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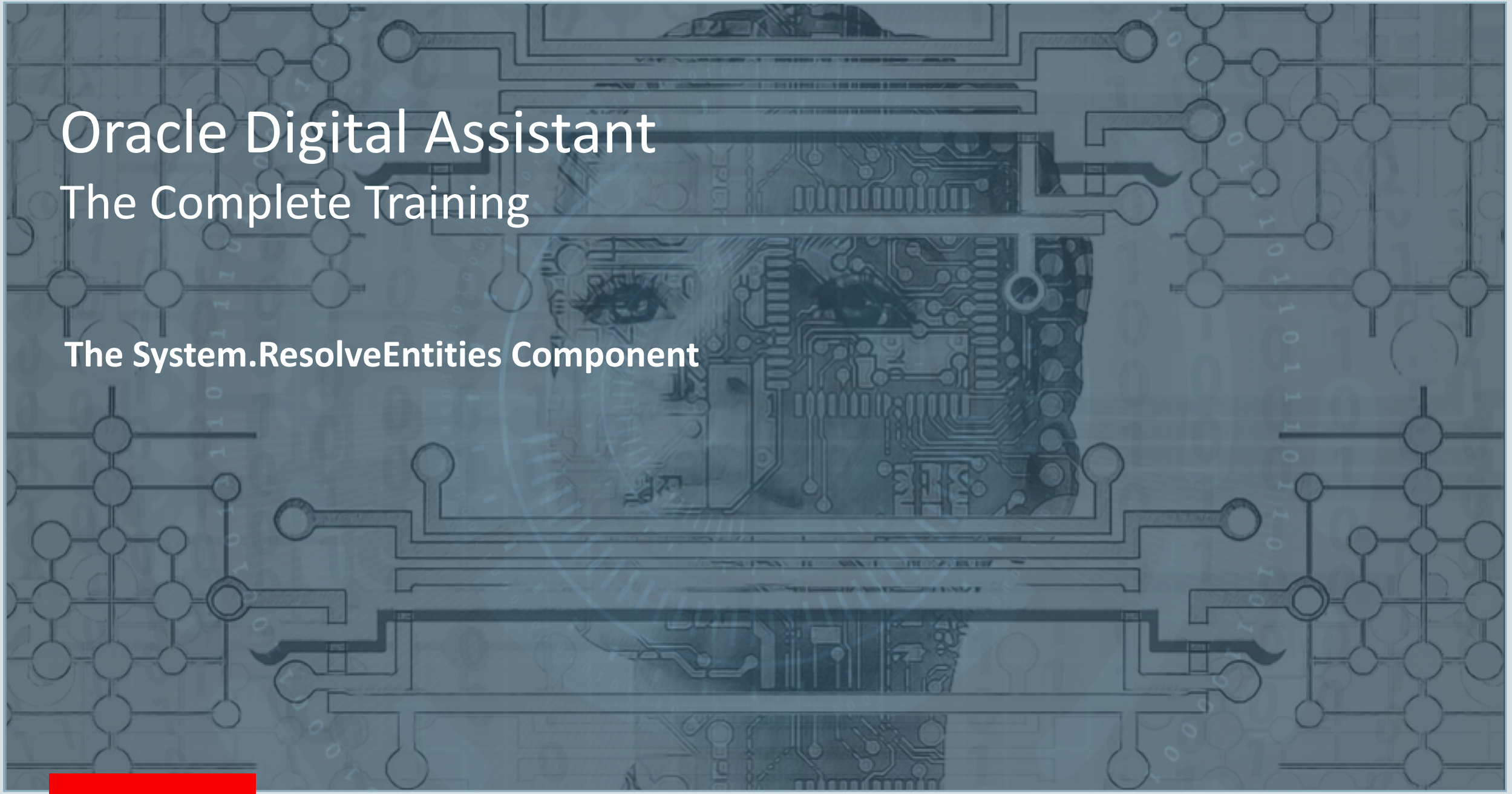
Oracle Digital Assistant

