

Cloud Solution for PWHD



From Exclusion to Empowerment : Role of ICT
for Persons with Disabilities

**Inclusive and Innovative Technological Solutions for Sustainable
Societies**



Khalifa Computer Group

Empowerment



Facts

The only thing deaf people cannot do is hear

360 million people worldwide have disabling hearing loss.

<http://www.who.int/mediacentre/factsheets/fs300/en/>

Although there are no official statistics for the number of deaf people in Egypt, a 2007 study by the World Health Organization estimated that hearing loss is prevalent in 16% of the population of Egypt. This means more than 13 million people across all age groups.

<http://deafunit.org/the-deaf-in-egypt/>

http://applications.emro.who.int/emhj/1305/13_5_2007_1170_1180.pdf?ua=1

If deaf children receive a good and suitable education then they are every bit as capable as hearing people.

<http://unesdoc.unesco.org/images/0012/001255/125541ev.pdf>

The Sign Language

When ever we say deaf, we think of sign language

Signed languages are the natural languages of deaf people. They are the languages Deaf people use when they communicate with one another

Sign language is a real language , exactly like all other languages. Except it couldn't be written nor pronounced. It is a set of movements of hands , arms, lips and facial expressions.

It is mainly used by deaf people for communication , expression of their feelings, telling stories , learning and teaching

Without knowing normal people the sign language, It will be very difficult for them to communicate with Deaf people

Definition Of The Problem

Deaf child can do anything that hearing child can do, except hearing, but there are challenges to achieve that.

On the National Level (Egypt)

- Sign language is not fully unified all over the country
- The sign language is not recognized by the government.
- Most of deaf people are not educated
- No unified resources for teachers to teach deaf other than the curricula given to normal students which do not consider the disability for Deaf.
- No access to resources deaf can understand through their sign language.
- Due to poor communication with the society, the deaf communities are isolated
- No chances for jobs.

On the International level

- Most of the developing countries have the same main above problems
- The Modern Countries such as USA, UK, France and others have advanced systems to help their deaf overcome their difficulties.
- No social platform is utilized for deaf communities to communication with each others all over the world.
- And More...

