

Examples of User Innovation and Entrepreneurship

One great way to brainstorm or discover ideas for entrepreneurship is to solve a problem you face. Maybe you've encountered this problem in your day-to-day life in a personal capacity, or perhaps in your business or job. It's also possible you've seen or witnessed something firsthand in the rest of society.

Here is a list of various real-life examples of user-led innovation, where an individual or group of individuals identified a problem and sought to create a solution around. We've separated these problems into three broad buckets.

1. Personal-level: those that impacted the founder or entrepreneur directly
2. Society-level: those problems that user(s) identified impacted them and those around them
3. Business-level: those that impacted the person or their team within a company or other organization

There will be some overlap between the buckets, so just treat them as an initial guide, but not a rigid, let alone definitive categorization.

We've tagged the type of problem with a set of relevant industries so you can search the document for industries you may be interested in exploring.

Tags: ecommerce, education, energy, entertainment, environment, fashion, food, hardware, healthcare, homegoods, machines, mobile, music, software, sports, travel

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Personal-level:

Spanx (tags: apparel)

- Problem: Sara Blakely wanted smoother lines under white pants but found existing undergarments bulky, uncomfortable, or visible. Shapewear options were designed for function, not everyday wear, and assumed users would tolerate discomfort. Apparel design rarely addressed small, situational frustrations.
- Solution: Blakely cut the feet off pantyhose to create a simple, invisible solution for her own wardrobe. The solution was ingenious because it came from altering an existing product rather than inventing a new one. A personal workaround revealed an unmet demand hiding in plain sight.

Sleds with Straps (tags: sports equipment, outdoor recreation)

- Problem: Traditional sleds are hard for adults to control and limit kids to passive riding rather than dynamic movement.
- Solution: Jon Maroney built sleds that strap directly to the user's legs, enabling steering, balance, and more active sledding.

Wash. It. Later. (tags: parenting, homegoods)

- Problem: Parents dealing with soiled baby clothes often couldn't wash them immediately, leading to permanent stains and unpleasant handling later.
- Solution: Hannah England designed a water-tight soaking bag that allowed parents to contain and pre-treat dirty clothes until washing was possible.

Away (tags: hardware, travel)

- Problem: In early 2015, Jen Rubio was racing through an airport to catch a flight when her suitcase broke, leaving a trail of clothing behind her. She tried to replace it with a stylish, durable, affordable suitcase — but she couldn't find one.
- Solution: So she decided to create her own. In less than a year, Jen and her co-founder Steph Korey raised \$2.5 million to build their dream travel brand: a line of sleek, direct-to-consumer suitcases simply called Away. Jen's hunch that the brand would emotionally resonate with young, jet-setting customers paid off. Today, Away has become a cult luggage brand that has sold more than one million suitcases.

Bonobos (tags: fashion, ecommerce)

- Problem: [My friend an initial co-founder, Brian Spaly] “kept taking pants in for alterations and we started wondering, ‘What if there were pants that just worked without the need for expensive tailoring?’ ” founder Andy Dunn said.
- Solution: He and Spaly actually sold pants out of the back of their car, but it's when they decided on the Internet model that the company really took off. In 2007, the idea of an Internet-only retail store was not an obvious choice. At that point, most large retail brands only used the websites as an extension of already-popular physical stores. Dunn didn't care. Bonobos has now cut out the middle man, forgoing rent charges and extensive staff and instead focusing on the product and customer service. The website's design speaks further to this mindset; the aesthetics feel as though you are at a 5th Avenue retailer while you shop at home.
- Further Learning: [Bonobos founder shares his success story, advice for entrepreneurs](#)

Clif Bar (tags: food)

- Problem: “Clif Bar is named after my father, Clifford, my childhood hero and companion throughout the Sierra Nevada Mountains. In 1990, I lived in a garage with my dog, skis, climbing gear, bicycle and two trumpets... The inspiration to create an energy bar occurred during a day-long, 175-mile bike ride with my buddy Jay. We’d been gnawing on some “other” energy bars all day. Suddenly, despite my hunger, I couldn’t take another bite. I thought, “ I could make a better bar than this!” That’s the moment I now call “The Epiphany.”
- Solution: “Two years later, after countless hours in mom’s kitchen, the Clif Bar became a reality. And the mission to create a better-tasting energy bar was accomplished. Thanks, Mom!” – Gary Erickson
- Further Learning: <https://www.clifbar.com/stories/the-clif-bar-story>

Duvoid (tags: home goods, hardware)

- Problem: it’s terribly painful to try to put your duvet cover on your duvet, and not have the duvet get crumpled up inside the cover. Plus, someone isn’t always around to help! Kristel Gordon suffered from this problem, and invented the Duvoid.
- Solution: the Duvoid is made up of two straps that are secured to one end of the bed. You lay the duvet down, then insert it into the duvet cover, and place both firmly into the Duvoid (it’s like someone is holding both ends with their hands). Voila! See video here <http://youtu.be/9YgZPG9EU4>.