The Complete Training

The System.ResolveEntities Component



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Topic Agenda

1. Entity derived conversations
2. Component overview
3. Use with composite bag entities

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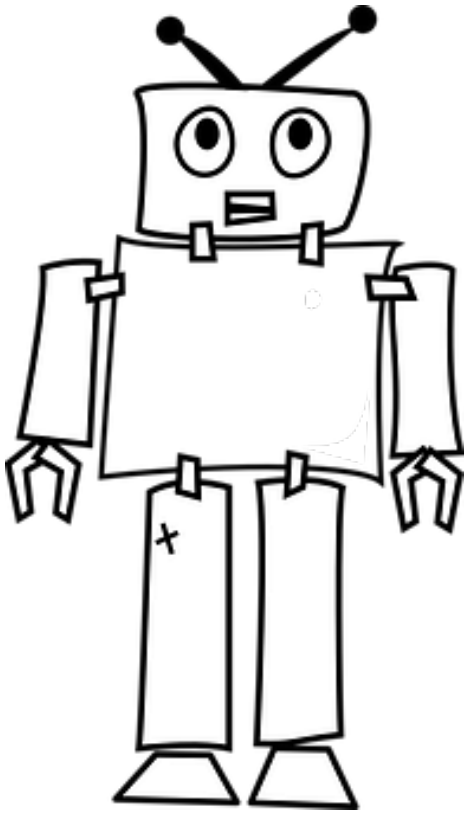
Dialog flow is the conversation script that is followed by a skill in a user interaction. However, the **best dialog flow is no dialog flow**.



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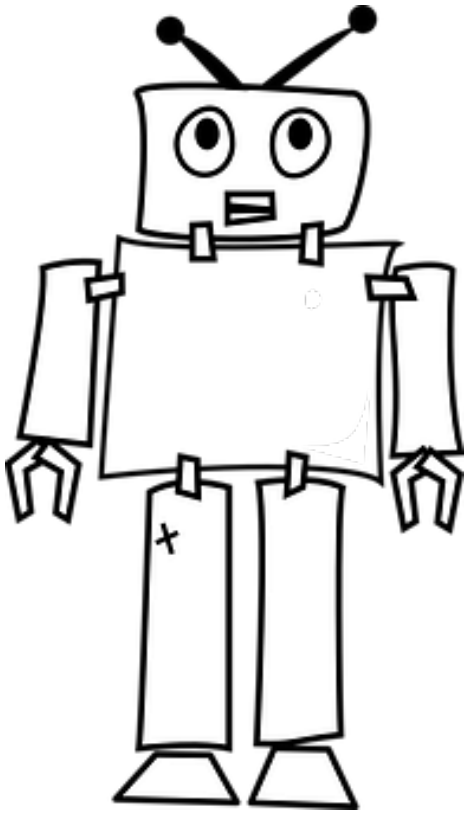
What wrong with dialog flows

- Users are not good at giving a single answer to a question
  - In human-to-human interaction it is natural to overload answers with information
    - Bot: "what pizza type do you like?"
    - User: "a large salami with extra cheese"
- 'story telling' vs. 'data driven'
  - Natural conversation design is chatty
  - Skills only need data input to complete a task
- Violates the DRY principle (don't repeat yourself)
  - Bot response configured on component
    - Prompt, error message, validation, range size etc.
  - No reuse of settings if configuration is on the component

Entity driven bot conversations

- Reduce the amount of dialog flow steps to write at design time
- Dynamically generate UI at runtime
  - Bot UI rendered based on entity type
    - Simple entities have a single user prompt
    - Composite bag entities may prompt users multiple times
  - All configurations and behaviors are defined on the entity
    - Prompts, error message, validation rules, range size
    - Entity extraction, out-of-order message handling (composite bag entity only)
- Oracle Digital Assistant promotes entity derived conversations
- Require use of System.ResolveEntities and System.CommonResponse components

Entity driven conversation **delegates common component configurations to the entity** level, which is a much better model for reuse.



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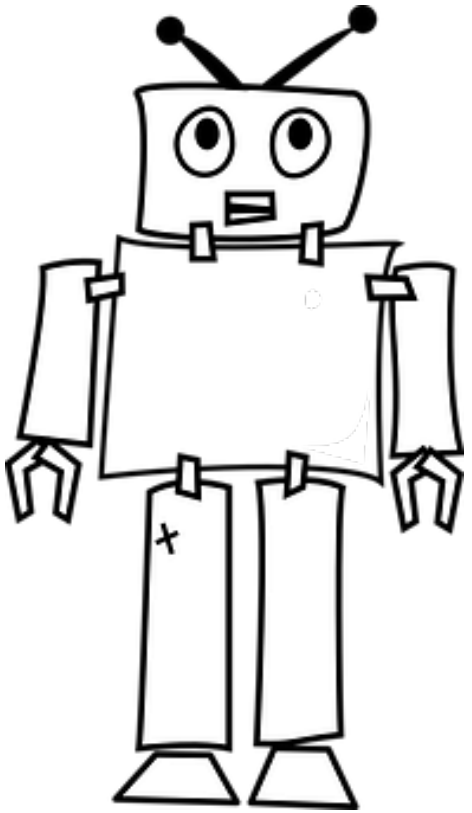
You can use the System.ResolveEntities component with system, custom and **composite bag entities**. It generates input fields (prompts) and value lists.



