NOTES ON THIS RULE APPLICATION

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I designed the Chicago Tax Generator rule application to help me figure out Chicago's odd retail food tax rules. I'd like to quickly review the unusual rules before diving into an explanation of the rule application. Some of this explanation can also be found in my [InRule blog post]() on this topic.

Basic Chicago Food Taxes

The Chicago Foot Tax Generator rule application contains rules focused only on retail food and drink served in the City of Chicago. The rule application calculates individual item tax rates and taxes, and also aggregates these taxes into an OrderTotal.

Some useful background information:

- The base rate for "prepared" food in downtown Chicago is 9.25%
- Bottled soft drinks are taxed at 3%, but soft drinks from a fountain are taxed at 9%
- Water bottles are taxed at a flat $.05 per bottle
- If prepared food is served in a location that contains seating for the patrons, and if that restaurant falls within a certain specific set of ZIP codes (the MPEA tax), an additional 1% tax is applied, raising the total sales tax to 10.25%
- If prepared food is served in a location without seats, or is served in a location that contains seating but is outside the MPEA ZIP code area, that 1% tax does not apply.

The Entity Structure

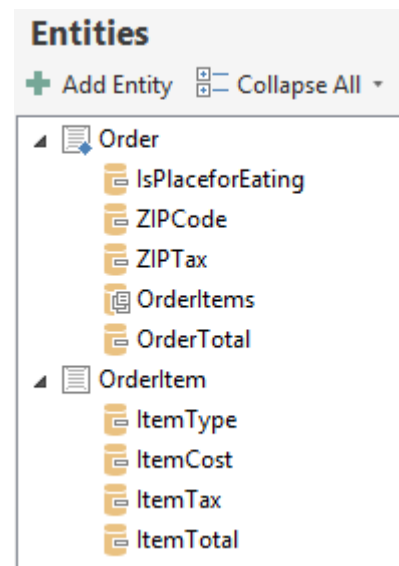Top-level entity **Order** represents the overall food order.
OrderItem then represents individual order items.

Order Entity Fields

- **IsPlaceforEating** is a Boolean that checks to see if the food location has seats.
- **ZIPCode** must be entered manually
- **ZIPTax** is calculated in rules
- **OrderItems** is a collection of OrderItem
- **OrderTotal** is calculated in rules

OrderItem Entity Fields

- **ItemType** performs a query value list lookup on Data item ItemListTable
- **ItemCost** is calculated in rules
- **TaxAmount** is calculated in rules
- **TaxRate** is calculated in rules
- **ItemTotal** is calculated in rules

Data

- **ZIPCodeTable** is a list of all ZIP codes within the MPEA tax area
- **ItemListTable** is a list of the basic taxable retail food and beverage item types
- **OrderItem_ItemType_ValueList** is a query which pulls the ItemName from table ItemListTable

Vocabulary

There is only one vocabulary template in this rule application: **IsInMPEAArea.** This template checks to see if the manually entered **ZIPCode** entity field is matched by an entry in the table **ZIPCodeTable**.

Rules

There two rule sets in this rule application: OrderSummaryRules and OrderItem rules. All rules have been created in InRule business language, but can be converted to syntax rules for troubleshooting.

Order

- **ComputeZIPTax** asks two questions. If a negative answer is made to either of those questions, the tax will not be applied.
- **SetOrderTotal** calculates the order total for all order items

OrderItem

- **SetItemTax** sets the value of TaxRate to a result from a lookup in the **ItemListTable**
- **CalculateTaxAmount** determines if the item is a water bottle or not, and sets the **TaxAmount** accordingly
- **CalculateItemTotal** adds the item cost and the tax amount