IcePlate (tags: sports, hardware)

- Problem: Justin Li, Sheriff’s Deputy, was a member of a team searching for an armed suspect in the California desert. They were sweating a lot, carrying about

40 pounds of gear. He kept on thinking, “there has to be a better way to stay cool out here.” He and a friend, JD, developed a piece of clothing that could keep someone comfortable in hot or cold weather. A typical compression-based shirt, but had unique pockets that could hold heating or cooling elements. Once on Kickstarter, the US Army reached out and said they had been looking for ways to keep soldiers cool for longer.

- Solution: At that point, while having drinks from friends for Afghanistan, they told Justin about how they solved the problem: jamming frozen bottled water in their body armor. So he thought, “Maybe I could create a frozen water bottle that could strap to the body, like a flat plate of armor.” And that’s when IcePlate was born. You fill it with drinking water, freeze it overnight, and then wear it. As the body heat melts the ice, you have cold water to drink.
- Further Learning: [NPR How I Built This.](#)

James Dyson’s vacuum cleaners (tags: hardware, machines)

- Problem: “I started working on the vacuum cleaner in 1979. I’d purchased what claimed to be the most powerful vacuum cleaner. But it was essentially useless. Rather than sucking up the dirt, it pushed it around the room. I’d seen an industrial sawmill, which uses something called a cyclonic separator to remove dust from the air. I thought the same principle of separation might work on a vacuum cleaner. I rigged up a quick prototype, and it did.”
- Solution: After five years of prototyping, Dyson brought his vacuum cleaner to market. He said, “I usually sell from the point of view of frustration, hoping that other people feel the same way. After that, I was like any other vacuum-cleaner salesman. I showed what it did, why it was different, and why it performed better.”
- Further Learning: [How I Did It: James Dyson](#)

Odwalla (tags: food)

- Problem: Greg Steltenpohl, “I was going to music school in New York and when I left there I had no idea what I was going to do with my life... [My father] was living on a boat in Florida. He had this little ritual of going on shore every day and getting a bag of oranges and coming back and squeezing them. I was there for about ten days and had this really great glass of fresh-squeezed orange juice right off the tree every morning... When I got back to California, my body was addicted to this experience from all the fresh vitamins and so on... I had no money to buy my own squeezer. I was hoping that I could get a bottle in the store or find somewhere that had fresh juice, but it just wasn’t there. I pondered the concept that if something was that good and there was none of it around, there was an opportunity.”
- Solution: Odwalla!

Patreon (tags: software, music)

- Problem: In 2013, YouTube musician Jack Conte was looking for a solution to his problem: millions of people loved his videos, but only hundreds of dollars were hitting his bank account. This didn’t add up, so he drafted up an idea about a website that would allow his fans to pay him directly for the value he was giving them.
- Solution: he brought that doodle to his college roommate Sam Yam (now the co-founder of Patreon) who turned that idea into a fully-functioning service in six weeks. Fast forward six years, and Patreon is the solution to this same problem for over 100k creators supported by more than three million patrons, and is on track to pay creators \$1 billion by the end of 2019.

Rubber soles (tags: sports)

- Problem: In the late 1950s, veteran track and field coach Bill Bowerman was dissatisfied with available running spikes, which were constructed of weighty leather and metal. As a result, he became obsessed with shaving ounces off shoes to help runners slash seconds off their times. His quest wound up redefining athletic footwear. Bowerman first began tinkering with running shoes in the 1950s, when he wrote to several footwear companies proposing ideas for improving shoes to better serve runners. None accepted his recommendations. Frustrated but not deterred, Bowerman took matters into his own hands and, with the guidance of a local cobbler, learned how to make shoes...
- Solution: Bowerman next sought to manifest a shoe with excellent traction on multiple surfaces, without metal spikes. The solve came over breakfast in 1970, as he contemplated the syrup-cradling depressions of the waffle on his plate. “What if you reversed the pattern and formed a material with raised waffle-grid nubs?” he wondered. He subsequently commandeered the family waffle iron and substituted melted urethane for batter.

