A Fast Functional Approach to Personalized Menus Generation Using Set Operations

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Abstract

The authors developed some time ago a RBES [1] devoted to preparing personalized menus at restaurants according to the allergies, religious constraints, likes and other diet requirements as well as products availability. A first version was presented at the "Applications of Computer Algebra 2015" (ACA'2015) conference [2] and an improved version to the "5th European Seminar on Computing" (ESCO2016) [3]. Preparing personalized menus can be specially important when traveling abroad and facing unknown dishes in a menu. Some restaurants include icons in their menu regarding their adequateness for celiacs or vegetarians and vegans, but this is not always a complete information, as it doesn't consider, for instance, personal dislikes or uncommon allergies. The tool previously developed can obtain, using logic deduction, a personalized menu for each customer, according to the precise recipes of the restaurant and taking into account the data given by the customer and the ingredients out of stock (if any). Now a new approach has been followed, using functions and set operations and the speed has been increased by three orders of magnitude, allowing to deal with huge menus instantly. Both approaches have been implemented on the computer algebra system *Maple* and are exemplified using the same recipes in order to compare their performances.

References

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