Student: marcos celestino carvalho junior
ID Number: @02727654
Team Name: Slate 8

Individual Idea Generation

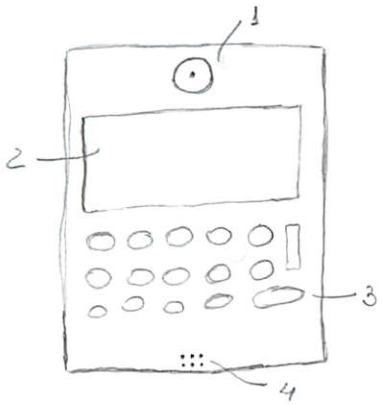
The initial solution is to built a device to translate and interpret ASL into English language by using a camera to realize the signs.

One conceptual design consists to use a camera ① that will identify the correct sign maker for some person from pictures as data base already implemented. Each signal will have around 10 similar pictures that will be used like model into the data base, then to compare with futures signals (inputs) to give the desired and correct answer (outputs) ② - text, and ④ - voice.

Camera working: the camera ① will take pictures immediately after some moviment, then analyze each picture with the signs created in the memory. If the first picture did not consider similar (maybe 70% of accuracy), the second picture is immediately analyzed (keeping the operation fast). A brief interval among the signs is necessary to the system understands and does the next step (next analysis).

The Keyboard ③ could be used to put some input misunderstood for some reason by the system.

External Device



① → Camera
② → Display
③ → Keyboard
④ → Speaker

} Subtitle

Figure - 1

Internal Device

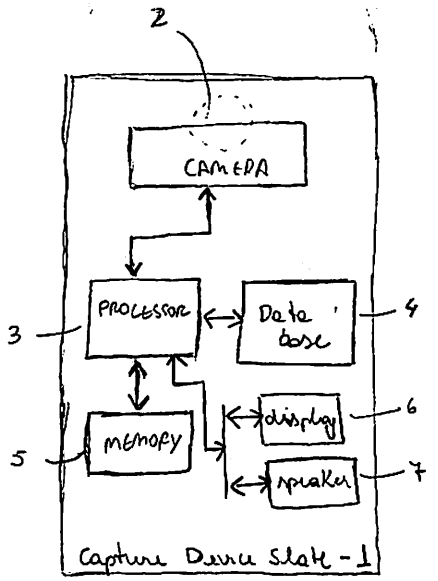


Figure - 2

Description

As show in figure 2, the device working of Slate ① consists to use a camera ② to take pictures that will compare the pictures with the data base ④ by the processor ③. This processor will store the answers in a Memory ⑤ until the complete sentence is done. The result of the translater ASL → English will be given in the display ⑥ like text, and the speaker ⑦ like voice by the same processor ③.

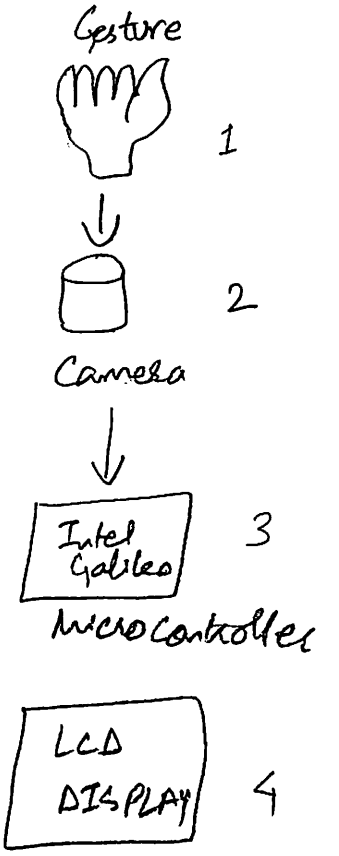
TEAM NAME: SLAT8

PERSON NAME: SARAD C. DHUNGEL

DESCRIPTION

As Shown in 1 Sign word is Shown in front of Camera. In 2. Camera captures images of the Sign word. 3 Shows the plase where micro controller does computation. The video captured by Camera 2 is break down into frames which are further broke down into pixels by micro controller 3. pixels are read by Signal processing algorithms 3. As Shown in 4. the result of computation by micro controller 4 is displayed as English text in LCD display 4.