Skateboards (tags: sports, machines)

- Problem: Roller skates used to be metal things that you’d hook onto your shoes. They had two halves, so you could adjust the skate to fit your shoe.
- Solution / “New Idea”: Kids discovered they could unscrew the two halves, and nail one half onto the back of a board and the other half onto the front of a board — and you’d have yourself a skateboard. That’s where the product — and the name — came from.

Thighmaster (tags: sports, machines)

- Problem + Solution: invented in Sweden by then-physical medicine intern (later "Dr.") Anne Marie Bennstrom (Prescott) as the "V-Bar" physical therapy device. The device is basically two pieces of metal tube bent in a loop and connected with a hinge. The intended use it to put the device between the knees and squeeze them together, thus exercising the hip adductors, but could be used anywhere a small angle could be created (e.g. the elbows). The product became a hit in the 1990s, after it was advertised by actress Suzanne Somers after she left the show, Three's Company.
- Further Learning: <https://en.wikipedia.org/wiki/Thighmaster>

Trampolines (tags: sports)

- Problem: In the late 1980s, a New Zealand engineer named Keith Alexander wanted to buy a trampoline for his kids. After his wife said trampolines were too dangerous, Keith set out to design his own — a safer trampoline, without metal springs.
- Solution: He tinkered with and perfected the design over the course of a decade, but was daunted by the challenge of bringing the invention to market. A Canadian, Steve Holmes, bought the patent and commercialized it. Today, Springfree Trampolines generates over \$50m in annual sales.
- Further Learning: [Springfree Trampoline: Keith Alexander & Steve Holmes](#)

Vic Firth and the world's perfect drumstick (tags: music, hardware)

- Problem: "Firth... spent more than 40 years as the principal timpanist of the Boston Symphony Orchestra... By the early 1960s, after having played with the orchestra for a dozen years, he had grown frustrated with the drumsticks on the

market, which, he realized, could not meet the demands of the full symphonic repertoire... Seeking sticks that were fleet, strong, perfectly straight, of even weight in the hands and able to produce the vast range and color of sounds he desired — from the patter of raindrops to the rattle of bones to the thunder of cannons — he was forced to jury-rig a pair.”

- Solution: “Working in his garage, he whittled a prototype that had the lightness, versatility and equilibrium he desired, and engaged a wood turner to fabricate the sticks. Mr. Firth intended them solely for his own use, but his students clamored for them. Soon other drummers did too, and in 1963 Vic Firth Inc., as the company was originally known, was born. Today the company, which has headquarters in Boston and a factory in Newport, Me., turns out some 12 million drumsticks and mallets annually. Its wares have been used by renowned classical, jazz and rock drummers, among them Charlie Watts of the Rolling Stones and Anton Fig of David Letterman’s house band.”
- Further Learning: NYTimes: [Vic Firth, Who Gave Drummers Their Sticks, Dies at 85](#)

Under Armor (tags: sports, apparel)

- Problem: College football players were forced to wear heavy cotton T-shirts under pads, which absorbed sweat, became uncomfortable, and degraded performance during games and practices.
- Solution: Kevin Plank, then a college football player, created a tight-fitting synthetic shirt that wicked moisture away from the body. The solution was materially simple but behaviorally sharp: it was designed for how athletes *actually feel* during exertion.

Shed Defender (tags: pets, homegoods)

- Problem: Tyson Walters owned a St. Bernard and was overwhelmed by constant dog hair throughout his home. Traditional grooming solutions were messy, time-consuming, and only partially effective.
- Solution: He created a zip-up, lightweight bodysuit for dogs that captures loose hair as it sheds. The product reframed shedding from a cleaning problem into a containment problem.

Society-level

Airbnb (tags: software)

Problem: The founders needed money to pay rent and noticed that conference attendees struggled to find affordable lodging. Hotels were expensive and inflexible, and spare housing capacity went unused. The mismatch was social and logistical, not physical.

Solution: They rented out air mattresses in their apartment to guests. The solution was ingenious because it reframed unused personal space as a temporary service. A personal financial workaround exposed a systemic inefficiency.

Calendly (tags: software)

Problem: Professionals wasted time coordinating meetings through long email threads. Existing calendar tools managed availability but did not solve the social friction of proposing times. Scheduling failed not because of technology, but because of back-and-forth human coordination.

