

# A - Planning

## Scenario

My uncle lives in a small village in the south of Spain. He works as a social worker and he has many problems communicating with immigrants because he does not speak their languages. These people are usually very poor economically and have the urge to be employed. They often end up working in plantations that are in that zone. But to be able to work with aliments, they need to get a certificate of food manipulator and must pass a small course.

The trouble is that my uncle finds it impossible to teach these people because of discrepancies in the language. Since it's a very remote and rural area in Spain, there are no available people who speak their languages and are also certified to do the course. Firing a human interpreter would be a cost that the social services could not afford, that's why he asked me to develop a computer software to solve his problem. Because they can afford the cost of buying a stock of headsets so the attendants to the course could listen to a computer made translation.

*Wordcount: 182*

## Interview

See transcription.

## Rationale

As stated above, my goal is to create an interpreter. It must be able to translate a conversation almost simultaneously (maybe just some seconds of delay) given a voice as input and output the translation in another language also in the form of voice.

As it's a software that is just needed by the person who wants to communicate with people who do not speak his language (in this case, my uncle), the best choice is to make a stand-alone application that can be downloaded on his computer. Of course, internet connection will be needed as the translation services are online.

I've decided to write the app in Python, as it's a very easy to use high level language and I've used it before. Moreover, it has the advantage that there are plenty of libraries and APIs written in Python that will facilitate the coding and simplify a lot the underlying complexity that translation requires. My app will rely on open source code for the translation, voice-text conversions and audio management. [More info in [Notes](#)]

The user interface of the application will also be developed in Python, using a GUI module. My goal is to write the whole app in this language.

*Wordcount: 202*

## Success criteria:

- ☐ **Manage to make a simultaneous translation:**
  - ☐ Reasonable delay
  - ☐ No omissions
  - ☐ Natural voice tone (kinda out of my scope) →TTS services
- ☐ Translation must be accurate (out of my scope) →change translation services
- ☐ Make a play/pause button to start/stop translation
- ☐ User being able to select source language and the target language
- ☐ User-friendly interface:
  - ☐ Must be: complex (menus, displays, buttons), intuitive and pretty
  - ☐ Display text spoken as well as its translation
- ☐ Bug-free app (make sure it doesn't mess the computer and make sure it works)
- ☐ Bring translation to more than 1 output device
  - ☐ Offer the option to select output devices
  - ☐ Also select the input device (just 1 to start with)

## Transcription of the interview (put in an appendix)

Q: What do you think is the most important thing that the app should have?

A: For me the most important thing is that the translation must be simultaneous. And it should be adapted to every student, not one by one, but depending on the language. I have got a class where there are people that maybe are sub-saharan or from Morocco. They can either know a lot, a little bit or absolutely nothing about Spanish. So when I give the class in Spanish, they should have the possibility to hear the class in their language. But I can't hire an interpreter, it's very expensive. Or a mediator, because the pace of the class becomes too slow. And if I use a simple translator, such as google's, a lot of time is lost, too. Because you either write or use the dictaphone. For discrete words it's OK, but for giving a class, it's very uncomfortable.

Q: That's the great challenge of the app, to make a simultaneous translation. I thought of making a standalone application, but it will need a connection to the internet to have access to the translation services. Is it inconvenient?

A: No, because where I work there is connection to the internet. We work with computers too. We give classes on new technologies, to fill the digital gap. So, no, it's not an inconvenience.

Q: The user interface, how do you want it to be? How do you want to manage the output devices and the languages?

A: I don't know. I would like it to be very simple. With not so many buttons. Otherwise the students will distract themselves. With flags for the language of each country and a sound controller, independent of the sound of the system. They can put their name to know who they are. And that's all.

Q: How do you want it to be, a host computer where all the headphones should be connected to, or different devices connected to a network?

A: I think it's better to have a single computer. One per classroom. And if the connections are wireless, better.

Q: Of course, even if the translation is as simultaneous as possible, there will still always be a few seconds of delay between what you say and what they hear.

A: So, I need to remember that when I point to the blackboard, the students won't immediately hear what I say. I'll need to practice that.

Q: Another thing you think I should take into consideration?

A: Being able to record the classes, for example. If the students want to take the recording to their home to revise.

Q: Thank you very much for taking the time to do the interview.

A: You're welcome.