



Interactive Display

A solution to help people with hearing issues.

Summary



Context

Web Speech API

Limits

Features

User Interface

Conclusion



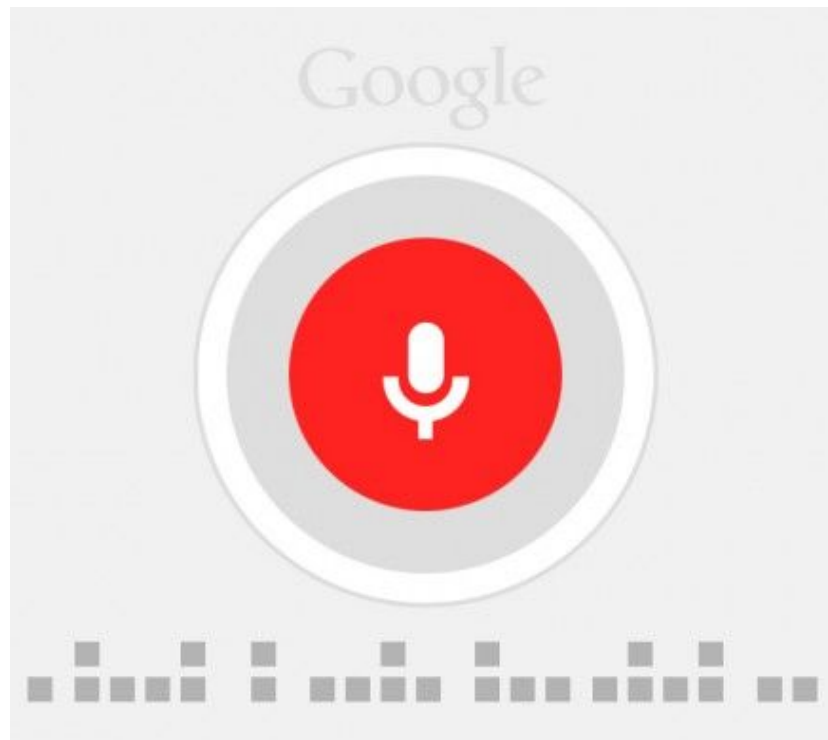
Context

- ❖ SAH
- ❖ People with concentration of hearing issues
 - Difficulty to communicate
- ❖ Need of system to overcome the difficulties
- ❖ Test the Web Speech API
 - Features
 - Limits
- ❖ Hardware requirements
 - Portable device
 - Network

| troubles | UIF | G-INP | Stendhal | G-IEP | UPMF | Total | % |
|--------------------------|-----|-------|----------|-------|------|------------|------|
| Moteur | 39 | 5 | 28 | 1 | 58 | 131 | 16.2 |
| Langage et parole | 157 | 12 | 15 | 2 | 96 | 282 | 34.9 |
| Intellectuel et cognitif | 23 | 1 | 9 | | 22 | 55 | 6.8 |
| Psychique | 46 | 2 | 16 | | 61 | 125 | 15.5 |
| Viscéraux | 31 | 4 | 15 | 3 | 29 | 82 | 10.1 |
| Auditif | 8 | 2 | 5 | | 6 | 21 | 2.6 |
| Surdité sévère | 5 | 1 | | | 1 | 7 | 0.86 |
| Visuel | 3 | 4 | 3 | | 14 | 24 | 3 |
| Cécité | | | 4 | | | 4 | 0.49 |
| Autre trouble | | 3 | 4 | 1 | 11 | 19 | 2.3 |
| Plusieurs troubles | 13 | 3 | 11 | | 30 | 57 | 7 |
| temporaire | | | | | 1 | 1 | 0.01 |
| total | 325 | 37 | 110 | 7 | 329 | 808 | 100 |

Web Speech API

- ❖ Powered by Google
- ❖ Quite powerful
- ❖ Functionalities
 - Sentences with probabilities
 - Quite easy to use for simple tasks
- ❖ Security and privacy
- ❖ Not open source
 - Some limitations



Limits

- ❖ API Limits
 - 60 seconds of recording max
 - Recognize word from a database
 - Get the others transcription solutions for a word
- ❖ Hardware & Software requirements
 - Mobile device
 - Recent Web browser
 - Microphone
- ❖ Envisaged Features
 - Auto completion
 - Vocal modification of words

**KNOW
YOUR
LIMITS
BUT
NEVER
STOP
TRYING
TO EXCEED
THEM**

Features

- ❖ Host:
 - Special characters
 - Start/stop & clear
 - Keyboard modification
 - Printing option
 - Timer
 - Special names

- ❖ Client:
 - Zoom
 - Auto-scrolling
 - Point out a word

Outil de retranscription de texte



Speech recognition results

START CLEAR IMPRIMER INSERER UN ÉLÉMENT 01:00

Cliquez sur un des caractères de ponctuation suivant pour l'ajouter à la retranscription

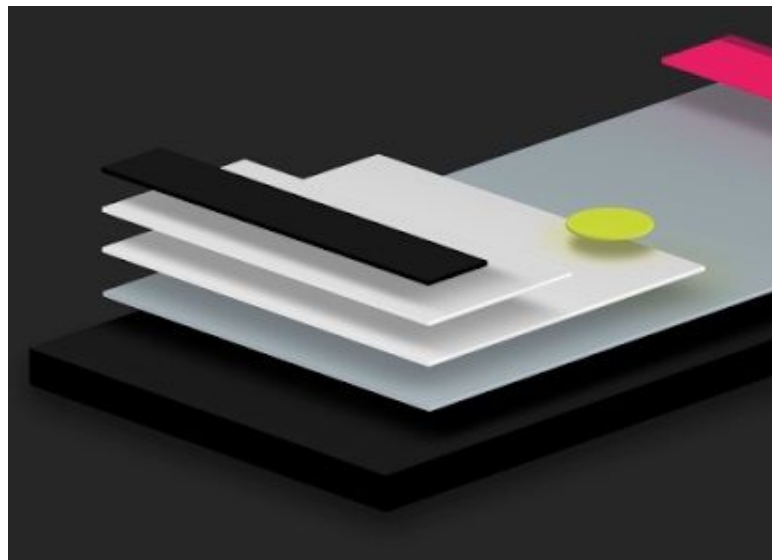
. , ? : ; ! - ← ←← () # @

Bonjour je m'appelle Quentin comment puis-je vous aider ?
Très bien je vais voir ce que je fais ce que je peux faire pour vous
Entendu il faut que vous vous rendiez au 10 rue de la porcherie
Essayer de prendre contact avec Monsieur Donzé pour voir ce qu'il peut faire
J'espère avoir pu vous aider à bientôt

Le mot "Essayer" à besoin d'être corrigé

User Interface

- ❖ User-friendly Interface
 - Simple operations, don't disturb the dialog
 - Designed for a touchscreen interface
- ❖ Dual Screen Interface
 - Host Interface: Mouse/Keyboard & Tactile interaction
 - Client Interface: Tactile interaction
- ❖ Modern Interface
 - Google Material Design Guidelines



Conclusion

- ❖ Great project
- ❖ API complex to fully understand
- ❖ First project with a real client
- ❖ End of the project : close to a beta test program
- ❖ Question of the system's usage right still remains

Demonstration

Thanks for your attention