Solution: The founder built a tool that let others book time directly based on his availability. The solution was ingenious because it replaced negotiation with constraint. A simple rule-based system eliminated an entire class of social overhead.

Git (tags: software)

- Problem: Linus Torvalds needed a way to manage thousands of distributed contributions to the Linux kernel. Existing version control systems were too slow, centralized, or fragile for the scale and speed required. Coordination failure, not code quality, was the core bottleneck.
- Solution: Torvalds built Git as a fast, distributed system optimized for his own workflow and constraints. The solution was ingenious because it treated version control as a systems problem rather than a user-interface problem. Speed and robustness were prioritized over ease of use, reflecting the needs of expert users.

Strava (tags: sports, transportation)

- Problem: Cyclists and runners wanted to compare performance on specific routes, not just abstract workouts. Existing fitness tools focused on individual logs and generic metrics, ignoring the social and competitive nature of endurance sports. Route-based comparison was technically challenging due to GPS variability and data normalization.
- Solution: The founders built a system that allowed users to segment routes and compare times against themselves and others. The solution was ingenious because it transformed raw GPS data into shared benchmarks that mattered emotionally to athletes. Competition and motivation emerged naturally from how users already trained.

Electric Bikes (tags: transportation, energy)

- Problem: Urban commuters wanted to travel longer distances without arriving sweaty or exhausted, but cars were expensive and bicycles demanded physical effort.
- Solution: Early users hacked small electric motors onto bicycles to assist pedaling. These user-built prototypes later became standardized e-bikes.

Mobile Banking (tags: mobile, finance)

- Problem: Millions of people in developing economies lacked access to formal banking but needed safe ways to store and transfer money.
- Solution: Users began repurposing mobile phone airtime and SMS systems to transfer value peer-to-peer, eventually leading to formalized mobile money platforms.

Buoy Health (tags: healthcare, software)

- Problem: patients who have problems sometimes take too long to visit the doctor. For example, an average male might wait an entire week before seeing a physician for serious shoulder pain. In addition, employers, who pay for cover the cost of employees' healthcare, are looking for ways to provide low-cost, quick and efficient solutions to their employees.
- Solution: Buoy health provides an AI-assisted question-answer platform that mirrors a conversation with a physician or care provider. It provides insight into what the problem could be and recommends courses of action. If the user's employer is a Buoy enterprise customer, the system will provide a recommendation of a provider.

Checkr (tags: software, hardware, ecommerce)

- Problem: founded by former engineers at Deliv, a delivery startup. The founders were frustrated at Deliv with the slow-moving pace of background checks for drivers they wanted to hire for Deliv.
- Solution: So the entrepreneurs created their own business to expedite the process. The company uses artificial intelligence and machine learning to make hiring more inclusive and more efficient.

Pigeonly (tags: software)

- Problem: There's no Instagram in prison, so to communicate with family and friends, the 2.3 million people behind bars in America are left waiting for paid access to clunky computers that run bare-bones email services.
- Solution: Frederick Hutson, 34, started Pigeonly, Inc. in 2013, fresh from a five-year stint in federal prison for drug trafficking. "I saw first-hand how difficult and expensive it was to stay in touch," Hutson says. "I also saw how much of an

impact that made on the person behind bars. I would see the guys that had the financial means to stay in touch and when they left prison I would hear that they were doing well, but those who didn't have the support network on the outside — I'd see them coming back in."

- Further Learning: [Facebook For Felons? New Apps Are A Digital Lifeline For Inmates](#)

Sanergy (tags: energy, environment)

- Problem: Cities are growing faster than ever. Currently, 60 million new residents move to urban areas every year. 25% live in slums, amounting to 1 billion people with inadequate housing and limited access to basic services. This number is expected to double to 2 billion by 2030. In Kenya, loss of productivity due to illness costs the country 1% of its GDP every year and at current rates, complete sanitation coverage will take 150 years.
- Solution: Sanergy provides non-sewered sanitation solutions that serve all urban residents and are 4 times cheaper than sewers. We build affordable sanitation products designed specifically for urban slums, and franchise them to community members to serve all residents. We professionally collect sanitation waste from the community by handcarts and trucks. Handcarts ensure that we can install toilets deep in slums. We convert the waste at a centralized facility into valuable end-products such as organic fertilizer and insect-based animal feed.

