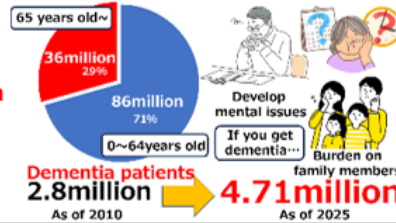


Development of Well-Being musical instruments for preventing dementia

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Research background

In Japan, the **elderly population rate will reach about 37.1%** by 2050. Along with it, dementia patients are also increasing. Considering healthy life expectancy, this is a critical situation for the modern society.



Concepts and preparation

We have **posited that playing musical instruments can help prevent dementia.**

According to Professor Taki of Tohoku University, **playing a musical instrument are effective in preventing dementia.**

On 4/18 we interviewed the staff at a special nursing home.



STAFF
I think music has the power to prevent dementia!
I want a musical instrument that any people can play easily!

We visited the center again, and played them in front of the elderly in June. From this experience, we recognized a strong need for our research, we **took on the challenge of developing a musical instrument—specifically, an instrument designed to be easy and fun for anyone to play.**



Introduction of the prototypes

We created three types of musical instruments, based on animal motifs.

•1 Octo-Piano



It presses the keys, and **the player presses the air pump to play.**

- ① The robot **can control two keys with only one motor.**
- ② Has **the ability to play any song** by reading color-coded tape.

•2 Rabbit-Guitar



The player can play Guitar chords using a TV remote control.

- ① It can play guitar chords by **using IR communication** Between the **artec links** and the **remote control.**

•3 Monkey-Drum



Uses **machine learning to detect the player's movements** and plays the drums and cymbals.

- ① It **identifies the coordinates of the face, left and right hands** and compare it so it can detect movement from any angle!

Research background

We asked to professionals like Professor Taki from Tohoku University, We gained impressions like,

“Playing music with many people is more effective than playing alone” which **proves that our theory and our solutions are effective against dementia.**



After visiting the care center, in June, we thought that music can connect everyone, and can make everyone happy, **we are developing 5 instruments for slowing dementia progression.**



On 8/8, we took surveys at the After-Expo festival. **We gained Opinions and praises from many visitors in many ages.**

Our solution not only helps prevent dementia but also helps to build a better society friendly for anyone!

Driving DJ As an introduction to the world of DJ, this instrument is designed to be easy to play and fun for anyone to play.	Mixer Cicada This instrument is designed to be easy to play and fun for anyone to play.	Rumble Pedal This instrument is designed to be easy to play and fun for anyone to play.
Kyubara-kun This instrument is designed to be easy to play and fun for anyone to play.	Beat Chopper This instrument is designed to be easy to play and fun for anyone to play.	Instrument Name Votes Rumble Pedal 15 Kyubara-kun 12 Beat Chopper 10 Driving DJ 2 Mixer Cicada 1
Rabbit Guitar This instrument is designed to be easy to play and fun for anyone to play.	Octo Piano This instrument is designed to be easy to play and fun for anyone to play.	Monkey Drum This instrument is designed to be easy to play and fun for anyone to play.
Grip Castanette This instrument is designed to be easy to play and fun for anyone to play.	Sports Watch This instrument is designed to be easy to play and fun for anyone to play.	Instrument Name Votes Rabbit Guitar 24 Octo Piano 23 Monkey Drum 15 Grip Castanette 6