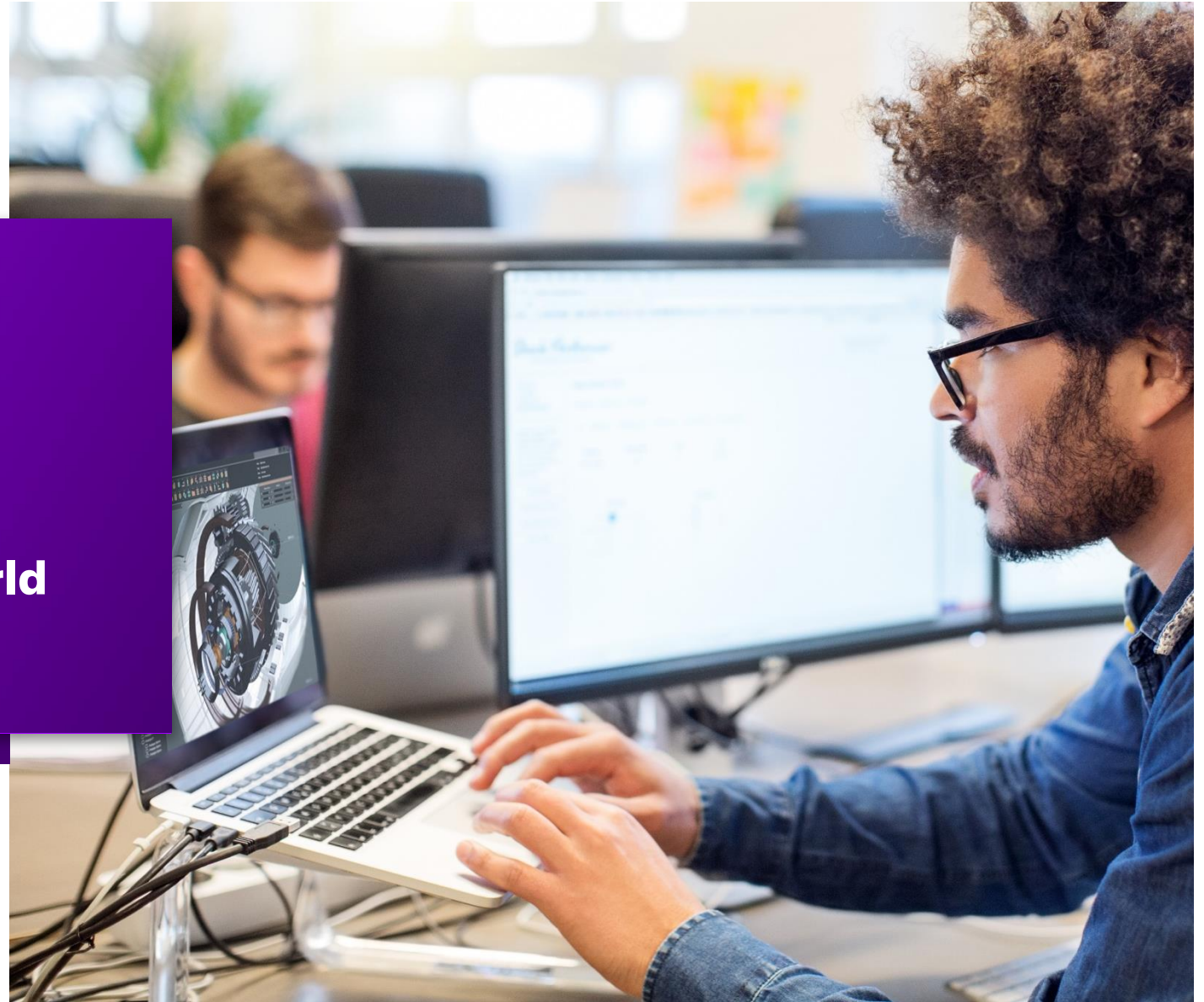accenture

Product and spatial design in the era of COVID

How innovation in the physical world can help people and businesses navigate through COVID-19

June 2020

OUT**MANEUVER** UNCERTAINTY

As the health and humanitarian impacts of the COVID-19 pandemic evolve, so do the business and economic challenges. Organizations looking to balance their immediate needs with longer-term opportunities will see the trade-offs play out across three waves of impact: **the Now, the Next and the Never Normal.**

The Now includes an emphasis on supporting people, customers and suppliers. The Next will feature refocusing the business to withstand new threats and seize new opportunities. And the Never Normal will require navigating rapid shifts in cultural norms, values and behaviors.

This is the moment to reinvent business models and reintegrate the value organizations provide into a new societal landscape. The time to shape a mindset of bold business transformation powered by new approaches to technology and responsible leadership is underway.

Solve for NOW
Differentiate for NEXT

Humans live in a physical world, and since the beginning of time, we have inhabited spaces, held objects, and interacted with each other. To survive now and thrive in the next, businesses need to solve for a new relationship with the physical world.

Our teams support designing solutions that integrate physical, digital and human interaction. **We design for the human experience in its totality.**

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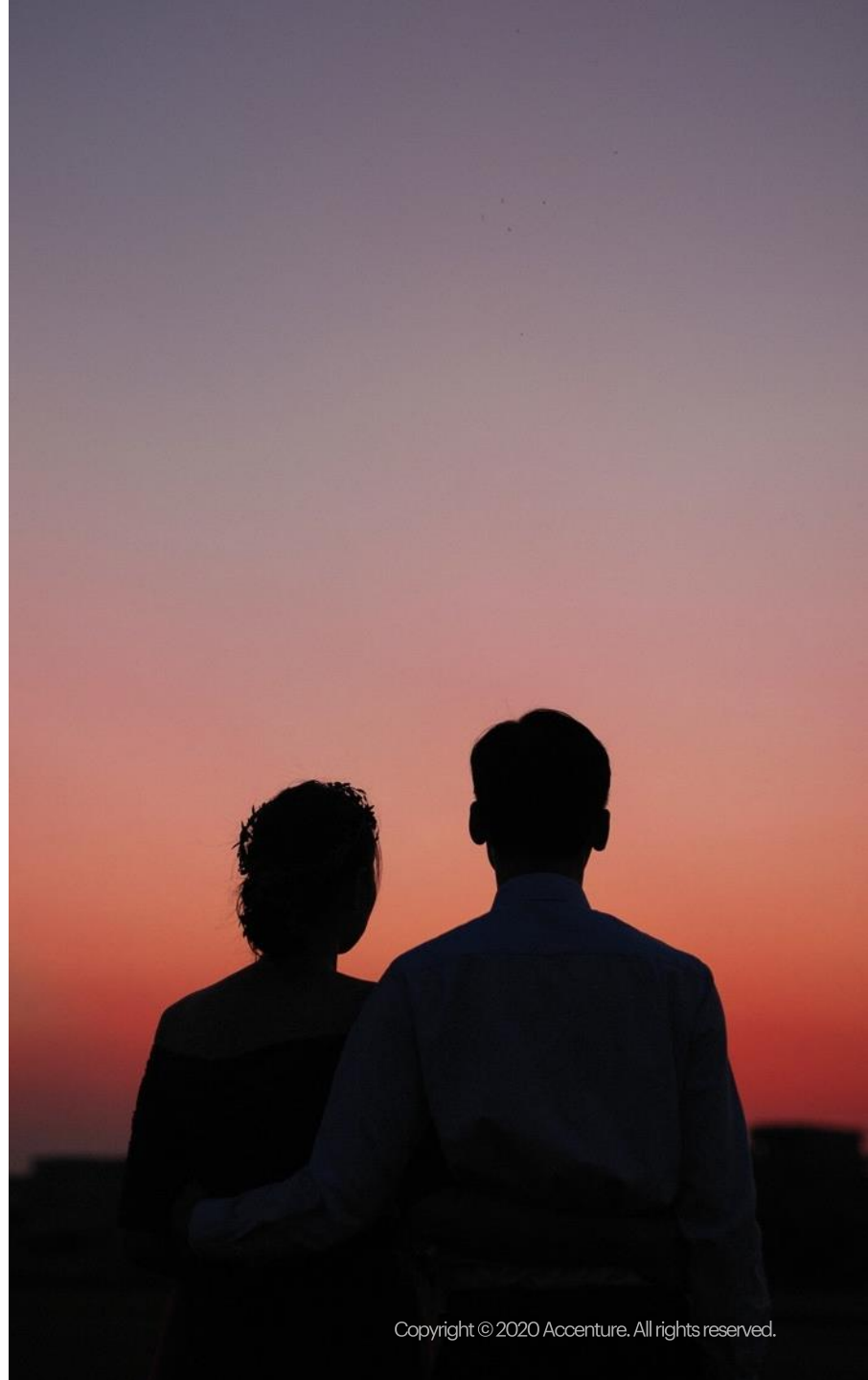
Think and do