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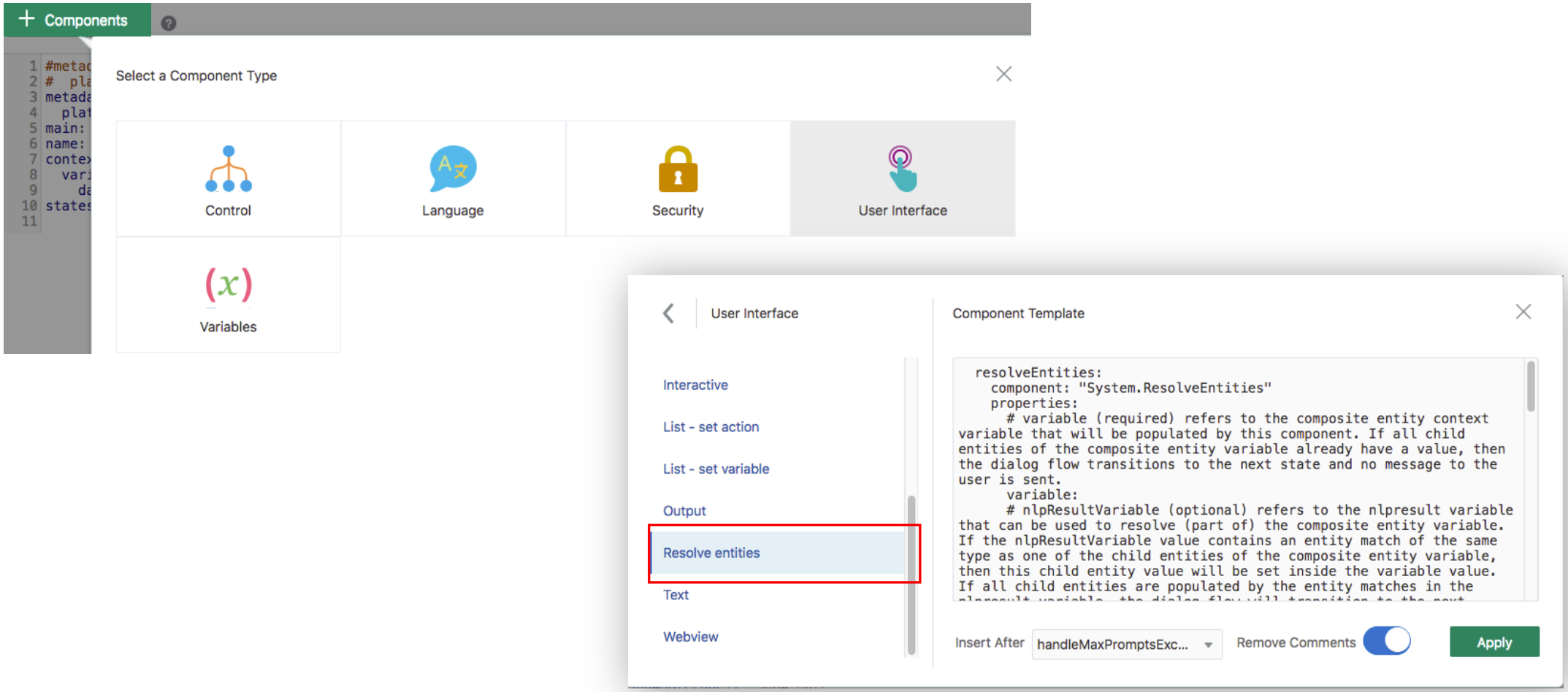
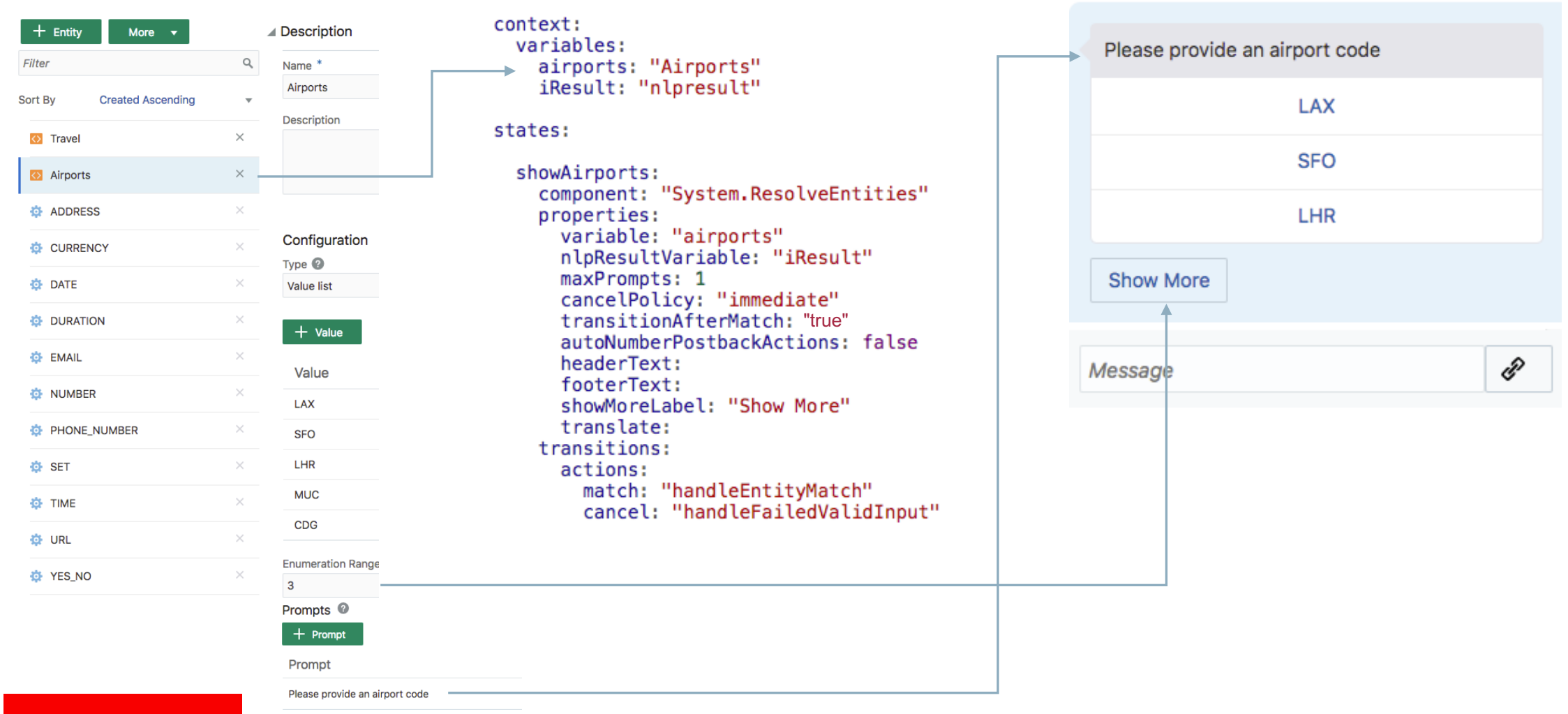
Building System.ResolveEntities from component template



