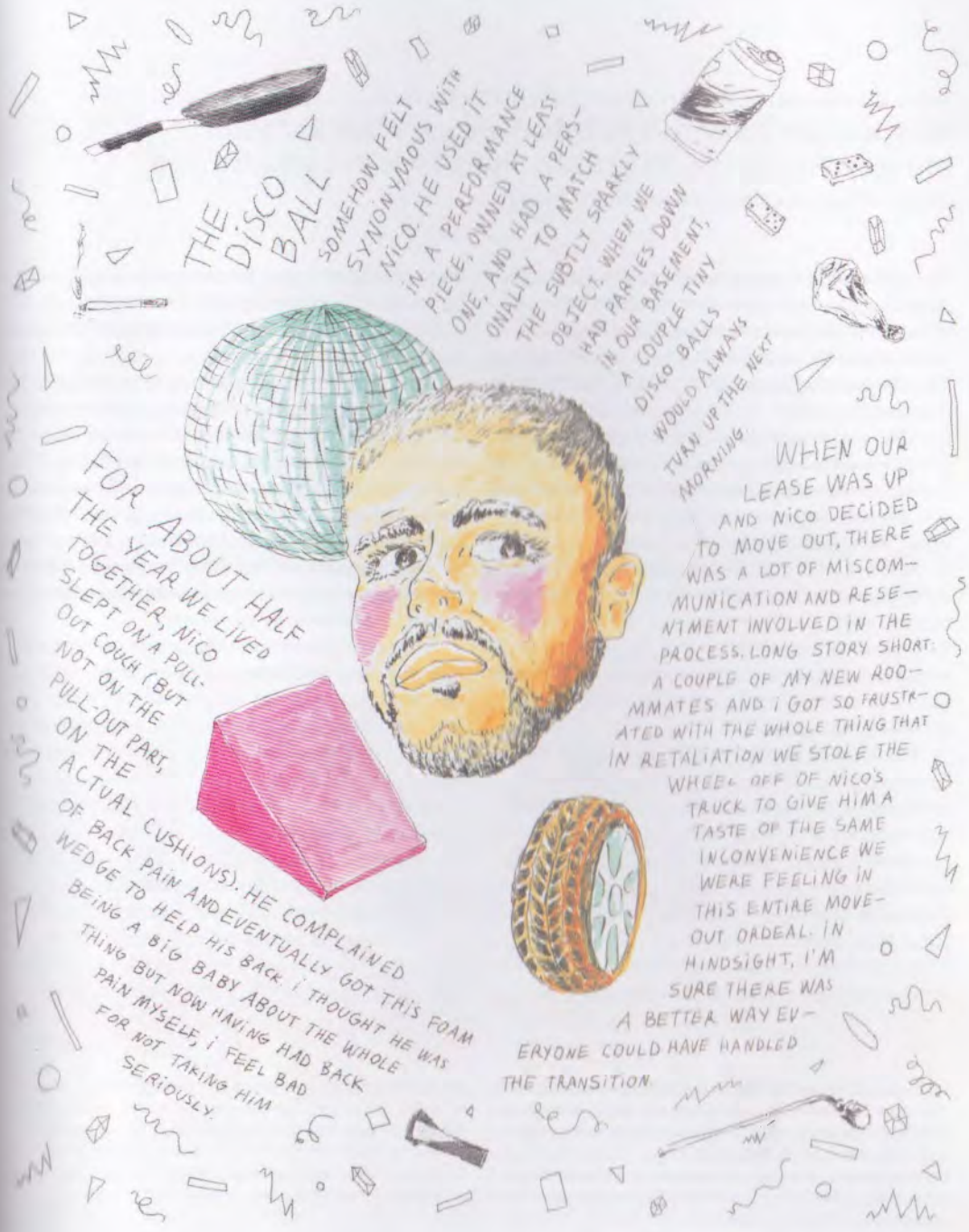
A RIDE IN THE COUNTRY (left) Adapted from Tom Voirol, "Rethinking Customer Engagement Touch Points to Deliver Enhanced Guest Experience and Drive," April 10, 2014, http://www.slideshare.net/readingroom/digital-hotel-guest-experience-tom-voirol-at-fha2014-food-hotels-asia-conference; accessed June 4, 2016, CC Attribution.