As we implement new protective measures and test our capacities for change in all domains of life, we are increasingly mindful of the need to balance quick thinking (NOW) with long term planning (NEXT).

One of the most significant asset design brings to this pandemic are methods that are built for resilience. Through prototyping, testing, and iteration, design is the scaffold on which change is transformed from fantasy to normalcy.
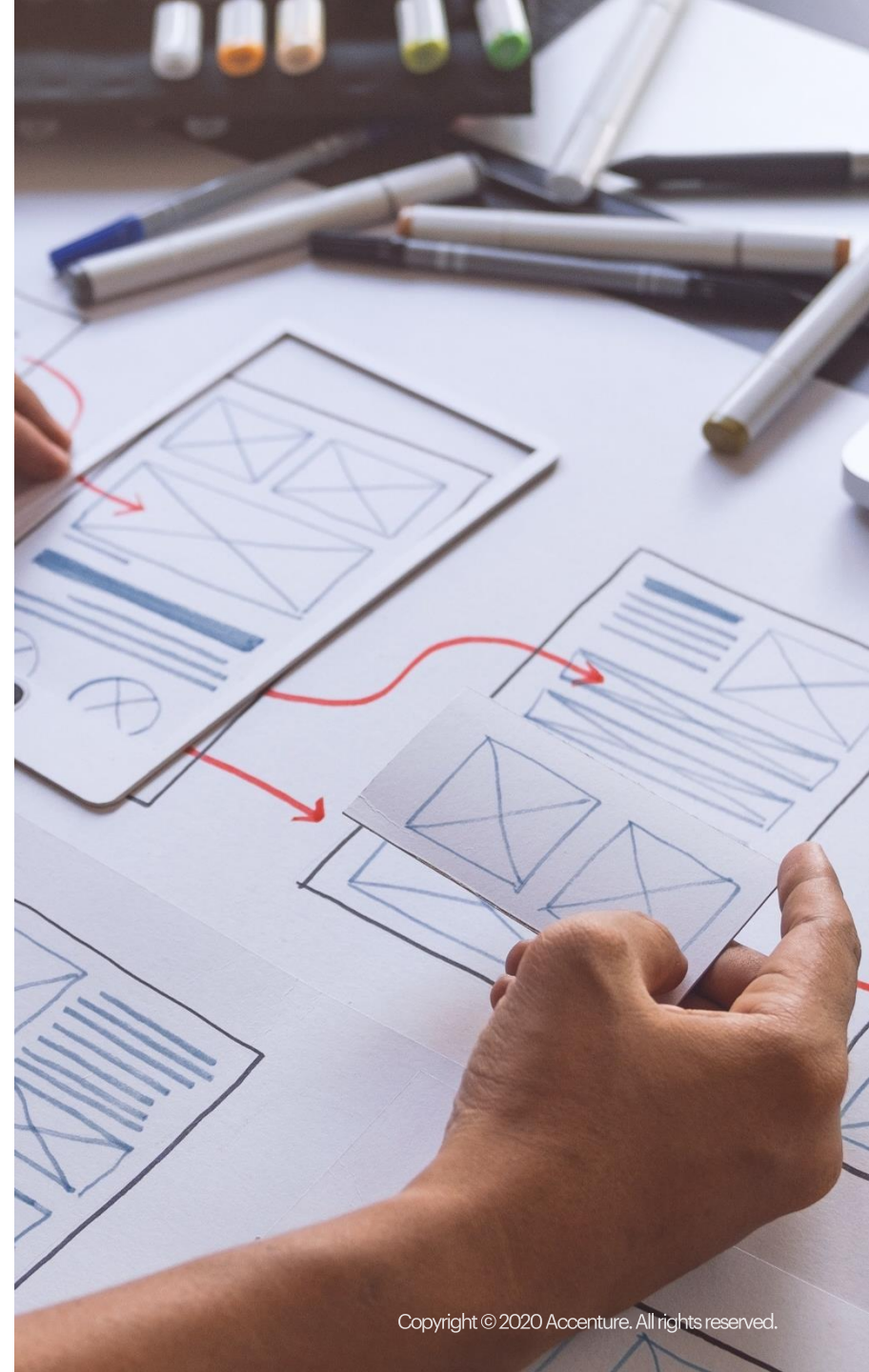
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Design in action

Through integrated design, we can be both proactive and empathetic as we help our clients navigate their future, finding the balance between human need and financial viability that allows us all to thrive.

Change is what designers do best.

Now

Next

Think fast, iterate. Focus on the NOW

Quick, tactical responses that solve immediate threats. Protect people and businesses. "Perfection is the enemy of the good," is a most pertinent adage.

Deliberate and strategize. Plan for the NEXT

Strategic responses that help businesses navigate for the long view. Yes, Covid-19 may recede, but we could also experience a resurgence. Even if eradicated, our current global systems leave us vulnerable for future pandemics. Businesses will need new operating models that can flex based on future potential threats. New procedures, products, and services will be put into place that will become the **NEVER NORMAL.**

Industries at the forefront of change

Industries such as healthcare, travel and hospitality, workspaces, public entertainment, and retail are the most impacted by COVID-19.

They all share a standard quality: **the intersection of people with the physical world.**

Designing for these industries allows us to address their specific challenges while also considering broader business and societal needs.

Experience principles
for NOW and NEXT

From our experience in these industries, and our understanding of the current situation, we formed six Experience Principles.

Solving these principles delivers both immediate and long-lasting solutions for people and the businesses that serve them.

This document aligns these principles with specific industry challenges.

01
Normalize touch-free interactions

02
Enable and facilitate social distancing

03
Integrate the virtual and physical worlds

04
Reduce friction and lower human density

05
Empower through smarter devices

06
Welcome robots with open arms

Core industry context:
## Travel and hospitality

Touch-free interactions can allow people to move safely and seamlessly through spaces such as airports and hotels.

It is critical to rebuild people's confidence through safer, smarter, and seamless interactions.

Technologies such as biometrics will advance the use of facial recognition for identification, access, and payment.

Deploying devices that check body temperatures individually and in a crowd will help identify potentially infected people, thus mitigating the spread of the virus.

New partnerships between industries will enable a more seamless experience for customers and employees.

