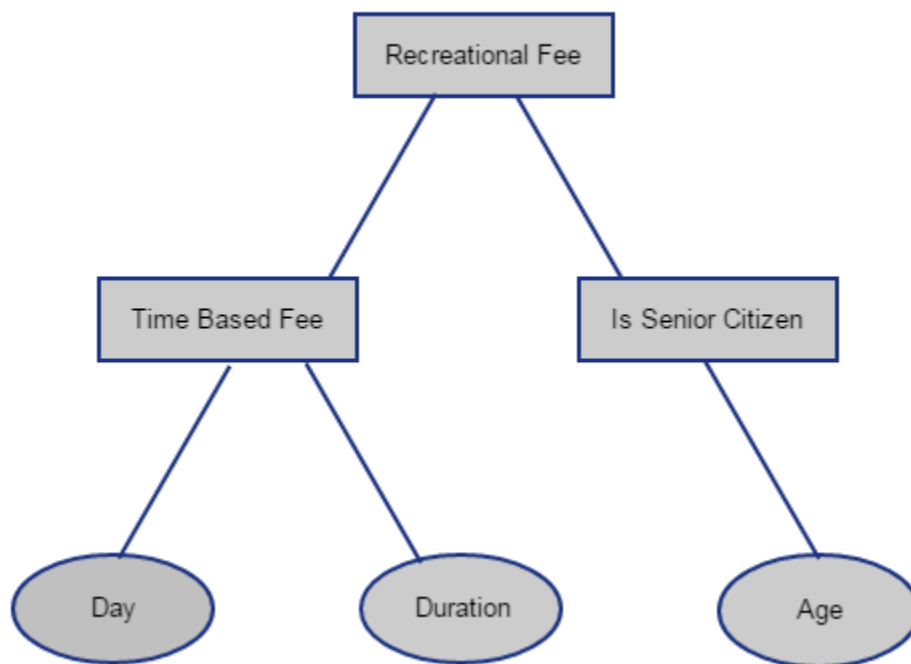# Decision Management Community Challenge: Recreational Fees

Solution sketch based on Decision Requirements

April 2019, Gary Hallmark, Oracle

This is an interesting challenge that highlights the "bag of rules" problem even for very small numbers of rules. The "bag of rules" problem theorizes that it is very hard to thoroughly understand the behavior of a collection of rules just by looking at their logic. In this challenge, the problem statement includes essentially all the logic. The key to a solution is to arrange the given logic into a structure that gives consistent behavior for all cases. This structure is a DMN DRD, as shown:

The result of the decision model is the Recreational Fee. The Recreational Fee requires the Time Based Fee and whether the user is a Senior Citizen. The inputs to the decision model are the Day and Duration of recreational usage, and the Age of the user. The logic of the Time Based Fee decision is given by the decision table in the problem statement. This is a nice use of the crosstab format in decision tables. The logic of the Recreational Fee decision is given in the problem statement as a behavioral rule that may be translated: *if Is Senior Citizen then 0 else Time Based Fee*. We assume the logic of the Is Senior Citizen decision is trivial, *e.g. Age >= 65*.