Terviva (tags: renewable energy)

- Problem: Society over heavily relies on fossil fuels and large quantities of agricultural land to produce fuel and other inputs for food. In addition, overused

agricultural lands are difficult to continue to grow on, leading to farmers abandoning the lands.

- Solution: Terviva partners with growers to raise organic pongamia trees, a legume tree crop that produces large quantities of alternative protein and vegetable oil, on abandoned farmland. These trees produce as much as ten times the beans per acre as soy for the supply of plant protein, vegetable oil, and biofuel and require few inputs. Terviva provides patented high-yielding trees to growers and offer proprietary bean processing to create sustainable food and fuel.

Business-level

Gore-Tex (tags: materials)

- Problem: Wilbert Gore was experimenting with PTFE for industrial applications and struggled to achieve a material that was both strong and flexible. Existing materials forced tradeoffs between durability and breathability, especially in outdoor and technical uses. The underlying material behavior was poorly understood and difficult to control.
- Solution: Through hands-on tinkering, Gore discovered that rapidly stretching PTFE created a porous yet waterproof structure. The solution was ingenious because it emerged from experimental play rather than formal theory. A material hack developed for personal experimentation later unlocked an entire class of performance fabrics.

Benchling (tags: healthcare, software)

- Problem: Benchling addresses some of the personal frustrations that founder Sajith had as MIT student researcher: outdated technology tools.
- Solution: Benchling provides software that allows scientists to replace their paper notebooks with searchable records stored in the cloud. This way scientists can more easily use the records to collaborate with one another. Today, 140,000 scientists use Benchling.
- Further Learning: [The Next Wave of 'Unicorn' Start-Ups](#)

Cell phones (tags: hardware)

- **Problem:** The original model for cellular phones was the two-way radio mounted in police cars, fire engines, and taxi cabs. Initially even, cell phones were colloquially called “car phones”.
- **Solution:** It is only when cellular companies began observing customers carrying to the phones out of the car (to charge them at home, for example) that the idea of a “cell phone” was conceived.
- **Further Learning:** *Innovation: The Missing Dimension* by Lester and Piore, p. 16

GT Bicycles (tags: sports, hardware)

- **Problem:** In 1970s southern California, Gary Turner, turned his skills as a trumpet repairman and race car driver into building a new frame for his son - and his son’s friends - mountainbike. He met Richard Long, a bike shop owner, who knew how to build a business.
- **Solution:** Long sold his bike shop to raise the capital necessary to establish GT Bicycles. They quickly made a name for their sturdy, high-quality machines. The company went public in 1995. [find out current financial status]

Ice - the first man-made version (tags: machines)

- Problem: While harvested ice was produced and shipped from New England in the 1800s, in the south the pressure was high for alternatives due to the unreliability of supply and the high prices due to transportation from the north.
- Solution: In 1838, Dr. John Gorrie began experimenting with the use of ice to cool hospital rooms where he treated patients with malaria. He replicated, without knowledge, a process developed in London in 1834 by Jacob Perkins, that produced ice by vaporizing a volatile liquid and then condensing that vapor in a closed-cycle. These same principles form the basis for refrigeration today.

Notarize (tags: software)

- Problem: Many transactions require a notarized document. But notaries are typically only available in certain locations at certain times. For individuals or businesses conducting large quantities of transactions, such as those in the real estate industry (lenders, borrowers, title agents, notaries, GSEs and real estate agents) that can be a huge hurdle, leading to wasted time, lost opportunities, and at times human inaccuracy.
- Solution: through the Notarize platform, you can upload a document, prove your identity (through showing your ID, for example), connect with a live notary agent, and save and share your notarized documents.

Owl Labs (tags: hardware)

- Problem: Ever attended a video conference meeting remotely where it's impossible to see people's faces and who's talking?
- Solution: Meet the Owl, a 360 degree camera view of a conference room that focuses on the speaker, and allows for a more integrated and fun virtual meeting experience.

- Further Learning: owllabs.com

Slack (tags: software)

- Problem: By 2012, the video game company, Tiny Speck, had developed a game Glitch that was failing. But the team had two offices, one in Canada and one in the US, that needed to communicate closely and effectively.
- Solution: They built an internal communication tool they called Slack. By 2014, they saw this an opportunity and began targeting enterprise accounts. From the ashes of Glitch's failure, Slack was born.
- Further Learning: [A Brief History of Slack](#)

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