01 Enable touch-free interactions
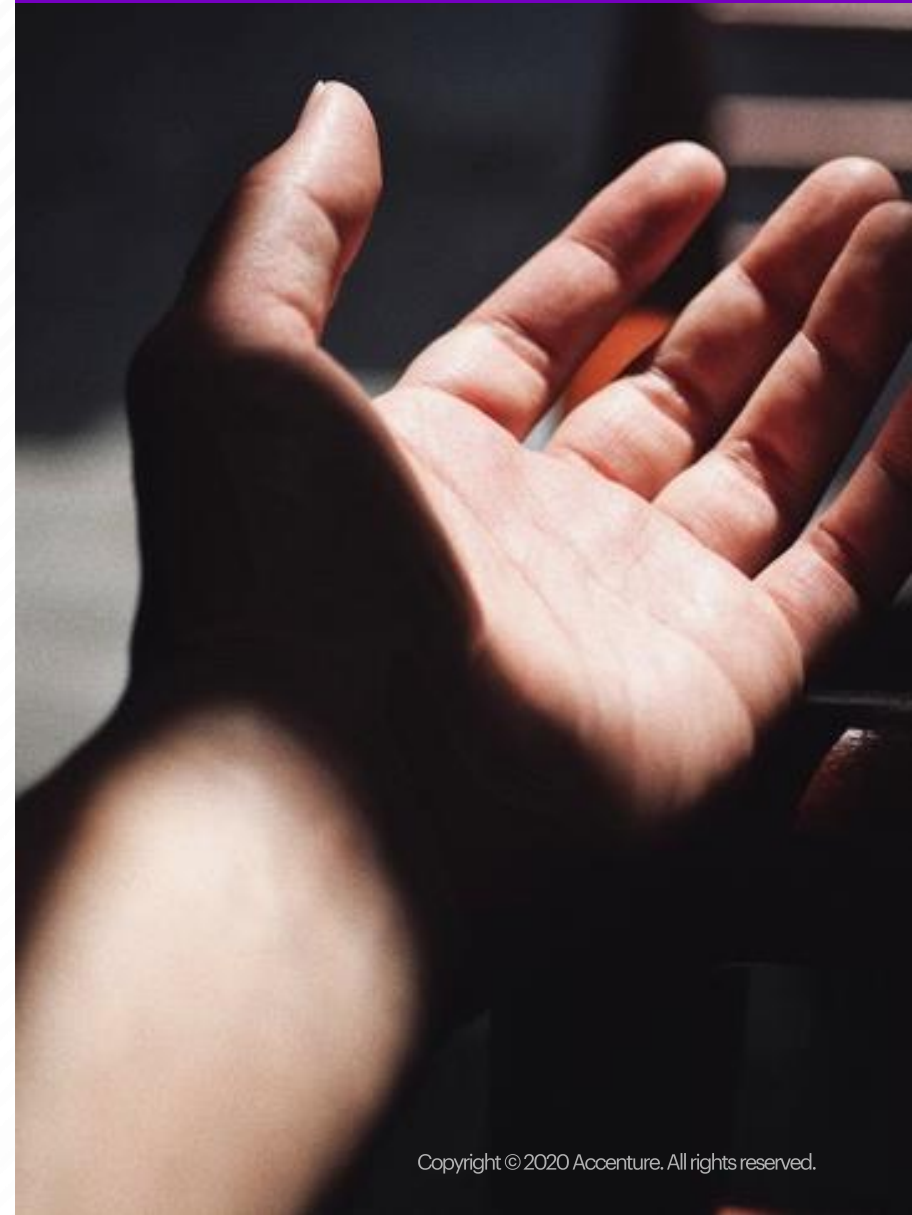
Taking action NOW

01 Deploy touch-free interactions at crucial moments throughout the day: Solutions that increase efficiency while providing safety and confidence for people.

02 Create new processes and human flows that reduce the amount of contact between people, for example, aisle runners, curbside pickup, and new physical layouts.

03 Deploy smart thermal sensors to identify people who are potentially COVID positive.

04 Human-centered design to make intuitive products and spaces is essential for safety and confidence.

Touch-less crosswalk:
City of Carlsbad launches touch-less crosswalk signals to combat COVID-19.

Passive piece of mind:
Thermal imaging of large groups of people.

All eyes:
Security clearance at many airports now use iris scanning technology instead of fingerprint identification.

Applicable industries

Services · Hospitality · Retail · Transportation · Grocery · Health

Taking action NEXT

Covid-19 will accelerate the need for non-screen-based interactions.

01 While we currently control our technology by pressing a button on a keyboard or swiping a screen, we could use touch-less systems that will allow us to communicate with software services using voice, gesture, and facial recognition.

02 Computer vision combined with AI allows computers to interpret a user's facial expressions and emotions and therefore anticipate and respond to customer's needs more naturally.

03 Facial recognition will enable contactless payment, access and entry, and many other secure transactions simplifying day-to-day transactions.

04 These new interactions need to be intuitive, with no learning curve, considering the young, the elderly, and everyone in between.
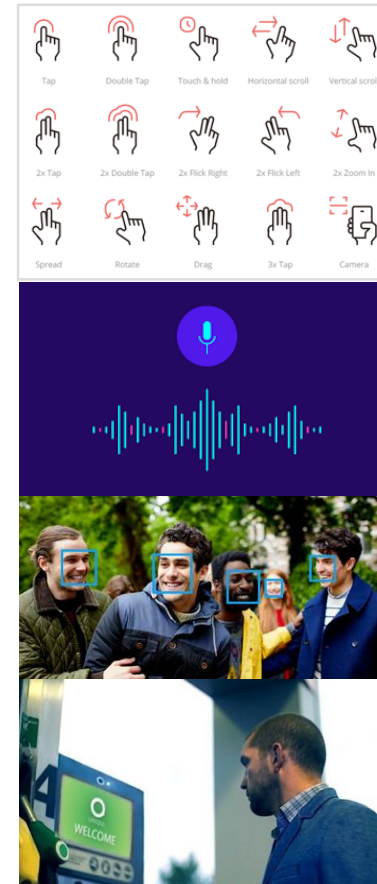
Gesture control:
hand and face movement to interface with software.

Voice control:
Using voice for computer interface and more natural interactions.

Predictive interactions:
Understanding and anticipating customer needs through AI and imaging software

My face is my authorization:
Using facial or iris recognition for payment and access.

Applicable industries

Services Hospitality Retail Transportation Grocery Health

Core industry context:
Commercial spaces

Commercial spaces such as museums, cinemas, sports arenas have been designed for high-density usage. In the era of COVID-19, these businesses will need to consider radical transformation to remain viable.

A question to consider: Will Covid-19 be around long enough to make significant structural and systemic changes to a business that depends on high-density usage?

To minimize density, more planning is essential. We are designing timed entry procedures, redefining the roles of employees, and having a shopping list in the order of the store layout, etc.

Creating new standards or "rules of the road" for "people traffic" will help facilitate more efficient movement through spaces, with less uncertain customers and accidental crowding.

Taking action NOW

01 **Provide easy to understand signage for customers and employees to follow.**

02 **Design pre-planned routes for customers.**

03 **Allow for curbside pick up, delivery, aisle runners.**

04 **Adapt spaces with new layouts, new zones, and observe and iterate space design.**

Signage and new behaviors:
Configure an existing space to be safe by promoting social distancing. Supermarkets have implemented signage and one-way flow for people.

Multipurpose:
Jacob Javits Convention Center in New York City is becoming a makeshift field hospital to help with the pandemic.

Lasting guidelines:
Singapore mall – public spaces are adapting interiors to reinforce lingering rules of social distancing.