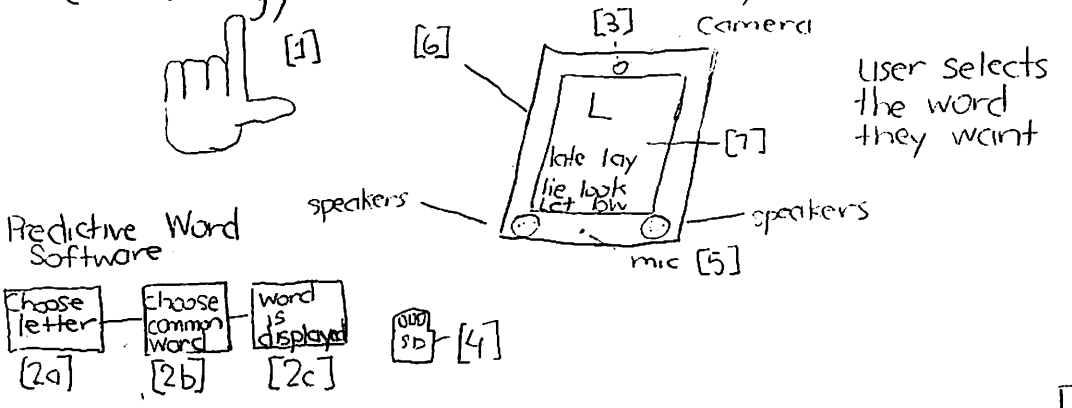
SCHEMATICS



Slate 8 - Reginald Etienne 10/22/14

ASL to Voice (Text) & Voice to ASL (Text)

Create (sign language) gestures [1] for the most common words and using predictive word software, we will choose the correct letter [2a] then the most common words will be shown, [2b]. We then choose the word. [2c] These gestures will be recorded by an optical video camera [3] and processed by software that will know the gestures and convert them in to words. This will integrate predictive word software, spell-check, and motion-detection into one application that will be more effective than all 3 by themselves. By taking a series of pictures, we can compare those pictures with those already stored on the flash memory [4] on the device [6]. This is how we will determine what the gestures (sign-language) is attempting to say. From the screen of this device [7], we will have symbols and corrections that can be made from the gestures. This will be able to be edited before the text-to voice application reads out the sentence. In the opposite direction, we will simply incorporate voice-to-text technology where the deaf/mute can read what people say on the microphone. [5]



