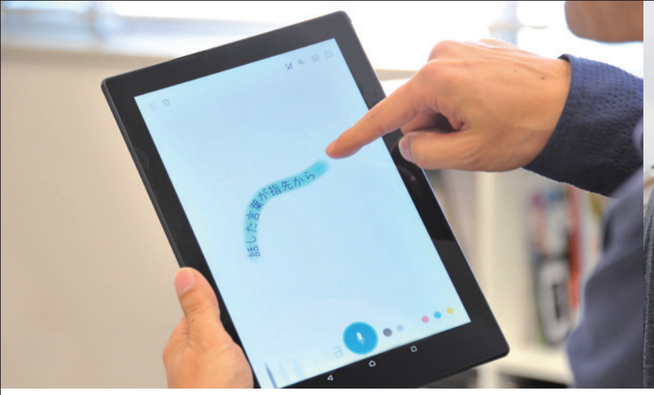


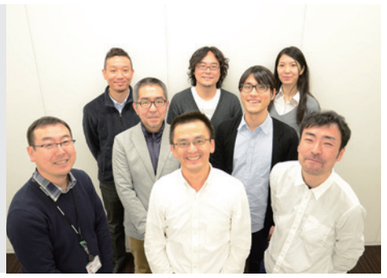
Mitsubishi Electric group &
SDGs

User Interface for Voice-activated Drawing

Develop a world-first app to achieve smooth and diverse communications with the deaf, hard-of-hearing people and foreigners.

Project “Design X”

“User Interface for Voice-activated Drawing” was born from a team of eight designers in various specialty fields, brought together under an independent research project (Design X) at Mitsubishi Electric Industrial Design Center. Design X was established in 2013, mainly for young company employees, under the concept of “solving society’s problems through design.” Designers in charge of different business units form teams to devise products.



Communication that allows the deaf, hard-of-hearing people and foreigners to break through barriers

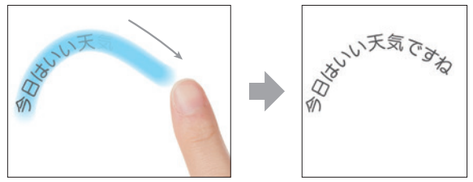
There have always been major communication barriers between the deaf, hard-of-hearing people and hearing people who don’t know sign language, and among people without a common language. Japan, in particular, is looking forward to rapid growth in foreign visitors, so barriers of language and hearing impairment are major social issues.

Mitsubishi Electric has developed the world-first “User Interface for Voice-activated Drawing” which can display spoken words as text on lines traced with the fingers. This UI has a new function that displays text along the line traced with your finger if you move your finger on the display while talking.

“User Interface for Voice-activated Drawing,” used in a voice-activated app that combines drawing with multilingual translation and other functions, achieves an intuitive and approachable ease of operation, enabling easy enjoyable direct dialog with the deaf, hard-of-hearing people and foreigners who would have been hard to communicate with before.

Features of “User Interface for Voice-activated Drawing”

Trace with your finger while talking to display text



Trace with your finger while talking

Text is displayed along the traced line

Main SDGs* to Which We Can Contribute

10 REDUCED INEQUALITIES

Support smooth, fun communication that breaks through barriers of hearing impairment and language. Help to build a society in which the emotions of people around the world are connected.

*SDGs: Sustainable Development Goals

CASE1 Break through the barrier of hearing impairment

Conventionally, sign language and written communication have been used as tools to break through barriers imposed by hearing impairment. However, even when hearing people try to communicate by pointing to documents or diagrams, the deaf and hard-of-hearing people had difficulty following the explanation because they cannot watch both the speaking person’s mouth and hands at the same time.

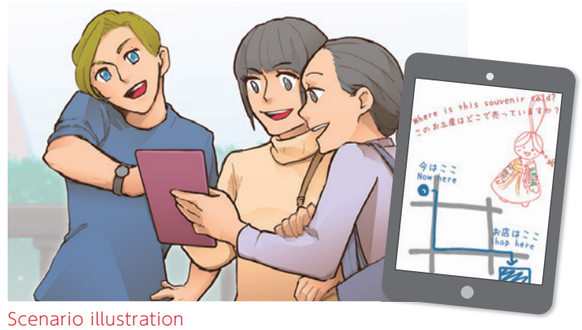
The “User Interface for Voice-activated Drawing” App can be used to point at text and illustrations and display spoken words as text from a fingertip, so the content can be understood just by looking at the screen.

Scenario illustration
The deaf and hard-of-hearing children can talk with their parents while drawing pictures

CASE2 Break through language barriers

The translation app has conventionally been used as a tool to break through language barriers. However, it required communication to be entirely expressed using only words.

The “User Interface for Voice-activated drawing” App lets you communicate by combining text and illustrations as you wish. For example, if you are giving directions, you can draw a map to explain more clearly and be understood.



Scenario illustration
While on a trip, you could inquire about a souvenir you want to buy by drawing a picture of it, or ask someone to draw a map of how to get somewhere.

The Potential of “User Interface for Voice-activated Drawing”

“User Interface for Voice-activated Drawing” does not require any special skills, and saves the time and effort needed to write texts. Furthermore, its translation functions and its intuitive ease of operation can break down barriers of hearing impairment and language, to achieve diverse communication.

Other than for the deaf, hard-of-hearing people and foreigners, “User Interface for Voice-activated Drawing” can be used to assist communication with elderly people with poor hearing.

By allowing communication using a finger, “User Interface for Voice-activated Drawing” can link the emotions of all kinds of people around the world to build a society in which more people can share time and space.

※Winner of the CEATEC 2016 Grand Prix (Life and Home Innovation Award), the IAUD Award 2016 Silver Award (the category of Communication Design), Kids Design Award TEPIA Special Award (2017), the Good Design Award Good Design Best 100 (2017), and more. This design has also earned high praise from many quarters.

CEATEC AWARD 2016

Developer's Comment

Masato Hirai
Solution Design Dept.,
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Mitsubishi Electric Corporation

The idea for this app came from meeting a hard-of-hearing intern. This project started from my desire to talk to her more, although I did not know how to use sign language.

We stuck with that initial idea as we worked through the project to the end and developed a communication technology that can connect people’s feelings, beyond the disability barrier of deafness and also across the “national border barrier” of different languages.

What we saw as the most important things when making the app were an intuitive and enjoyable ease of operation, and warm connections among people, growing through “User Interface for Voice-activated Drawing”.

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