Applicable industries


Workplace   Hospitality   Finance   Transportation   Grocery   Health

Taking action NEXT

01 **New store layouts that promote social distancing and an even distribution of shoppers throughout the day.**

02 **Items selected along shopping path go into a virtual checkout.**

03 **Once the guest leaves the store items are then automatically paid via store app.**

04 **The future positive effect will be reduced friction, increased throughput, and less crowding. This will help businesses and public systems run more smoothly and efficiently, while exceeding customer and employee expectations beyond COVID-19.**
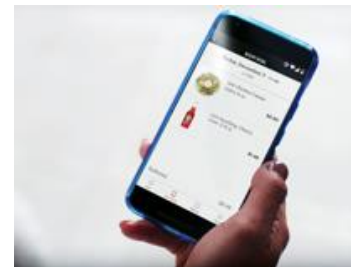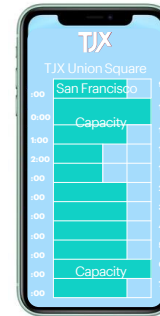
Amazon Go:
Walk in, pick out what you want, and walk out. Amazon "Just Walk Out" shopping experience has been perceived as a tech experiment. Now it may become the new normal.

Distributing load:
Retail spaces and other public/private spaces could have scheduled visit times to reduce overloading.

Route planner:
A virtual shopping list that is organized by the store layout.

Applicable industries

Workplace   Hospitality   Finance   Transportation   Grocery   Health

Core industry context:
Healthcare

The virtual world now has a purpose beyond entertainment. We have witnessed the rise of telemedicine that enables caregivers to attend to patients remotely. Can we improve upon this experience for both patient and doctor? Give patients control so that they can monitor their care from home.

Every sick person traveling to a medical office on public transit, sitting in a waiting room, sharing check-in equipment, interfacing with receptionists, doctors, and nurses - each one is a point of contagion, a possible vector for the spread of disease. Containing range is the prime opportunity for smart, agile design.

Integrating virtual and physical allows the medical community to rethink what procedures can be patient-controlled: pulse monitors, thermometers, stethoscopes, eye and ear scanning devices, all manageable by patients and caregivers' homes, and submitted by integrated software to medical practices and public health monitors.

Beyond healthcare, virtual shopping tools can replicate most of what we need in the physical world: a seamless blend of virtual and digital technologies to help customers decide on products they want to buy or configure.

Taking action **NOW**

01 **Improve virtual products and services to make everyday life more productive, social, and fun.**

02 **Improve virtual tools to a level that defeats the need for business travel and in-person shopping.**

03 **Accommodate for the other human senses that "virtual" or "augmented" realities can't provide.**

04 **Assess opportunities for the "digital store." Find service channels that will naturally emerge alongside these offerings and see this as an opportunity to expand brand reach to consumers.**

Volvo online:
The automotive industry is pioneering virtual shopping experiences, can this translate to other shopping experiences to minimize unnecessary social contact?

Virtual home tours:
Real estate has shifted lots of its property "walkthroughs" as 360 previews.

Telemedicine:
A survey by Kareo received responses from more than 600 private practice and 140 billing companies. They found that 75 percent of respondents are currently using a telehealth option or intend to use one soon.

Applicable industries

Services   Hospitality   Retail   Grocery

Taking action NEXT

01 **Consider ways to provide "physical augments" that complement virtual walkthroughs: i.e., retail experience – sample swatches or bundles for consumers to touch and feel during the virtual visit; specialty grocery – sample tastings.**

Automotive companies are using physical props in conjunction with virtual tools to help customers explore and decide on interior options.

BMW: Allows customers to sit in a 3D physical model of a car. Buyers wear VR headsets to choose options in real-time. They gain increased confidence in their choices.

Auris Health: Augmenting a surgeon with a remote controlled, surgical robot.

Applicable industries

Services   Hospitality   Retail   Grocery

Core Industry Context:
Retail

Never give up on joy. Shopping and stores will once again be centers of social activity. Integrated product, digital, and spatial design solutions will enable new forms of social and emotional connection as we navigate spatial distance. The next normal in retail will provide better service, more equitable, and perhaps with even more enduring rewards.

Taking action NOW

01 **Retrofit and optimize store layouts from the inside and utilize digital services to allow for a safer, more efficient flow.**

02 **Create more efficient back-of-house flow if front of the house becomes more "curbside" fulfillment focused.**

03 **Develop operational efficiency to accommodate higher throughput numbers.**

04 **Lay the foundations for new rituals: Consider no-contact transactions such as mobile ordering/payments, and curbside pick-up or delivery, regardless of industry model.**

Curb appeal: Best Buy – transition to contactless curbside pickup services.

Inside signage: The control of pedestrian flow within a physical space is being considered in grocery stores.

Applicable industries

Services   Hospitality   Retail   Transportation   Grocery   Health

Taking action NEXT

01 **Analyze the safety and experience carefully at the intersections of critical flows: vehicles, pedestrians, buildings, and the workforce.**

02 **Lean on digital simulations to evaluate flows, stress points, and throughput optimization while designing the best customer and employee experiences.**

03 **Removing unnecessary physical interactions such as payment, while adding new mounts for safe communication between employees and customers.**

Redefine customer flows: Redesign spaces for improved customer flow and interactions while increasing safety.

No contact payment: Many businesses have adopted a cashless and no-contact payment solution. Covid-19 will push this to become the new normal for every customer facing transaction

Applicable industries

Services Hospitality Retail Transportation Grocery Health

Core industry context:
Workplace

To cocoon is to prepare for a new state of being. As workers cocoon at home, we have an opportunity to usher in dynamic transformations that integrate product, digital and spatial experiences for the workplaces of the future.

We are seizing the opportunity to design for employee safety, while simultaneously affirming the mandate for a healthy work culture. We can incentivize and reward positive social behavior in the workplace with wearable technologies, reconfigure workplace flows, and help workers track their own health and the health of their co-workers so that everyone can stay connected, safe and productive.
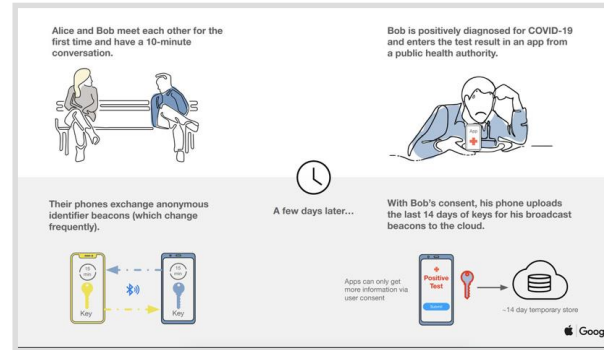
Taking action NOW

Ask if your current offering could be enhanced, expanded, optimized by leveraging existing or emerging platforms.

01 **Ensure some form of mobile solutions are accessible for all of the population.**

02 **Leverage the inherent adaptability of digital platforms as guidelines to help evolve human behavior.**
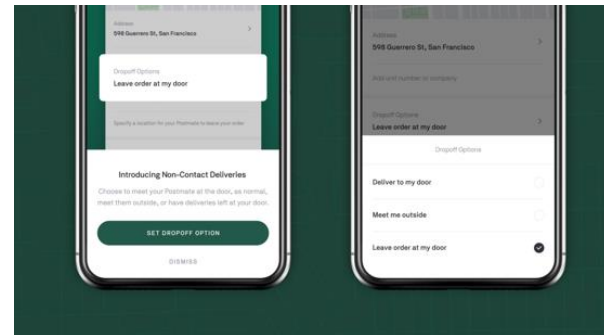
Contact tracing:
Apple and Google have partnered to create a contact tracing solution. A good solution, but is also limited many parts of the world where people can't afford smart phones.

