

CS 795/895 Human computer Interaction

HW3

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Introduction:

For HW3 I want to use my Project abstract and work on that even I did work on different topic in my HW2. My project abstract is “Sign Language Detection and Sign language Generation. The goal of this system is simple. To help the speech-impaired people communicate without any hassle or need of a translator. The idea of this app is to build a Mobile application, which helps people out in emergency situations, or when faced with difficulties communicating themselves.”

This topic is very popular, and many people are researching on that we just want to make this simple and add some extra features of what we thought and make it useful to as many people as possible.

The already existing model is just converting the American sign language into text by using the camera and motion detection.



In the above figure it is showing the existing model that which converts sign language into text.

All about sign language:

The changes and extra features what I want to include are:

1: Adding a course material as modules, so that one who is interested to learn sign language can learn by using the app.

2: I want to add a chat bot in which keyboard consist of sign language so that two deaf and dumb people who had knowledge in sign language can chat using this chat bot.

I want to create an application that is helpful not only to a specific set of audience like dumb and deaf. For that I am going to add a feature as modules, with the help of this all the people who are interested to learn sign language will be my users. One can easily login to my application by creating an account using email. After logging the user can choose what he wants to do. In the application I am going to provide 3 main features as I mentioned above with regular sign conversion the user can access the chat bot and modules. We are going to provide course material if the user is interested to learn the sign language. The chat bot helps the impaired people to communicate using sign language as we provide the keyboard consisting of sign language. In this it helps them a lot in this internet world they can do most of the things by themselves without others help.

Choose one from the below

Modules

Sign Language Conversion

Chatbot

persona:

In this case, I created a person named Raj. I gave him some characteristics and details.

As we are discussing about sign language, so our user is a deaf and dumb person. He is so interested in studies and college life, but he is so frightened to communicate to people as many people are not aware of sign language. He is one of our potential users our application helps him to communicate with people.

Raj

age: 21
residence: Maryland
education: Bachelors
occupation: Studying
marital status: single

Sign Language is the Noblest gift that God has given to deaf people.

Raj is deaf and dumb so its hard for him to communicate with people .

Comfort With Technology

INTERNET

SOFTWARE

MOBILE APPS

SOCIAL NETWORK

Criteria For Success:

An application that can help him to communicate with people.

Needs

- A mobile phone.
- Knowledge on sign language.
- Knowledge of using mobile.

Wants

- Good friends.

Values

- He values the people who are kind and cheerful.

Fears

- He fears his intentions may not convey properly because of poor communication.

Now we are taking a different scenario where one is so interested to learn new things and gain knowledge.

In this case our user kumar wants to learn sign language. This application helps him to do it .

kumar

age: 21

residence: Maryland

education: Bachelors

occupation: Studying

marital status: single



Wisdom is the right use of knowledge.

Kumar is very interested to learn new things and improve his knowledge .

Comfort With Technology

INTERNET



SOFTWARE



MOBILE APPS



SOCIAL NETWORK



Criteria For Success:

To gain knowledge that which helps the world.

Needs

- A mobile phone.
- Knowledge of using mobile.

Wants

- Good friends.

Values

- He values the people who are kind and cheerful.

