Food Provenance - Assignment 8

Team:

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Motivation

Are there any health threats associated with the ingredients in the food we consume?

If I have allergies, is this food ok for me to consume?
Changes made to the Ontology

- Moved individuals to Individuals Ontology
- Added Food individual example
- Refined “Health Hazards”
  - Now Health Hazards are negative health conditions
  - “HazardousFoods” represent foods with health hazards
- Added Provenance representing Authors
- Refined hierarchies
- Cleaned rules based on individuals
Ontology - Class Hierarchy

- Allergen
- Brand
- Certification
  - CertificationBody
  - Standard
- Food
  - HazardousFood
  - HealthyFoodAlternative
  - HealthHazard
- Ingredient
- User

- Ingredient
  - Additive
    - CarcinogenicIngredientToAvoid
    - DirectIngredient
    - DoughStrengthenersConditioner
    - Emulsifier
    - EnzymePreparation
    - FatReplacer
  - HarmfulIngredient
    - CarcinogenicIngredientToAvoid
    - ToxicIngredientToAvoid
  - ImprovingAgent
    - AntiCakingAgent
    - AntiFoamingAgent
    - CrispingAgent ≡ FirmingAgent
    - FirmingAgent ≡ CrispingAgent
    - FoamingAgent
    - Gas
    - GlazingAgent
    - Humectant
    - LeaveningAgent
    - PH_ControlAgent
  - IndirectIngredient
    - Nutrient
    - Preservative
    - SaturatedFat
    - Stabilizer
  - Sweetener
    - ArtificialSweetener
    - OtherSweetener
    - Thickener
    - YeastNutrient
Ontology - Object and Data Properties
Problems Encountered

- Individuals ontology copies properties rather than referencing them
- Inheritance
  - Classes inheriting individuals
  - Referencing individuals by parent property
  - Individuals inheriting properties
- Referencing a property of an individual linked to another via a property
Demo
Questions?
References

- http://www.special-education-degree.net/food-dyes/
- https://www.fda.gov/Food/IngredientsPackagingLabeling/FoodAdditivesIngredients/ucm328728.htm
Example Question 1 and Usage of Ontology