System.ResolveEntities component with custom entity



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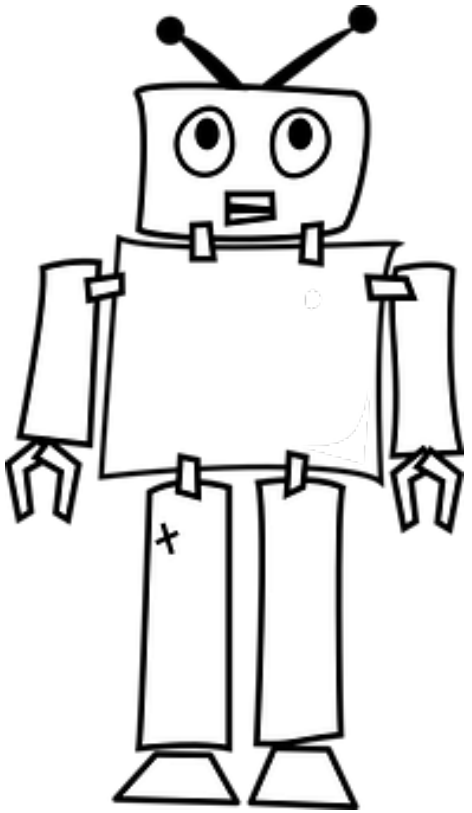
You need to train **the skill bot model** before using System.ResolveEntities with composite bag entities.



