# Maintaining Connections Through Touchless Design

*How can touchless design carry forward the convenience factors 'touch' introduced without limiting society's connectivity?*

By: Minji Cho & Caroline Mozo

## Developing Solutions

Touchless technologies that provide safe opportunities for human interaction

**Basic Needs**

Exchange of Goods/ Services

Engagement within the grocery store, restaurant, and other social spaces

**Social Needs**

Human Interaction within the workplace, school, home, and other social spaces

**Technology Integration**

Technology has changed the ways in which humans interact and obtain their basic and social needs

Humans have an evolutionary need to engage with one another and form communities to meet their needs. These needs include basic needs such as nourishment, shelter, safety, and health acquired through the exchange of goods and services and social needs such as belonging, engagement, esteem, and self-actualization, among others. Research has suggested that sense of community is linked to an individual's perception of well-being. Loneliness is an increasing threat to well-being and is linked to feelings of disconnection, dissociation, and higher stress levels. Well-being and health are intrinsically linked and contribute to the individual's quality of life. In a world where technology continues to be developed and even encouraged to replace face to face human interaction, it is important to acknowledge both the possible benefits and consequences of increased technology integration. In a post-pandemic world, technology will be increasingly important to mitigate infection, however, how can we integrate these technologies while also supporting the need for face to face interaction?

Beginning in 1965, the concept of a touch screen was introduced by E.A. Johnson at the Royal Radar Establishment regarding air traffic control. By the early 2000s, Apple's release of the iPhone kicked off the increasing growth of touch screen technology.

Since then, 'touch' has developed into a design solution that promotes "uninterrupted flow through the built environment". Digital touch solutions assist in company communications, food services, wayfinding, and check-in applications. Navigation via touch is a strategy that has significantly contributed to the convenience and flow of society; however, in the recent months, COVID-19, a spreading disease, has transformed the once convenient 'touch' into one of the largest threats to our communities. How can touchless design be the solution to not only carry forward the convenience factors 'touch' introduced but also play an active role in keeping society connected without the presence of 'touch'?

# Maintaining Connections Through Touchless Design cont.

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## Developing Solutions

*Touchless technologies that provide safe opportunities for human interaction*

I. Touch to Gesture

Wave to open

*Waving is a simple touchless gesture that can activate doors.*

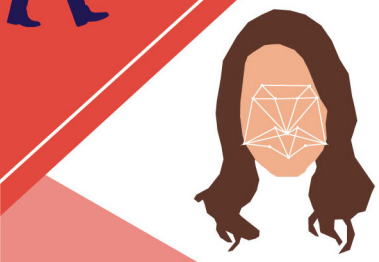
II. Voice Activation

Hey, Siri

Hi, Cortana

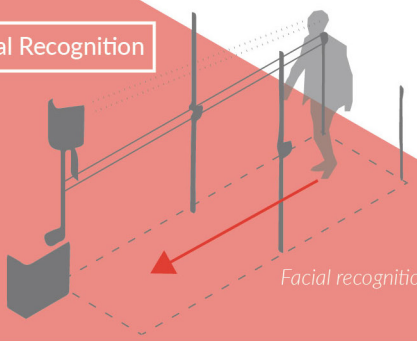
Hey, Alexa

"Lights on"



*Detecting facial signature...*

III. Facial Recognition



*Facial recognition applied to airport security systems*

### I. From Touch to Gesture

Waving your hands, knodding your head, and lifting your foot are all simple gestures that can activate sensors. Implementing gestures will prevent the health hazards of 'touch' but still allow similar interactions with technology. From opening doors to turning on the sink, wave-technology will maintain "uninterrupted flow".

### II. Voice Activation

The development of voice control has grown in recent years. Siri, Google, Alexa, and Cortana assist in controlling "lighting fixtures, doorbells, appliances, and more components of their physical environment". Voice control and virtual assistance has the power to transform small mundane tasks and larger interactive efforts.

### III. Facial Recognition

The "facial signature" refers to key features of human faces including the distance between eyes and the overall geometry. Through biometrics, facial features are identified and utilized for accurate facial recognition. It is a developing technological software that can transform the flow of security systems including airport processes and working office access.

Touchless technologies provide opportunities for safe face to face human interaction by removing the threat of "touch". Moreover, touchless gesture, voice, and facial recognition technologies allow humans to communicate with technology and one another in a manner that feels natural. These technologies can also be used to enhance the accessibility of spaces for those of all abilities. Like many developing solutions, there are components of touchless technologies that may present concerns; however, it is with these trial and errors that touchless technologies, powerful tools with transformative factors, can create change in our evolving society.

Connectivity

*As technology continues developing, touchless brings forth the opportunities to enhance human interaction in a manner that feels as natural as possible.*