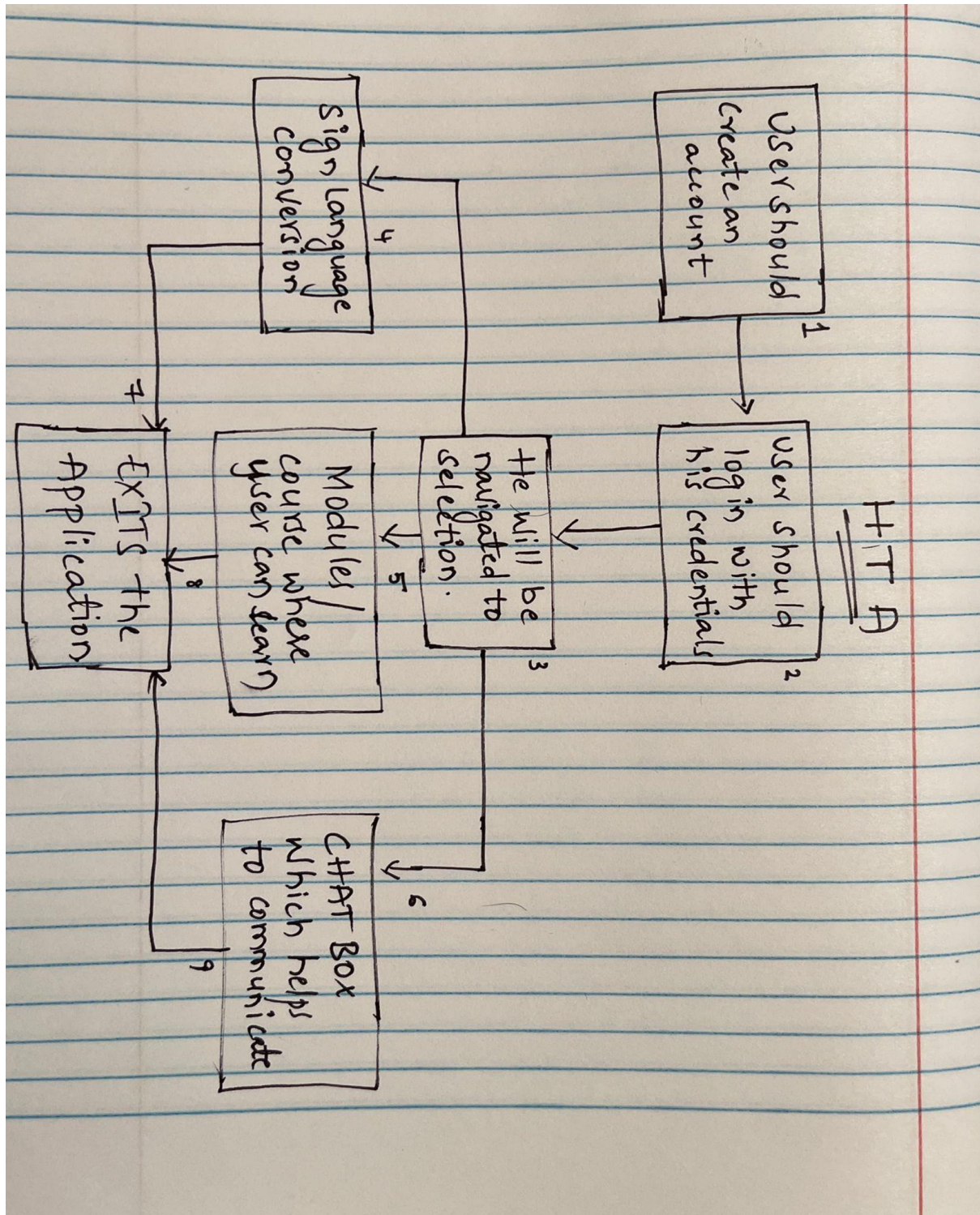
Fears

- He fears where he may lost his will to gain knowledge.



HTA (Hierarchy Task Analysis):

Here we are showing the HTA of our user raj follows and uses the application.



Here raj first goes to the sign-up section and creates an account after creating the account he should log in to it. Then he is navigated to selection section where he has 3 options as I

mentioned above. He selects one of the options like chat box and he can easily communicate with his friends. Then he exits the application.

Raj follows the steps as (1,2,3,6,9)

Even in the second persona kumar first goes to the sign-up section and creates an account after creating the account he should log in to it. Then he is navigated to selection section where he has 3 options as I mentioned above. He selects one of the options like modules where he can learn the sign language with the help of material provided. Then he exits the application.

Kumar follows the steps as (1,2,3,5,8)

Use cases:

1. User opens the application.
2. User creates an account.
3. User uses the credentials and login to the application.
4. User login into the application then he is directed to selection page.
5. The application offers 3 different types of facilities.
6. Where user can select any one of them.
7. User is asked to allow access for camera if he chooses to use sign language conversion.
8. The user can use chat bot to communicate with his friend where he can add them from the search bar.
9. The user can learn sign language by entering module section where the course material is available.
10. The user can exit the application.

USE CASE DIAGRAM:

