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A MULTIMODAL E-COMMERCE APPLICATION COUPLING HTML AND VOICEXML

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Abstract

Providing a multimodal E-commerce application through heterogeneous devices (Phone and Web Browser for example) is not easy because this kind of interactions are not supported by the same languages. HTML is useful for textual and graphic presentation. VoiceXML was created for non-graphic interactions: telephone-based applications. They are not supposed to be employed together.

Synchronization & Multimodality in input

The oral dialog uses information coming from the textual Web Browser

Computer : Welcome on our Multimodal E-commerce site. Are you already one of our clients ?
Human : no
Computer : We are going to create your client account. In order to register yourself, please give in the Web page the value 43 as client number. Did you correctly hear your client number ?
Human : yes
Computer : yes
Computer : Ok. I'm waiting while you are completing the page.
(...)
Computer : Your registration is correct Miss Jennifer Hutchinson. Would you like to buy something now ?
Human : yes
Computer : What do you want to buy Miss Jennifer Hutchinson ?
Human : some dresses (...)



Adding a Client in the Database - Microsoft Internet Explorer

Recording of a new customer in the database

Please, provide the following information and click on the submit button

Your Client Number (given in the vocal browser)

Title

Surname

Firstname

Birthday (optional)

Size (optional)

Personalization & Multimodality in output

The Web page gives automatically the results of an oral request

E-Commerce Application

Personal Information

Client Number	Title	First Name	Surname	Birthday	Size	Size of shoes
43	Miss	Jennifer	Hutchinson	04/07/70	38	37

Visualisation of the data asked by the voice

Product Reference	Description	Section	Picture	Price	Color	Size
55	Dress	Woman		99	black	38
56	Dress René	Woman		53,5	blue	38
57	Long Dress	Woman		38,74	pink	38

Computer : Glad to hear you again Miss Jennifer Hutchinson. What do you want to buy ?
Human : shorts
Computer : There are 3 shorts available. I suppose that you want to buy this article in the women's section.
Human : yes
Computer : You would like this article in the size 38, isn't it ? Miss Hutchinson.
Human : yes of course
Computer : There are 2 shorts, with the size 38. Please give me the desire color.
Human : Help me to choose
Computer : The available colors are : yellow and blue
Human : yellow

58	Short	Woman		37,96	yellow	38
59	Short Jean	Woman		12,3	blue	38
60	Short Cool	Woman		15,88	yellow	39

Your E-basket

Product Reference	Product Description	Picture	Price	Purchase achat	Purchase Hour
56	Dress René		53,5	23/04/02	15:59:32

Total amount of your E-basket : \$ 53,5

Multimodality is often studied on a same device. This work demonstrates that multimodality can be implemented through heterogeneous devices and languages. HTML and VoiceXML can be coupled, thanks to synchronization mechanisms.

This multimodal E-commerce application uses personalization processes to adapt the presented information to the needs of the users according to their profiles or based on observations. In the future, the user will click and talk at the same time.

