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How to Manage Incompleteness of Nutritional Food Sources?: A Solution Using FoodOn as Pivot Ontology

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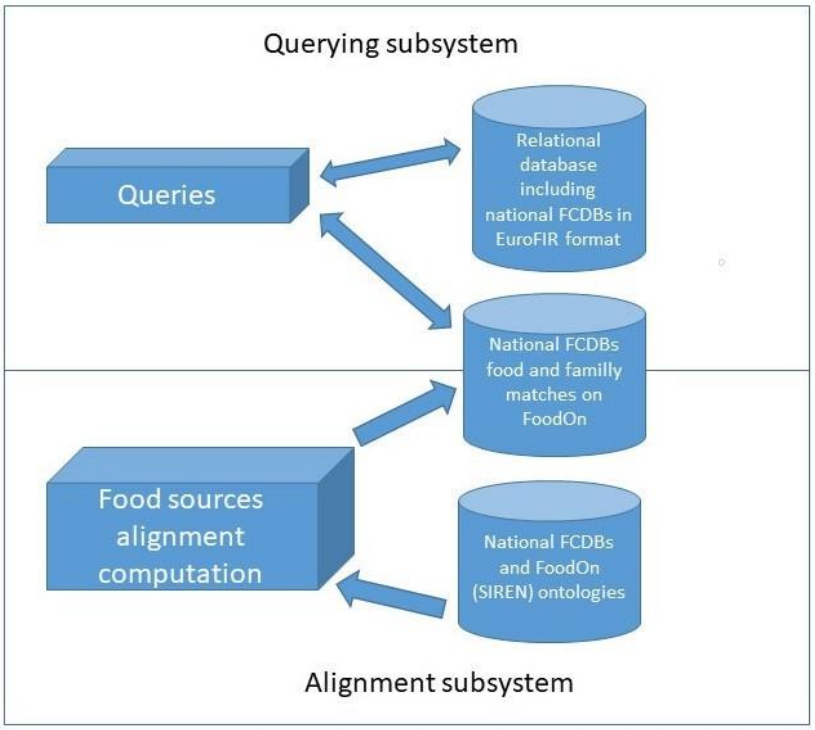

Fig. 1 - *MultiDB explorer architecture*

Résumé: In order to correctly assess the nutritional quality of a raw or manufactured food product, the first step is to obtain the associated nutritional values. Food composition databases (FCDBs) managed at national level provide values for nutrients of foods. Unfortunately, values associated with some nutrients of interest may be lacking in the FCDB of the country in which the nutritional quality must be assessed and finding values associated with nutrients for similar foods in other FCDBs is a way to deal with incompleteness. An additional issue arises because the vocabulary used to denote a given food in a given FCDB is usually different from the one used in others. In this paper, the authors address the problem of retrieving the nutritional value of foods by querying different FCDBs through FoodOn used as pivot ontology. The article presents a new food source alignment method between two FCDBs. The method has been evaluated on the French and United States food nutritional

evaluation. The proposed solution for the incompleteness management task has been assessed with a real use case.