Partners

مجموعة خليفة للكمبيوتر
Khalifa Computer Group



MCIT

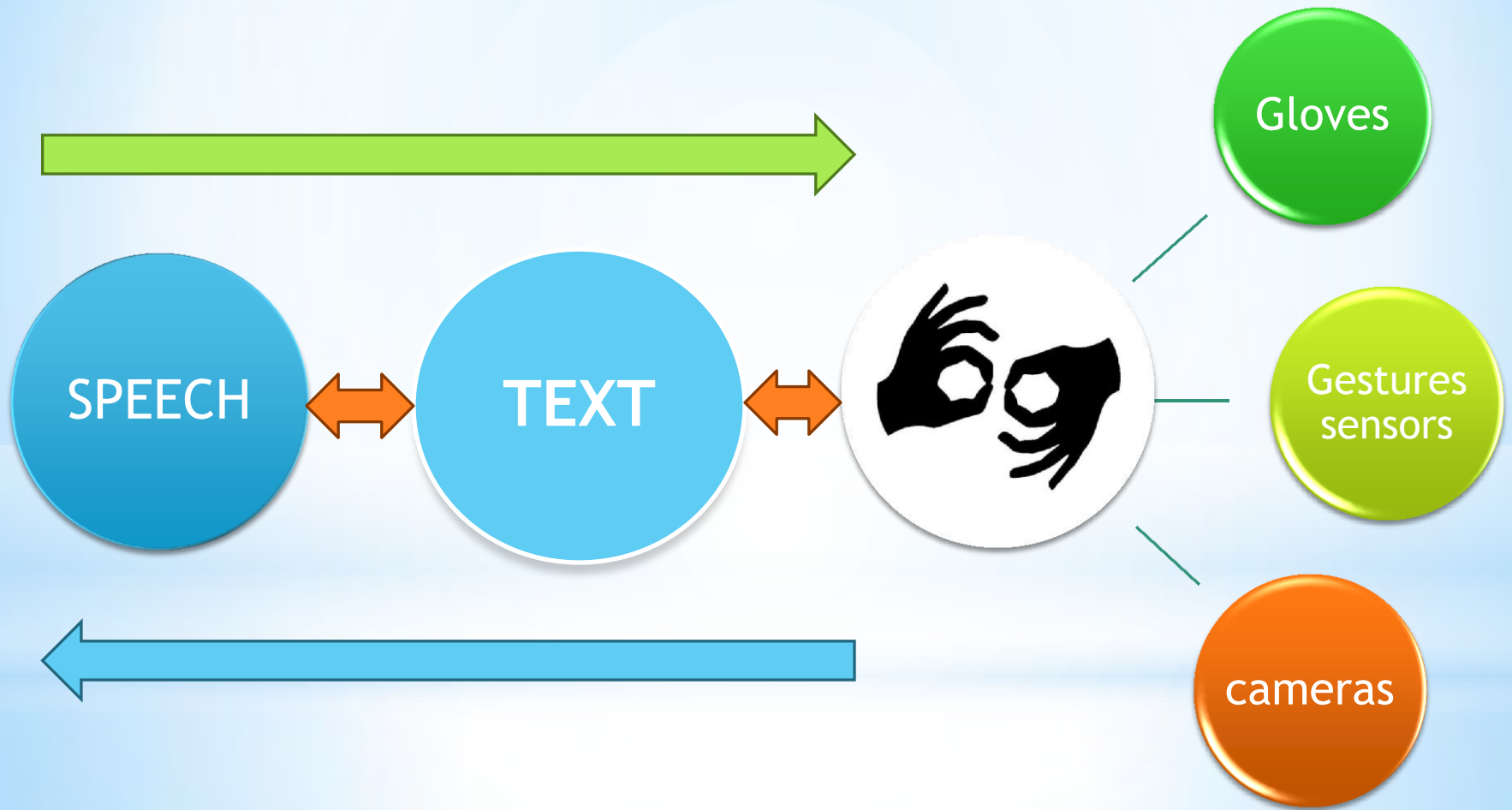


Deaf NGOs

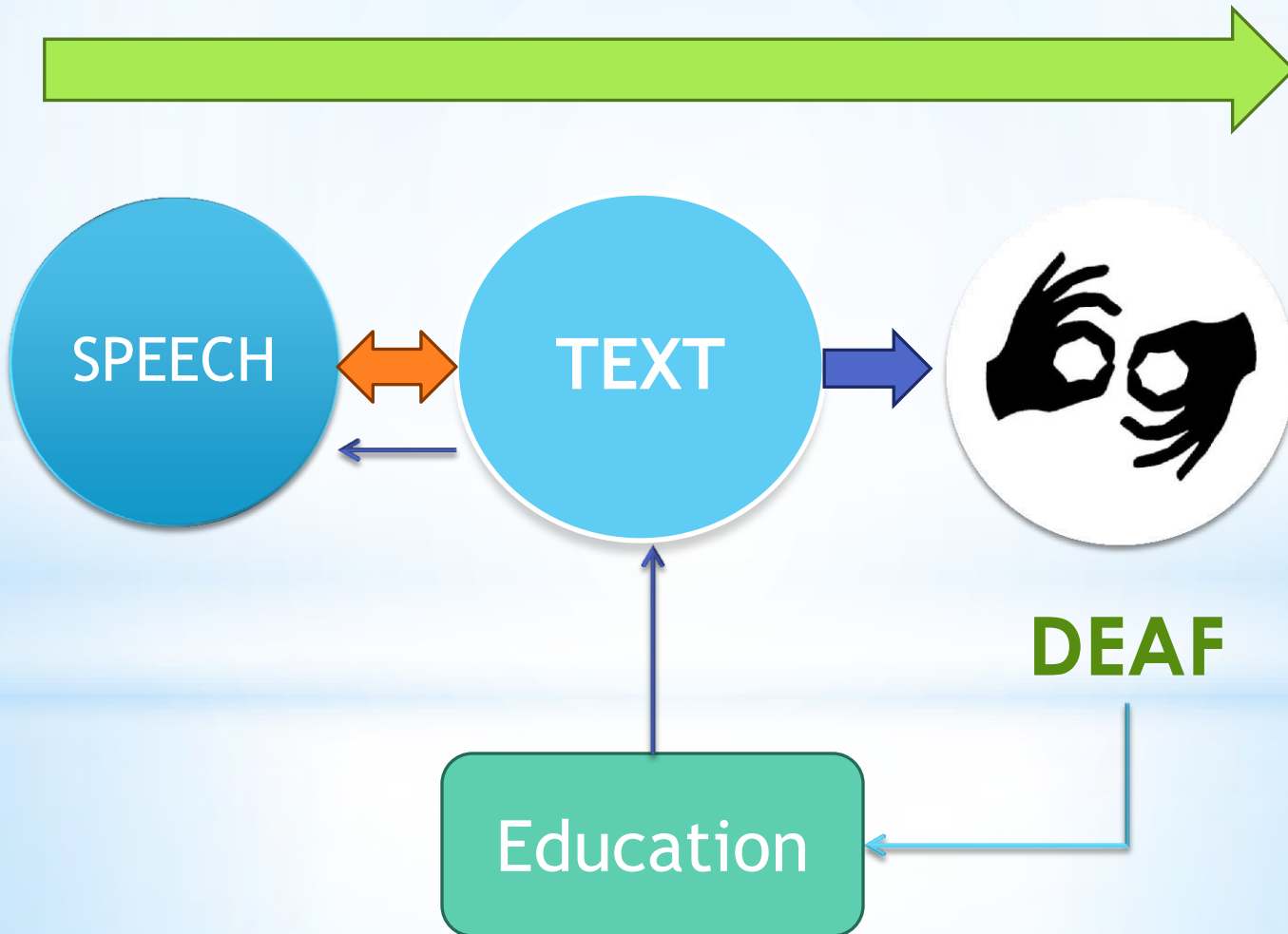


MOE

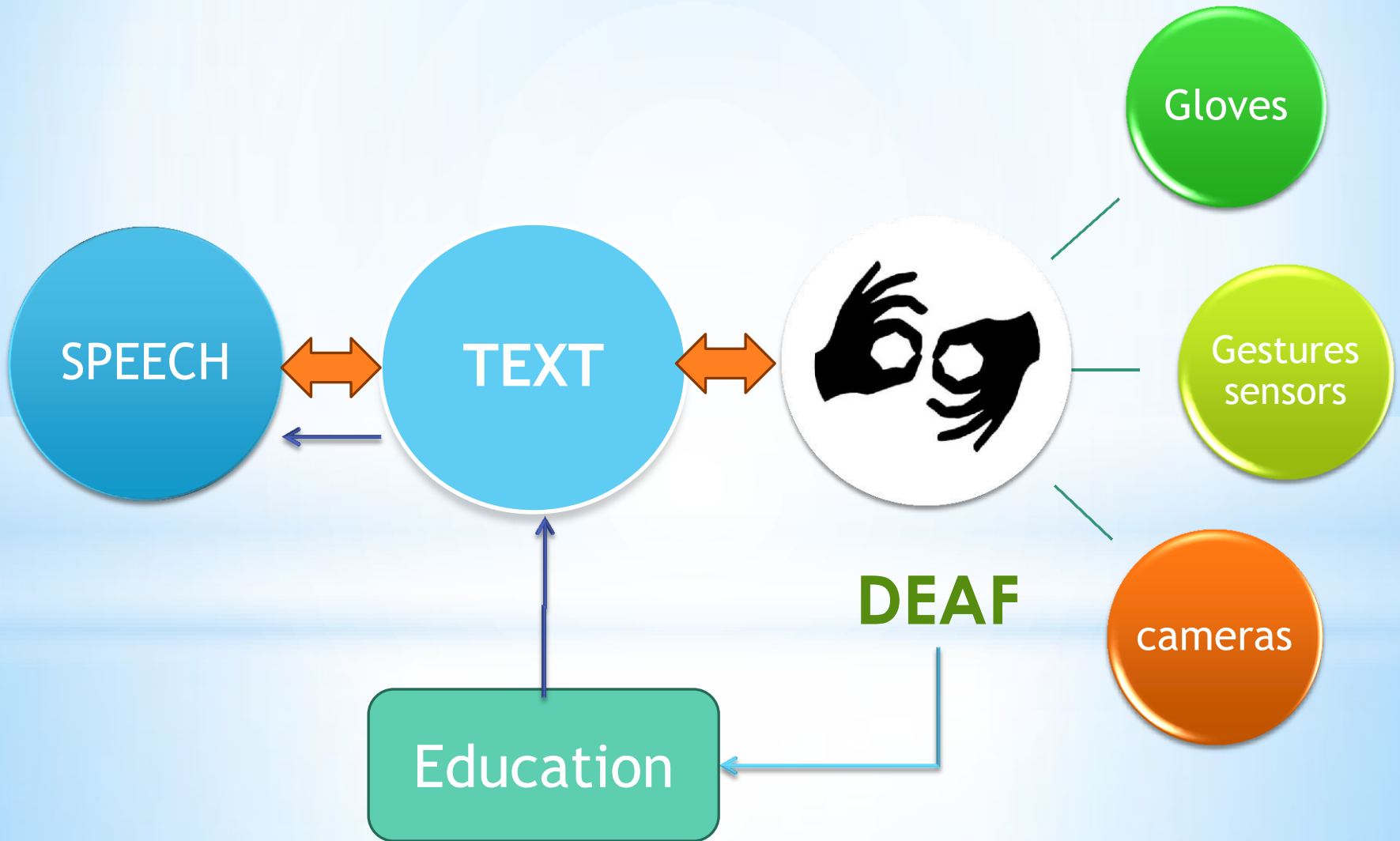
IT Research Areas



Our Suggested Track



To be integrated in the future



For Who?



Teachers



Family



Students



Cloud Based Solution



Arabic Sign Language Dictionary

Deaf Reader

Touch Typing for Deaf

Arabic Fundamentals for Deaf

Cloud Based Solution

تطبيقات تواصل للصم