Fulfillment variety:
Food delivery platforms providing multiple options for customers to receive deliveries

Applicable industries

Services · Hospitality · Retail · Transportation · Grocery · Health

Taking action NEXT

01 **Devices can help keep people at safe distances from each other. Devices can also support more effective contact tracing. How can we create solutions that protect people's health without infringing on privacy concerns?**

02 **Contact tracing and testing is most effective when more people are engaged. How can we create solutions that are accessible to all?**

03 **Explore all available technologies with a new frame of mind, unbiased by out-of-date public opinions, cost or other criteria no longer adequate.**

04 **Assess the adoption of the new technology or service by doing a limited trial run, don't fear learnings and iterations and prepare to be bold.**
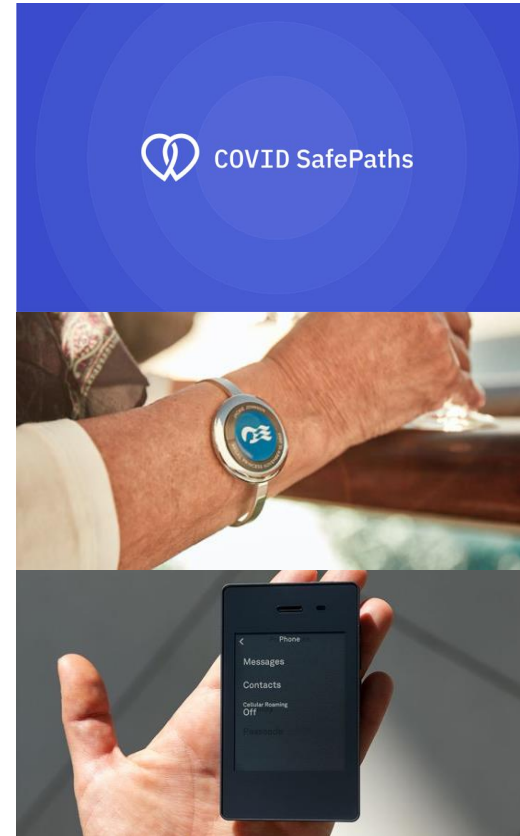
Universal contact tracing:
Safe Paths from MIT uses anonymized GPS, which improves upon traditional contact tracing for everyone using it.

Wearable technology:
Carnival's Medallion is used in hospitality to serve customers better. Could the same technology platform promote social distancing and contact tracing?

Basic access:
For the many in the population who don't have access to smart mobile devices – How can we create and distribute low-cost hardware and services that may be accessible for all.

Applicable industries

Services   Hospitality   Retail   Transportation   Grocery   Health

Core industry context:
Healthcare

We have an opportunity to leverage the best of what Telehealth technology can offer: more significant equity, improved communication between practitioners and patients, enhanced in-home care partnerships, better personal and public health monitoring that can alert us to outbreaks as they emerge (and before they spread).

Designing in this space requires intimate partnerships with medical practitioners across disciplines, as well as patient advocates and ethicists. We are leveraging what we know about existing telemedicine design, as well as our deep experience designing wearables and integrated systems for the health, wellness, and sports sectors.

Virtual, where healthcare is concerned, does not equate to lesser. We can align our safety, efficiency, and equity values to create health delivery solutions that improve care for all.

06 Welcome robots with open arms

Taking action NOW

01 **Evaluate areas and conditions in which automation and robotics can alleviate the burden of risk currently undertaken by front line workers.**

02 **Prioritize health and safety for all, but especially the most vulnerable workers.**

03 **Reassess your core customer journey: Identify opportunities to improve efficiency by utilizing a robot or automated tech for repetitive tasks.**

Robot mailman: Postmates Serve – an autonomous food delivery robot.

Safe sterilization: Robots with UVC lights can disinfect environments safely and more effectively than just disinfectant alone. Can Xenex provide solutions beyond hospitals?

Digital charm: Savioke –robotic delivery in hospitality.

Taking action NEXT

Evaluate whether robotics in the service blueprint might achieve one of the following:

01 **Augment current roles and responsibilities.**

02 **Service an intermediate task.**

03 **Completely replace the need for a human executing repetitive tasks.**

04 **Consider differentiating new, human labor roles.**
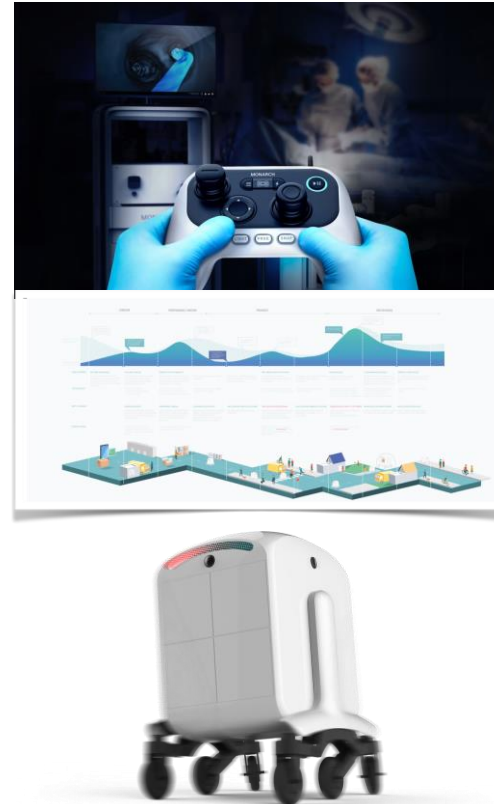
ZIPPY:
Autonomous delivery vehicles can deliver local produce and products directly to consumers.

Auris Surgical:
Robots can augment humans to be more productive. We helped design the Auris Health Endoscopy robot that empowers surgeons to opera more safer, faster, and with less impact on the human body.

Applicable industries

Workplace   Hospitality   Retail   Transportation   Grocery   Health

Thank you

You are choosing to be proactive rather than reactive.
This pandemic has forced the design world to pause and honestly reassess the long-term impacts of our actions. Considering the next tier of needs allows us to focus our work in areas that provide the most immediate effect for a safer, more equitable future for all.

Product concepts

The CP&S team explored four product concepts that solve for NOW and NEXT.

→ Safe workplace

→ Virtual hotel check-in

→ Remote healthcare

→ Smart retail

Concept 1: Safe workplace

Social distancing and contact tracing

Low-cost wearable replaces the current RFID employee security badges. When two employees get closer than 6 feet from each other, both with receive a subtle buzz using haptic technology. This feature will encourage employees to understand what 6 feet means in practical terms. If an employee tests positive at some point, the employer can contact all the employees that came into contact with the positive employee. This concept only functions while at work using the enterprise Wi-Fi solution. This should appease people's privacy concerns.