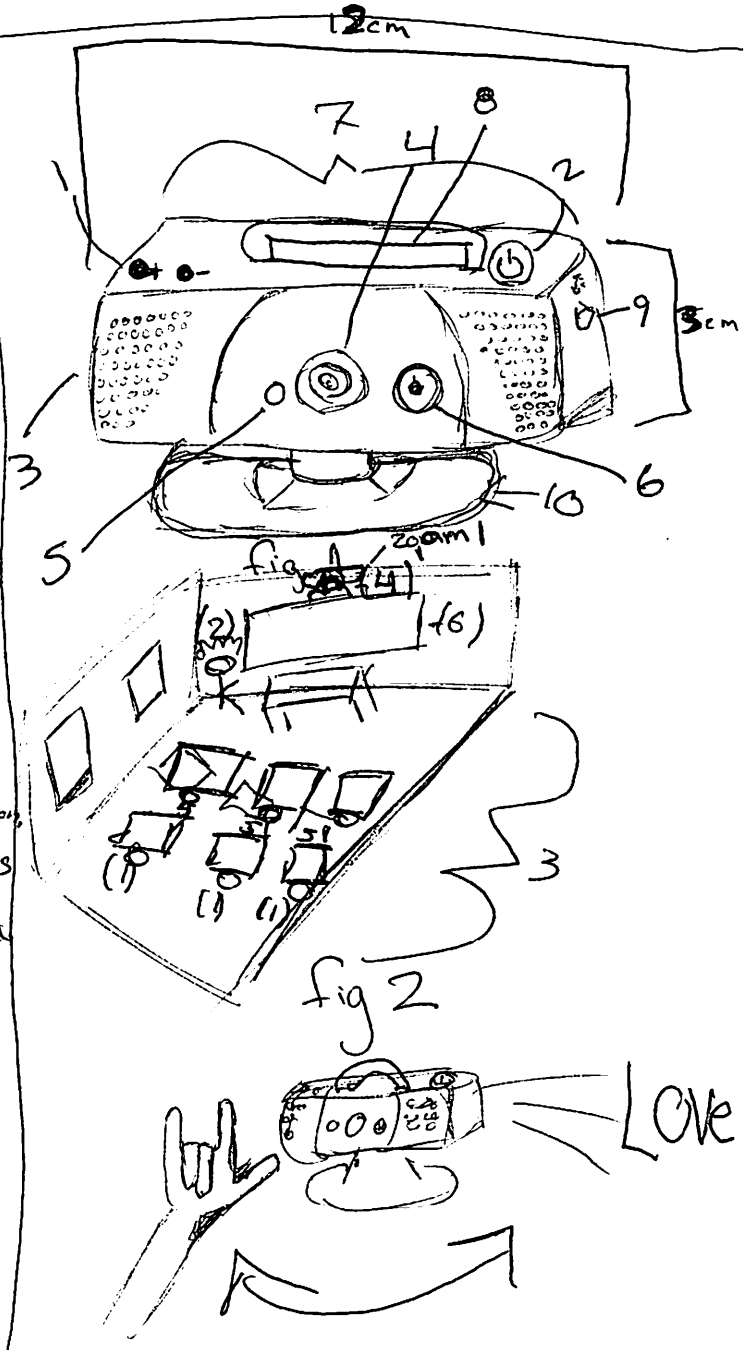
Patent No: 48279-US

Date: 10/22/14

• Slate 8
• Renika Montgomery
@02716019
• Oct. 22nd, 2014

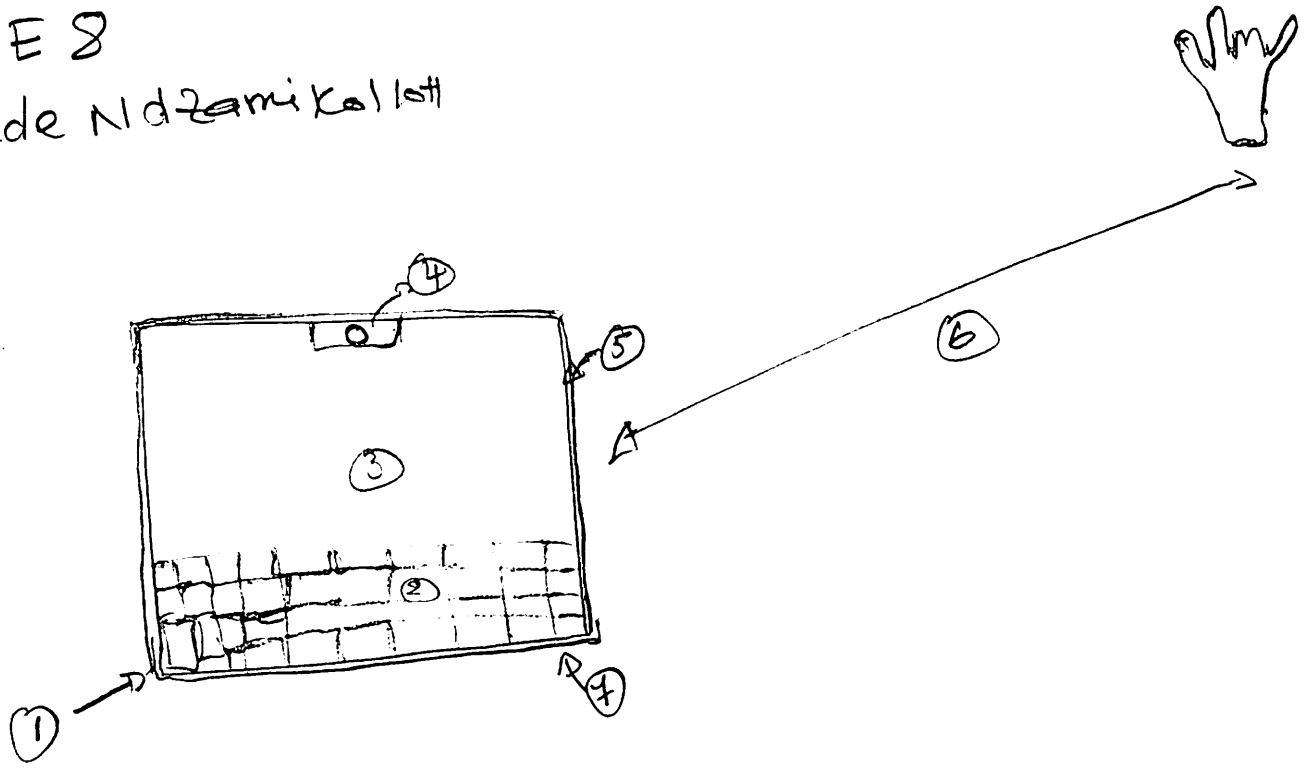
Figure 1, in the drawing, you see the device itself(7) that is about 9cm by 12cm, Slate. (2) is the power button that will turn the device on and off. (4) is the camera that will allow the person signing to be seen by the device. (8) is the handle so that the device then becomes a mobile device (Something the size of an iPad) (1) is the volume buttons that will control the devices (to the speaking). (3) are the speakers that will spit out sound, (5) is the microphone that will pick up the sound when a person is speaking. (6) is the light that will let you know that the device is on and or in the process of picking up noise or videotaping (10) is a stand that can be removed or placed at the bottom of the device to raise it depending on where it is being used. (9) is an outlet of a USB cord so that you can charge the device.