تطبيق الطباعة باللمس للصم

مجموعة من التدريبات باللغة العربية والانجليزية تم اعدادها بطريقة علمية لتدريب الصم على الكتابة على لوحة المفاتيح وتم دمج لغة الإشارة بها لتيسير عملية التدريب على الكتابة لتصل الى سرعة 50-60 كلمة في الدقيقة.



اللغة العربية للصم

الطباعة باللمس

قارئ الصم

قاموس الإشارة



Arabic Sign Language Dictionary



- Arabic Alphabets
- English Alphabets
- Words with Video Sign (2500+) & (5000+) Images
- Sentences Translator

ASLD - Alphabets (Arabic - English)

قاموس الإشارة الموحد لجمهورية مصر العربية

عودة مترجم الجمل الموضوعات الكلمات الحروف قاموس الإشارة الموحد

ب ت ث
ح خ د
ر ز س
ص ض ط
ع غ ف
ك ل م
ه و ي

الأبجدية العربية

الأبجدية الإنجليزية

0:02

ASLD - Words



(2500+)



(5000+)

عودة مترجم الجمل الموضوعات **الكلمات** الحروف عن قاموس الإشارة الموحد

بنت الأشارة صورة

اختر أول حرف من الكلمة

الكلمات

بحث: ب

بمبى
بنفسجى
بني
بليج
بطن
برودة
بنت

ASLD - Subjects



عن قاموس الإشارة الموحد الحروف الكلمات الموضوعات مترجم الجمل عودة

1 - اختر المجموعة

2 - الكلمات

بحث:

أبيض
أحمر
أسود
أزرق
أخضر
أصفر
برتقالي

الألوان أبيض

الأشارة

صورة

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0:02

← →

ASLD - Sentences Reader



Smart Morphological analyzer

عن قاموس الإشارة الموحد الحروف الكلمات الموضوعات مترجم الجمل عودة



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أنا العب كرة القدم

أكتب الجملة التي تريد ترجمتها إلى لغة الإشارة: أنا العب كرة القدم

▶ || ↺ ◻

Cloud Based Solution



Arabic Sign Language Dictionary

Deaf Reader

Touch Typing for Deaf

Arabic Fundamentals for Deaf

Deaf Reader

5000+ composited Video Signs, 2500+ Video Signs

مترجم الجمل

مجموعة خليفة للكمبيوتر
Khalifa Computer Group

ادخل الجملة المراد ترجمتها

ذهب يذهب المدرس الى الولد في المنزل ، وأكل الفاكهة وشرب
الماء ولعب بكرة القدم

ذهب **يذهب** المدرس إلى الولد في المنزل ، وأكل الفاكهة وشرب الماء ولعب بكرة القدم

▶ || ↺ ◻

Deaf Reader

Arabic Morphological Analyzer, and words speller

- It uses built-in Arabic morphological analyzer for analyzing the sentences and displaying according sign videos.
- It could understand the time where the verb happened, the Plural and single , Feminine and masculine as well as Pronouns.
- If a word is not existing in the dictionary, it finger spells the word.

Cloud Based Solution



Arabic Sign Language Dictionary

Deaf Reader

Touch Typing for Deaf

Arabic Fundamentals for Deaf

Touch Typing For Deaf (TTD)

برنامج تعليم الطباعة باللمس للصم

تسجيل الدخول خروج



مجموعة خليفة للكمبيوتر

بالتعاون مع



قامت مجموعة خليفة للكمبيوتر بتطوير حزمة من البرمجيات والأدوات التكنولوجية لنوي الإعاقة السمعية (الصم) بالتعاون مع وزارة الاتصالات وتكنولوجيا المعلومات ووزارة التربية والتعليم من خلال مبادرة تمكين التي



الدخول إلى الطباعة باللمس

a@khalifa.com

••••

رجوع

تسجيل الدخول

للصم من اكتساب مهارة تمكنهم من الحصول على وظيفة في ادخال البيانات.

TTD - Arabic & English



Change Language

Logout



Touch Typing

Touch Typing Guide☆

Free Mode☆

Sequential Mode☆

Training Results☆



Anas Khalifa

Birth Date

15/11/1985

E-Mail

a@khalifa.com

Company/Institution

وزارة التربية والتعليم

Expiration Date

1/11/2016



TTD-Sequential Training (objectives Driven)

The screenshot displays the 'Touch Typing' application interface. At the top left, there is a keyboard icon and the text 'Touch Typing'. At the top right, it says 'Welcome: Anas Khalifa' followed by links for 'Score', 'Home', and 'Logout'. The main content area is titled 'Level 1' and features a grid of 19 numbered cards. Cards 1 and 2 are active, while cards 3 through 19 are locked, indicated by a padlock icon in the top-left corner of each card. Each card shows a number, a keyboard layout diagram, and a list of characters to be typed.