Applicable industries

Services

Hospitality

Retail

Transportation

Grocery

Health

Safe workplace: Contact tracing

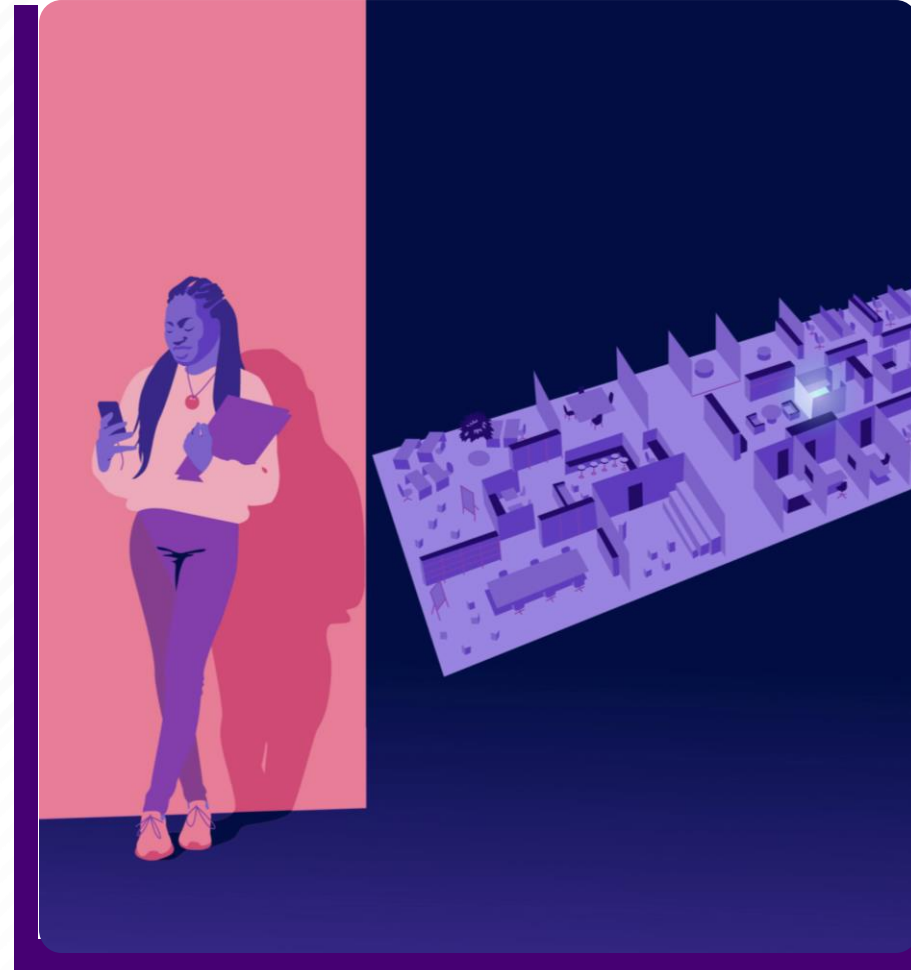# Safe workplace: Contact tracing

NOW
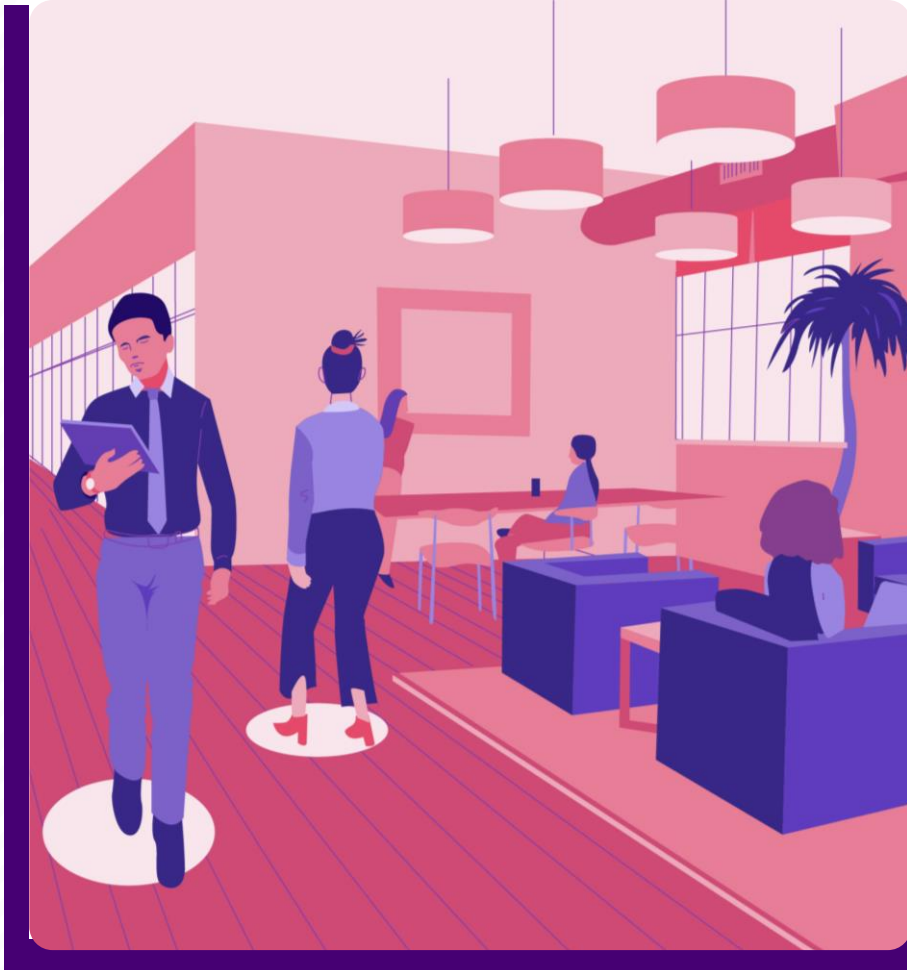
When two employees get closer than 6 feet from each other, both with receive a subtle buzz using haptic technology. This concept would also enable simplified contact tracing.

NEXT

The connected ecosystem can help employees find empty desks and available conference rooms. Management can understand how space is being utilized. Spaces become responsive to employees needs.

Concept: **Virtual associate**

Safe hotel check-in process

Hotel guests can check in using a kiosk to decrease human to human contact. Guest talk directly with an associate to check-in, confirm dates, make changes, book restaurants, find out where the gym is, organize wake-up calls, etc. Bonvoy members can use their virtual keys. Non-Bonvoy members are given a physical key. Kiosk also enables check out with options for printed receipts. After the pandemic, the screen on the kiosk can be removed, allowing associates to check-in guests in person anywhere on the property.

HELLO, I'M CYNTHIA

ORIGINAL DESIGN: NOT FOR GENERAL RELEASE
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Designed by the Fjord CP&S team

Applicable industries

Services	Hospitality	Retail	Transportation	Grocery	Health

Contactless service: Adaptable kiosk

WELCOME MARK,
YOUR ROOM IS READY, COLLECT YOUR KEY.