TEMPLATE (above) Ready-made templates make it easy to create journey maps to share with clients and stakeholders. This one is adapted from a PowerPoint template designed by SlideModel, https://slidemodel.com/templates/customer-journey-map-diagram-powerpoint/; accessed June 6, 2016.

TOOL

Persona

An archetypal user of a product or service is called a **persona**. Like a character in a novel or film, each persona is trying to get something done. Design teams use personas to imagine how different people with different desires and abilities will experience your tool or service. The characteristics of a persona can include general demographics (such as gender, age, and income) as well as specific quirks and interests (such as collecting antique cars or growing heirloom melons). The most valuable personas are based on observing real people. Personas play starring roles in *scenarios*, short stories built around achieving a specific goal.



PEOPLE, PLACES, THINGS When Emily Joynton set out to create a narrative comic about living with her intense roommates in Miami, she began by creating portraits of each character. Her portraits use words and images to build up an understanding of the person. Illustration by Emily Joynton.

Persona

STUDY HABITS We created personas for three archetypal users of FlashKard, a hypothetical learning app for middle school students. Each learner has different abilities, obstacles, and goals. Their scenarios describe the context for achieving their goals.

PERSONA + SCENARIO WORKSHEET

NAME

Pick a name that is easy to remember.

DESCRIPTION

Name a trait, such as The Hoarder, The Explorer, or The Maker.

BACKSTORY

List characteristics and experiences such as education, nationality, work history, hobbies, and family life.

RESOURCES

Is the persona an expert or a novice? What abilities or resources do they have, and what obstacles do they face?

EMOTIONS

How does the persona feel about the challenge? Anxious or confident, excited or bored?

GOALS

What action does the persona want to complete?

SCENARIO

Write and/or sketch a scenario about how the persona accomplishes their goal.

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ROB | THE BUILDER

BACKSTORY Rob lives in a small apartment with his grandmother, a registered nurse.

RESOURCES Rob enjoys STEM subjects and wants to design bridges when he grows up. Rob has a mobile phone but no computer at home. He would rather draw maps and diagrams and build models than listen to lectures.

EMOTIONS Rob is very confident and sometimes impatient. He makes careless mistakes and forgets to check his work.

GOAL Rob wants to study for a statewide math competition.

SCENARIO Rob always finishes early during class. During his extra time, he makes FlashKards of the problems he just completed. Creating the cards is fun, and it gives him a chance to check his work and find mistakes.

LISA | THE CHAMP

BACKSTORY Lisa is a competitive runner. She lives with two parents, two siblings, and two dogs in a two-story townhouse.

RESOURCES Lisa plans to be a varsity athlete in high school. She dreams of a college sports scholarship. Lisa often travels long hours on the bus with her team and has to be at school early to train. In class, she is often sleepy or physically restless.

EMOTIONS Lisa is anxious about her prechemistry course. She believes she is "bad at science" and will never succeed at STEM subjects.

GOAL Lisa wants to find more time to study while keeping up with her training.

SCENARIO Lisa creates FlashKards after she finishes each homework problem. On the morning of the test, she turns on the app's audio screen-reading feature and listens to her FlashKards during her morning run and on the team bus.

SOO-JIN | THE FARMER

BACKSTORY Soo-Jin recently moved to the U.S. from Korea with her parents. Their apartment complex has a community garden.

RESOURCES Soo-Jin likes growing vegetables and being outdoors. She plans to become a climate scientist. Soo-Jin has impaired hearing and wears hearing aids. She excels at math and science once she has mastered a concept, but she finds lectures challenging.

EMOTIONS She feels overwhelmed when the classroom is loud. She sometimes struggles with English and feels isolated.

GOAL Soo-Jin wants to study outdoors with other people.

SCENARIO Soo-Jin and a classmate make FlashKards together and play games to learn them. Soo-Jin uses the app's translation feature to reinforce the meaning of new words.

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