| Card Number | Keyboard Diagram | Characters | Status |
|-------------|--------------------|--------------------|--------|
| 1 | /ASDF | ASDF | Active |
| 2 | JKL; | JKL; | Active |
| 3 | /ASDFJKL | ASDFJKL | Locked |
| 4 | CGH | CGH | Locked |
| 5 | IIE | IIE | Locked |
| 6 | Leafd'above | Leafd'above | Locked |
| 7 | RTU | RTU | Locked |
| 8 | Leafd'above | Leafd'above | Locked |
| 9 | EY | EY | Locked |
| 10 | Leafd'above | Leafd'above | Locked |
| 11 | QWQP | QWQP | Locked |
| 12 | QWQPLeafd'above | QWQPLeafd'above | Locked |
| 13 | RTUV | RTUV | Locked |
| 14 | RTUVLeafd'above | RTUVLeafd'above | Locked |
| 15 | ZXC | ZXC | Locked |
| 16 | Numbers | Numbers | Locked |
| 17 | special characters | special characters | Locked |
| 18 | Numbers | Numbers | Locked |
| 19 | special characters | special characters | Locked |

TTD-Clear Design - Measures Accuracy and Speed


Finger , Sign, Keyboard Key, wrong type indicator

Touch Typing


jjjj kkkk llll ;;;; jkl;

lk;j kl;l jkjl k;lj;

jkl; lk;j kl;l jkjl



SPEED (WPM): 9 Accuracy: 32%



The image shows a touch typing interface. At the top, there are two circular refresh icons. Below them, there are three lines of text: 'jjjj kkkk llll ;;;; jkl;', 'lk;j kl;l jkjl k;lj;', and 'jkl; lk;j kl;l jkjl'. The first line has colored boxes around the letters: 'j' is green, 'k' is red, 'l' is blue, and ';' is red. Below the text is a hand icon with the letter 'K' next to it. At the bottom, there is a keyboard layout with the key 'K' highlighted in green. To the right of the keyboard, the text 'SPEED (WPM): 9 Accuracy: 32%' is displayed. At the top left, the text 'Touch Typing' is visible. At the top right, there are two circular refresh icons. At the bottom left, there are two hand icons, one with a blue arrow pointing to the index finger.

TTD- Measures Accuracy and Speed

Detailed progress reports for user on each exercise and Language

Complete Progress Report for Anas Khalifa





Results of common lessons:


| Level | Exercise | Speed | Accuracy |
|----------------------|----------------|-------------------------|----------------|
| 1 | A S D F | 21 | 90 |
| Average speed | 21.0000 | Average Accuracy | 90.0000 |

TTD- Job Opportunity


Guaranteed Speed & Accuracy, Will Be Integrated With Social Media




Hire The Data Entry Skilled Deaf



Name Country Min Score [Search](#)






MARRY JONES
25 YEARS, ENGLISH, ARABIC
ENGLISH : LEVEL 4 89% ACCURACY: 94% SPEED: 32 WPM
ARABIC : LEVEL 6 78% ACCURACY: 95% SPEED: 22 WPM



SAMIR MAGDY
37 YEARS, ENGLISH,
ENGLISH : LEVEL 5 80% ACCURACY: 91% SPEED: 30 WPM

TOP LIST

| | | |
|---|---|------------|
|  | Mark Sam Details | 90% |
|  | Hara Omer Details | 86% |
|  | Rami Adel Details | 80% |

Cloud Based Solution



Arabic Sign Language Dictionary

Deaf Reader

Touch Typing for Deaf

Arabic Fundamentals for Deaf

Arabic Fundamentals for Deaf



برنامج تعليم أساسيات اللغة العربية للصم

مقدمة

باب الحروف

باب الكلمات

باب الجمل

عن البرنامج

خروج



Arabic Fundamentals for Deaf



Learn Arabic Alphabets

Learn Words

Learn Sentences & Grammar

Exercises & Evaluation

Lessons Objectives



خروج

عن البرنامج

باب الجمل

باب الكلمات

باب الحروف

مقدمة



أهداف الباب :

في نهاية الباب ينبغي أن يكون المتعلم الأخصم قادراً على أن :

