



COMPRISE

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Press release

A successful COMPRISE demonstrator in an E-Commerce application

In the last three years, Netfective Technology worked with COMPRISE components which offer great voice-based, multilingual privacy-driven voice features. These components support many languages, including English, French, German, and Latvian. Privacy is granted by removing sensitive words and transforming voice in any Speech-to-Text interaction. In addition, these components are now readily available to developers to help them save a lot of time when including voice-based features in existing applications. To achieve this, the COMPRISE App Wizard as a development kit and the COMPRISE Personal Server have been tested and demonstrated by Netfective Technology.

Proof-of-Concept app

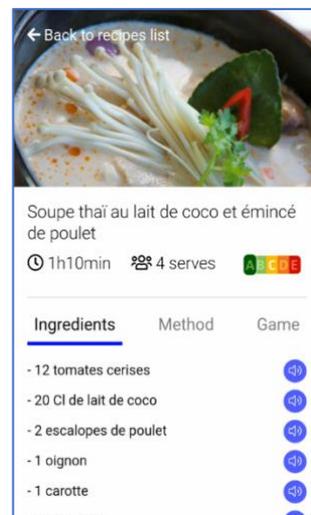
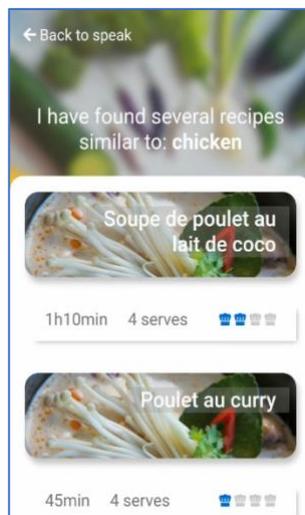
Within COMPRISE, we built an e-commerce application to demonstrate the capabilities of voice-based interaction in this type of application while preserving the end-user's privacy.

Our application

The main idea of our demonstrator is to build a new experience of e-commerce platforms using mobile and web technologies, an existing e-commerce platform and voice-based features. The demonstrator offers health education (thanks to the Open Food Facts API), standard e-commerce features such as shopping lists or recipe proposals, and language education through simple Speech-to-Text and Text-to-Speech games and quiz.

Cooking

With this feature, you can search for recipes containing specific ingredients by speaking or typing keywords. Once a recipe has been chosen, the ingredients can be listened to either in English or in your native language, and each step of the recipe can be listened to in two languages as well. This feature will allow you to listen to the recipe hands-free and learn how to pronounce ingredients in a foreign language. After you finish the recipe, you will be able to do a small quiz to check the new ingredients you have learned.



Shopping list

This is the main feature of an e-commerce app. However, our demonstrator proposes a hands-free interaction with the application. Users can ask for each product they want to add to their cart; a list of matching products is proposed. After creating their shopping list, they can simply validate their cart or they can attempt a small quiz to learn how to pronounce the products they are buying in a foreign language.

The application is connected to the back office of a retail store. This back office is available only in French. Adding the COMPRISE components makes the application able to handle almost all the interactions through speech in multiple languages. Thanks to COMPRISE components, users can search for a recipe or a product in their own language. COMPRISE will handle the translation to the back office in both directions.

We have the same process for the gamification part so users can also learn new words and sentences in other languages. The supported languages may vary from one customer to another depending on their business strategies. For example, in leisure they may need to handle multiple languages. We can see in the figure below different examples of gamifications we can offer (from left to right: the possibilities to listen to the recipe in different languages, to learn how to say the ingredients in a chosen language, to pick up the right answer among some images and to recognize a word from a list).



The figure displays three screenshots of the application interface:

- Left screenshot:** A recipe card for "Gâteau chocolat à la noix de coco". It includes a photo of the cake, a list of ingredients (125g dark chocolate, 40g Tapiak, 60g cocoa powder, 3 eggs, 60g butter, 100g sugar, 1 pinch salt), and a green "Check" button.
- Middle screenshot:** A quiz titled "Which one is dark chocolate?". It shows four image options: "Chocolat blanc", "Chocolat noir", "M&m's au chocolat", and "Oeufs". A microphone icon is positioned between the second and third options. A blue "Next" button is at the bottom.
- Right screenshot:** A similar quiz titled "Which one is dark chocolate?". Each image option is replaced by a grey box with a question mark and a "Listen" button with a speaker icon. A blue "Next" button is at the bottom.

In addition, the demonstrator can be used by young users such as children to help them learn words in a new language. COMPRISE components remove non-essential words from the application exchanges and transforms the user voice to ensure total privacy of the data when it leaves your back office.

Impact for developers

COMPRISE solutions include the COMPRISE SDK, the App Wizard, the Personal Server and all other COMPRISE components. These components are easy to use for software development companies or freelance developers. They will allow developers to use voice-based modules in an easier, faster, and simpler way than starting a new app from scratch. In addition, the privacy features are already built for developers, who are aware of the importance of privacy in data exchanges through applications, and ready to use.

As a developer, it is not necessary to learn about voice support in applications, search for all the components you must use or learn how to anonymize data. Furthermore, the COMPRISE solution makes it easy to integrate different languages. The only requirement developers have, is to provide good Speech-to-Text and Machine Translation models for the languages they want to



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add. These models are already available but some of them are currently medium quality. However, the larger the number of models for one language, the better the translation quality.

Using COMPRISE makes voice-based features easy to include in your application. A lot of time is saved thanks to the pre-trained models, pre-installed components and included features. Indeed, adding voice in an existing e-commerce application without starting from scratch was a real benefit for our demonstrator. Furthermore, it allows privacy in a simple way, saving developers' time by ensuring that they do not have to learn and implement privacy requirements themselves.

Also, follow the COMPRISE achievements on the project's website:

<https://www.compriseh2020.eu/>

Additionally, you can reach us via our social media accounts:

LinkedIn: <https://www.linkedin.com/company/comprise-h2020>

Twitter: <https://twitter.com/compriseh2020>