ORIGINAL DESIGN: NOT FOR GENERAL RELEASE

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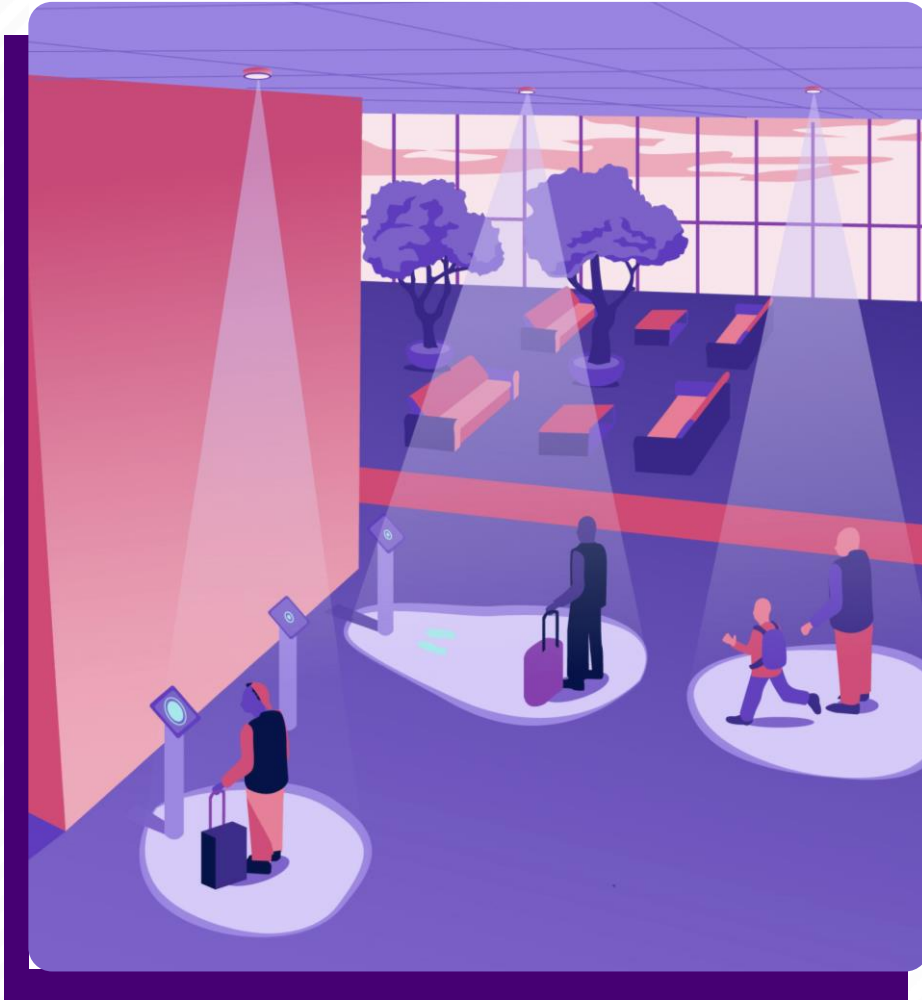
Designed by the Fjord CP&S team

Contactless service: Adaptable kiosk

My face is my ID

Utilize a platform like Clear that crosses multiple industries such as airport security, gate check-in, ride-share, payment, and hotel check-in to simplify and increase safety across a passenger's end-to-end journey.
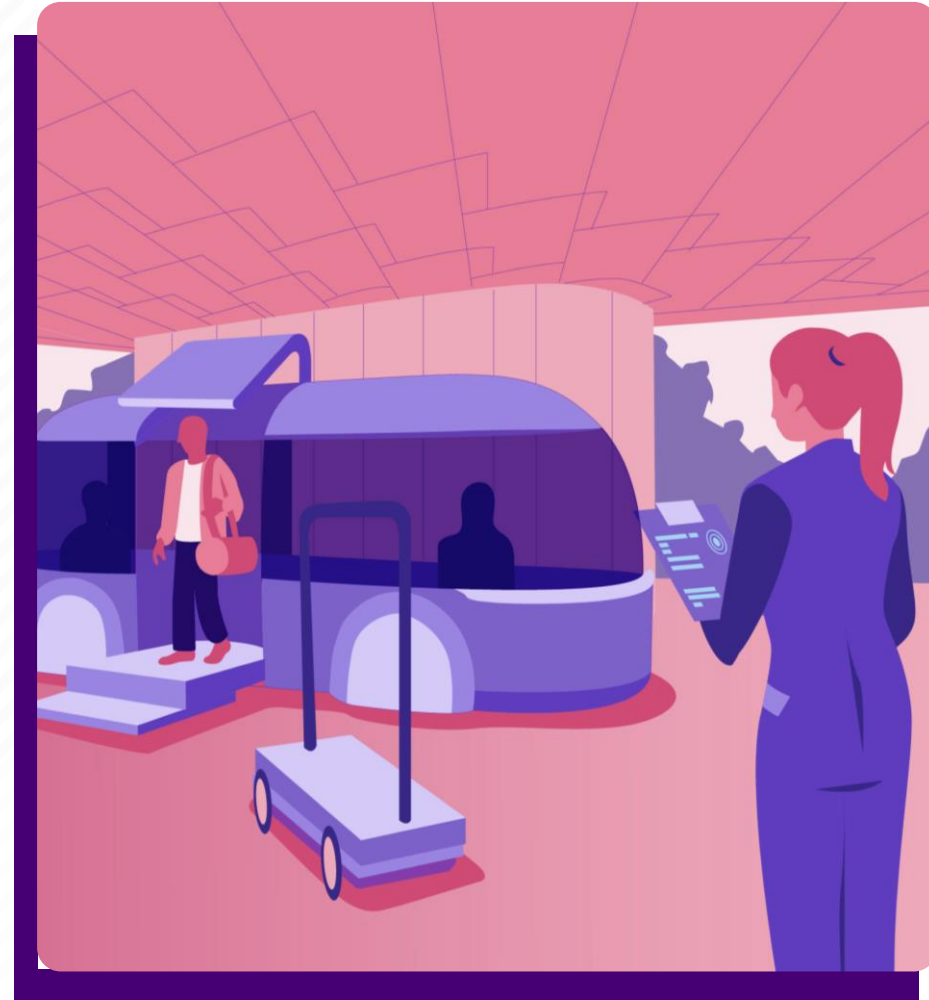
Virtual hotel check-in enables fast and touch-free check-in process and keeps guests at a safe distance from each other. Projections onto the floor define safe spaces and even directions.

In the future, the tablets used in the kiosk can be removed to enable hotel associates to meet and greet their guests. Task-based associate activities are shifted to guest-centric hospitality.

Prototype: Hospital at home

Home Diagnostics Kit

A set of professional-grade home diagnostic tools that work with a secure telemedicine platform. The home diagnostics kit is sent to the patient's home, allowing medical practitioners to gain a deeper understanding of the patient's symptoms and necessary. The kit is returned to the clinic to be sterilized, reset and recharged for the next patient.

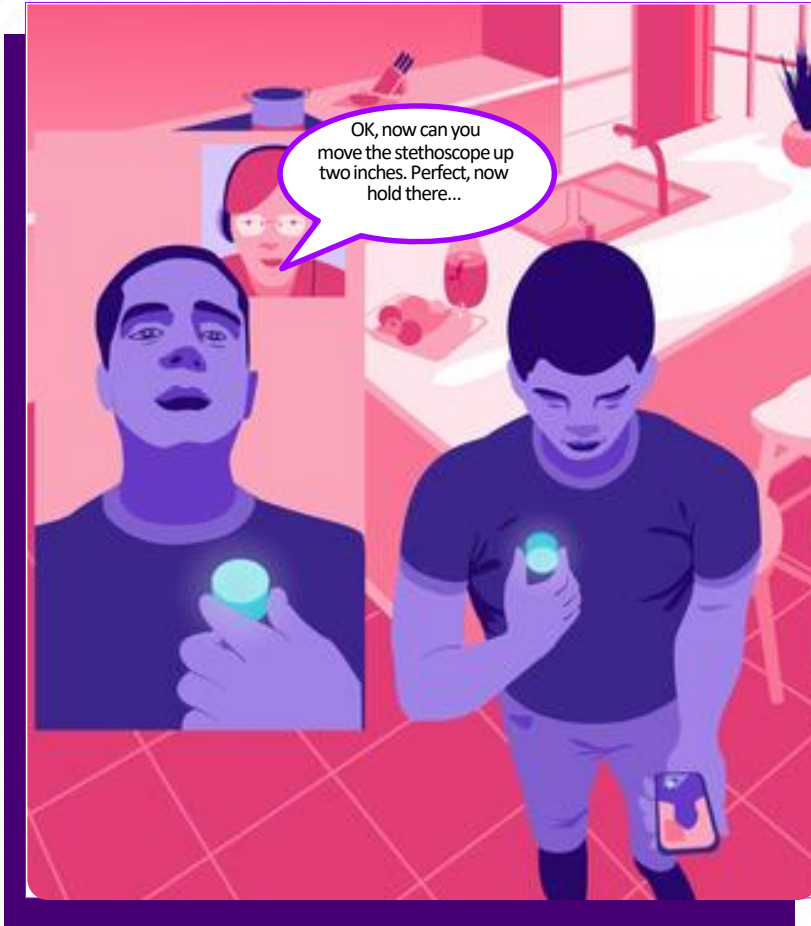Tongue depressor with camera connection

Otoscope with camera connection

Camera with light

Pulse oximeter

Stethoscope

Thermometer

Prototype: Hospital at home

24/7 Monitoring from home
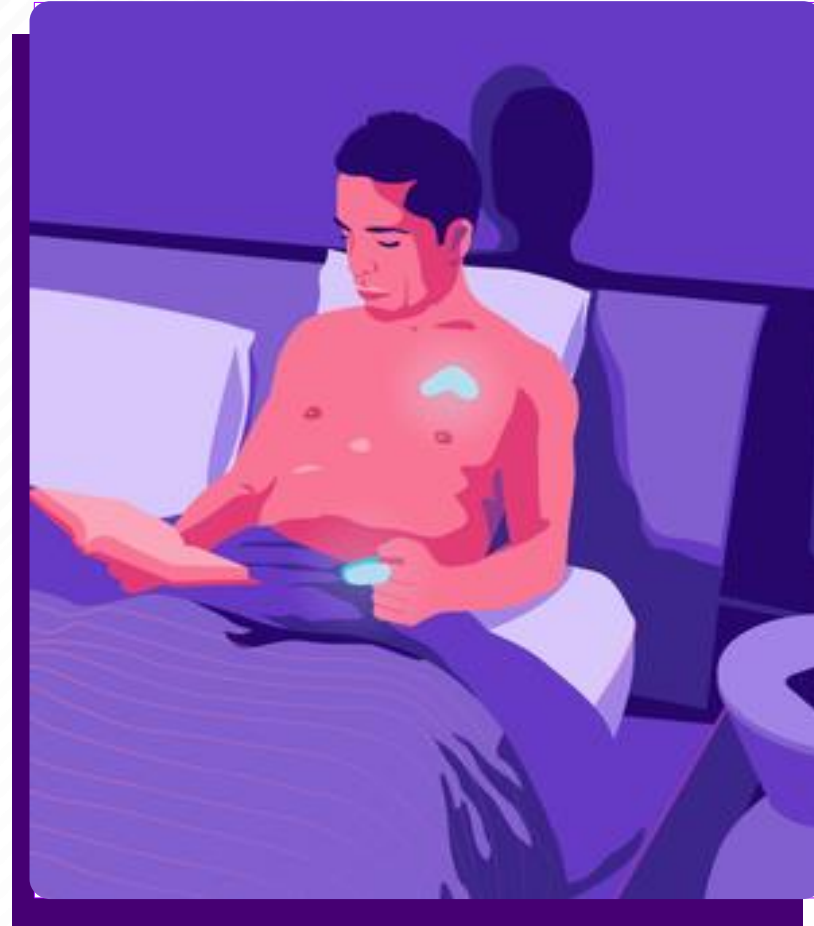
Prototype: Hospital at home

24/7 Monitoring from home

24/7 Remote care: Patients under the direction of medical practitioners attach sensors to their bodies, allowing 24/7 remote monitoring of vital biological functions such as respiration, heart rate, oxygen, and glucose levels.

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To help our clients navigate both the human and business impact of COVID-19, we've created a hub of all of our latest thinking on a variety of topics.

Each topic highlights specific actions which can be taken now, and what to consider next as industries move towards a new normal.

From leadership essentials to ensuring productivity for your employees and customer service groups to building supply chain resilience and much more, our hub will be constantly updated. Check back regularly for more insights.

VISIT OUR HUB HERE
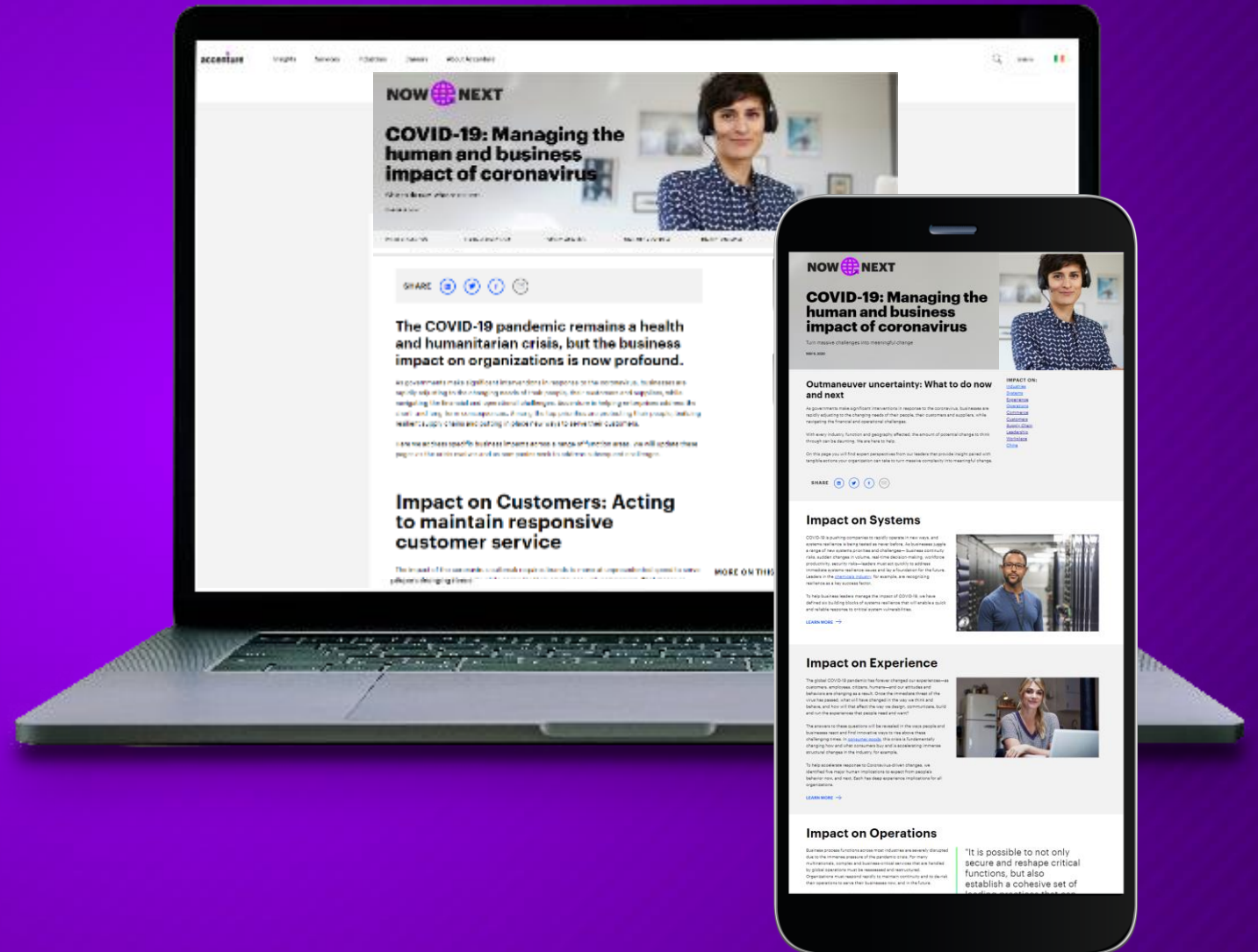
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