- ١ . يُحدد الحروف الهجائية والمقابل الإشاري لها بدقة وسرعة .
- ٢ . ينطق الحروف الهجائية بتقليد حركة الشفاه .
- ٣ . يكتب الحروف الهجائية باستخدام لوحة المفاتيح
- ٤ . يتعرف على الحروف الهجائية الإشارية بأشكالها الثالث (الفتح ، الضم ، الكسر).
- ٥ . يتعرف على الحروف الهجائية الإشارية بأوضاعها الثالث (أول ، وسط ، آخر الكلمة)

انتقل الى الدروس

AFD - Learn Alphabets



مقدمة باب الحروف باب الكلمات باب الجمل عن البرنامج خروج

الشرح

تدريب

أذن

م



Home icon and four colored dots (orange, green, red, blue) at the bottom.

AFD - Learn Words



القواعد النحوية

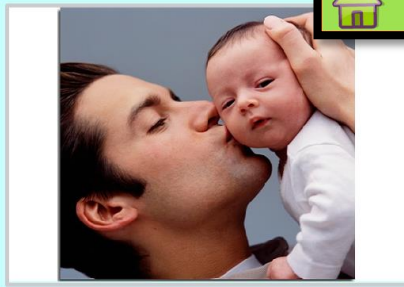
أقسام الكلام

حرف

في
إباء
عن
من



أبي



AFD - Learn Sentences



الدرس الأول

مدرستي جميلة

مدرستي جميلة



التدريبات 1 - اختر:

أذهب مع أخي إلى المدرسة

أنا أرسم وردة

أتعلم وألعب وأرسم



الوحدة الثانية

مدر

الدرس الأول

الدرس الثاني

الدرس الثالث

التدريبات



The Next Phase



More Words for the ASLD

Improved Deaf Reader

More Applications

Going to mobile Apps

Next Phase - Sign Dictionary



(5000+)



(10000+)

Increase Video Signs to 5000+ , Images to 10000+

عن قاموس الإشارة الموحد الحروف الكلمات الموضوعات مترجم الجمل عودة

اختر أول حرف من الكلمة

الكلمات

بحث: ب

بمبى
بنفسجى
بني
بليج
بطن
برودة
بنت

بنت

الأشارة صورة

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Next Phase - Deaf Reader

Deaf Reader : a plugin for internet browsers to interpret Arabic to Sign Video



The screenshot shows a web browser window displaying the Arabic Wikipedia page for 'Deaf Reader'. The browser's address bar shows 'مقالة - ويكيبيديا'. The page content includes a red-bordered box with the text 'الويكي تهوى أفريقيا مطبخ شارك صورك بقية العالم' and an image of a dish. Below this is the article title 'مقالة [عدل]' and a paragraph of text. A context menu is open over the title, with the option 'قارئ الصم - Deaf Reader' highlighted. A video player is visible in the lower-left corner, showing a man in a suit. The right sidebar contains navigation links for the Arabic Wikipedia, and the Windows taskbar is visible at the bottom.

Next Phase - Chat App for Mobility



- Text to Speech
- Text to Video Sign
- Voice Recognition
- Chat History (Sign, Text, Speech)
- Word Auto Complete

Results

- Our Cloud Based Solution “Tawasol” provides a complete (input/output) accessibility solution for deaf in Egypt.
- Tawasol does not need any special hardware and is using digital video for signing which was proved as the best over the Avatar.
- Artificial Intelligence is used for translating Arabic text into the Egyptian sign language with high accuracy.

Results

- The system will be applied in 200 deaf schools and 1000 integration schools for MOE in Egypt and will be utilized by Teachers academy for training of teachers on Egyptian sign language. It will be the base for developing curricula for Deaf.
- **The developed innovative technologies can be used for any sign language in all Arab countries and can be modified for other native languages.**

Conclusions

Khalifa Computer Group has developed an innovative system for Deaf which supports enabling, empowering and inclusion of them in both the Education system and the Jobs market. The “Tawasol system” brakes the barriers between deaf, the society and the world.

New phases of the project will deal with more improvements and applications for the infra-structure which was built in the first phase.

Thanks With Worm Love



Questions



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