Figure 2, in this drawn, (3) is a classroom where some of the student are deaf while some of them are not. The teacher (2) is teaching the class a lesson, (1) are the students that are not deaf. (5) are the students that are not deaf and are at the front of the room by the device over the board. (4) is the device that is sitting on the top of the white board. (6) is the board



SLATE 8

Claude Ndzami Kollett

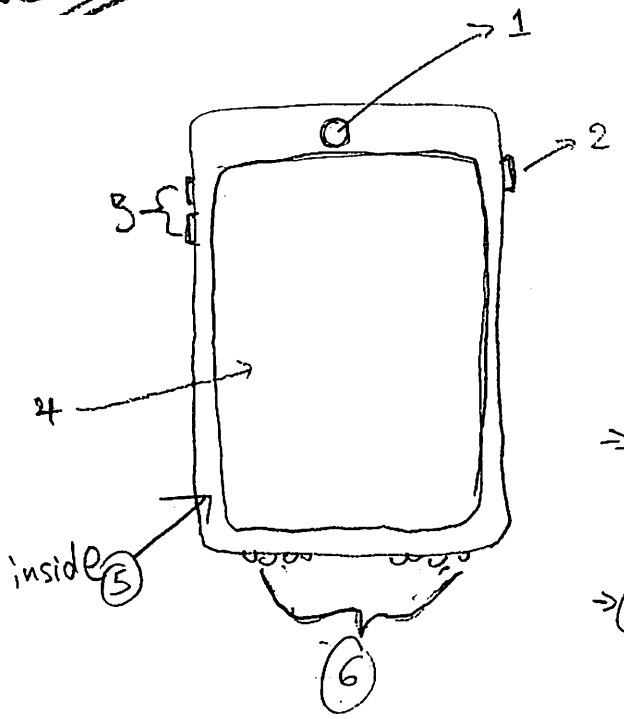


1. Indicate the dimensions of the device, which is inches
2. keyboards, as an input
3. Screen, as an output
4. Capture device, which include Camera Component
5. audio-speackers.
6. distance between the object, to evaluate how far can the device can capture image motions.
7. Weigh of the device

Process:

This device is a taflet, which is design to translate ASL to text/voice. This device will be able to capture image by using a camera device and will send the image into the memory, and text the corresponding gesture on the screen. This device will be also able to translate the gesture motions in voice.

Yonatan Yilma
@02665148



Components

→ (1) Camera take images of the sign as input

→ (2) lock button turns the device on/off/sleep

→ (3) Volume buttons control

→ (4) Touch screen Pad → outputs as text

→ (5) Intel Galileo

→ (6) Speaker → outputs as voice

Process

- The user sign into the camera (1), the camera sends the image to the Galileo (5).
- The Galileo (5) processes the images and translates them.
- The Galileo sends the output results to the speakers (6) and the screen (4).
- The speaker (6) output the translation as voice message.
- The Screen (4) outputs the translation as TEXT.
- Maybe the Device can go backwards.
  → Translate Txt/Voice into sign language used the screen display.