

What is KType?

KType is a research project to *improve communication* for individuals with *speech & motor disabilities*.

KType for iPad app is the first product developed with insights gained from the KType research project.

KType can assist individuals with:

- ◆ Motor Neuron Diseases such as ALS
- ◆ Cerebral Palsy
- ◆ Stroke
- ◆ Autism
- ◆ Neurological Trauma
- ◆ Speech Disorders: Apraxia with Aphasia, Dysarthria

How does KType work?

KType for iPad app accepts user input via *touchscreen* and physical *buttons / switches*. It speaks in realistic *male and female voices*. And it guesses what the user is trying to type, minimizing the need to spell out each word.

How can you help?

- ◆ Recommend users for case-studies
- ◆ Connect me with care organizations
 - Medical Centers (Trauma Units)
 - Nursing Home (Senior-Care facilities)
 - Special Education Schools
 - Associations (ALS Assoc., ASHA etc.)

Touch
◆
Speak
◆
Share



KType

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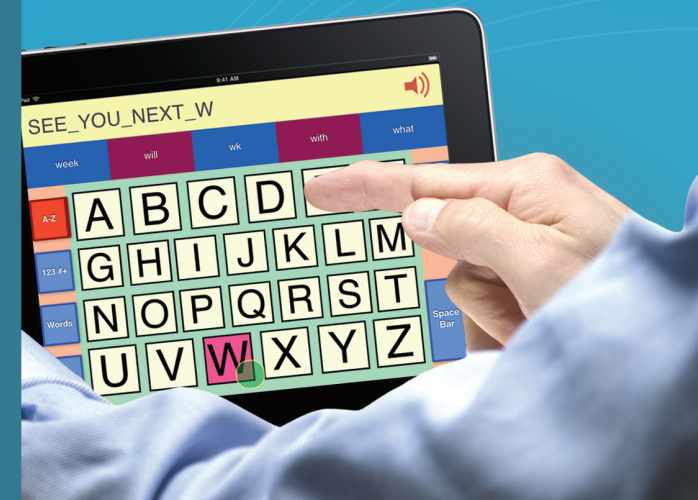
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KType

Speak more
with less effort



Why KType?

Going beyond accessibility:

- ♦ Built for *unsteady hands*
- ♦ *Speak more* with less effort
- ♦ Make *your own* keyboard
- ♦ Customizable features

Unsteady hands

Individuals with unsteady hands find it difficult to *navigate* touch-screen interfaces, touch *precise locations* on the screen and operate keyboard and mouse on a regular PC.

KType resolves this problem by splitting the *Touch* action into two:

POINT

- ♦ Move an on-screen *cursor* by touch
- ♦ Optional: *Stabilize* the cursor's motion automatically

CLICK

- ♦ By tapping touch-screen OR *wireless buttons* operated by hand/feet
- ♦ Optional: Prevent accidental clicks by requiring *double* or *triple taps*



POINT
(like a mouse cursor)



CLICK
(any key)

Speak more

Typing takes more effort than speaking.

KType makes it easier by:

Reducing movement of hands:

- ♦ Rearrange keys so common sequences are closer
- ♦ Enlarge commonly used keys / buttons

Anticipating the user's next action:

- ♦ Type a few letters and KType suggests 3-7 words
- ♦ Make suggestions based on the context

Your own keyboard

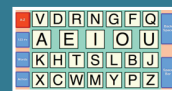
QWERTY layout is *not optimal* for use with one finger. It was designed in 1870s and was optimized for typing with *10 fingers*.

KType comes with the "Optimus" keyboard layout, optimized for one-finger use by analyzing commonly typed sequences.

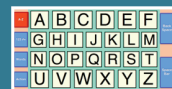
Besides Optimus it offers three preset layouts. These layouts are fully editable:

- ♦ *Customize* any keyboard layout
- ♦ *Drag & drop* to resize & move keys
- ♦ *Fix pronunciation* of non-English words

Optimus by KType



ABC (easy to learn)



QWERTY (computer)



Common words



Customizations

KType can be tailored for each user; the gender, volume, pitch and speed of the *voice* can be changed. *Input and output* device parameters can be configured. And the keyboard layout *design* can be customized. KType supports *10 different* users on a single iPad.

On the Roadmap

KType will soon be able to send *Email*, *Text/SMS*, *Tweets*; add *pictures & sound* to keyboard buttons; automatically *learn* users' typing patterns; *listen* to Facebook updates, news & web articles, and incoming emails.

POINT using:

Joystick
WiiMote / Kinect3D
Eye / Gaze Tracking

CLICK using:

Sip/Puff Switch
WiiFit Pad
iPod Touch

FUN FACTS

Over 100,000 Twitter users indirectly helped create a keyboard layout that is *better than QWERTY* for users who press keys with one finger instead of typing with 10 fingers.

Analysis of *10 Million Tweets* from Twitter helped create technology that can provide intelligent suggestions, not just spellcheck. KType can instantly suggest:

"SOMEWHERE" when user types "SMW"
"HUNGRY" and "HOPING" after user types "I AM HN"