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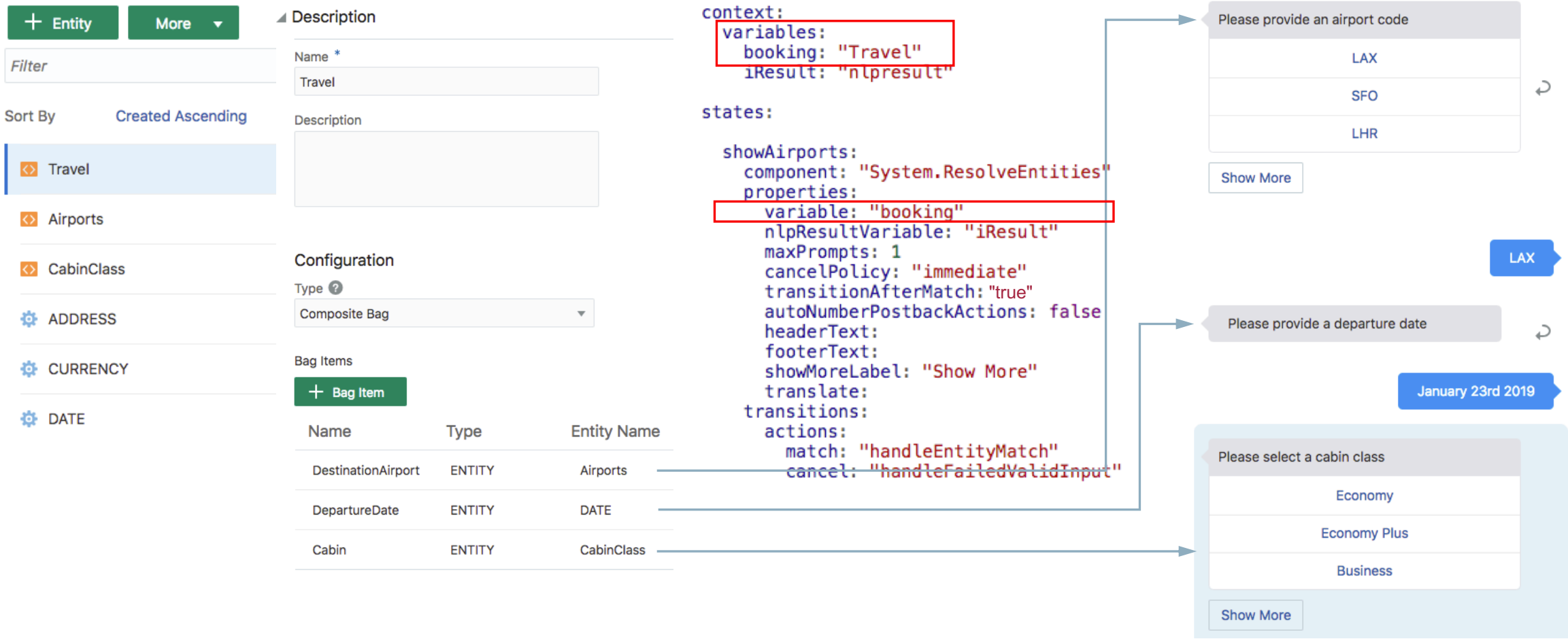
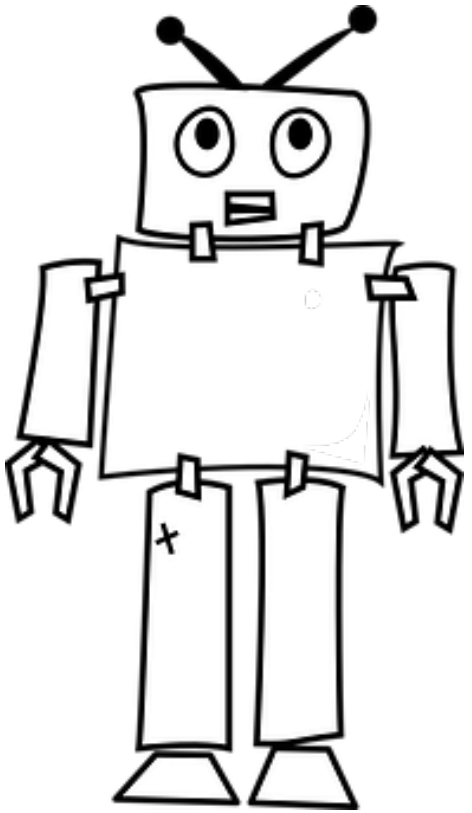
System.ResolveEntities with composite bag entity



Okay. We need to talk. What if you want to **perform additional validation or** just need to **invoke a custom component in response to a matched entity**?



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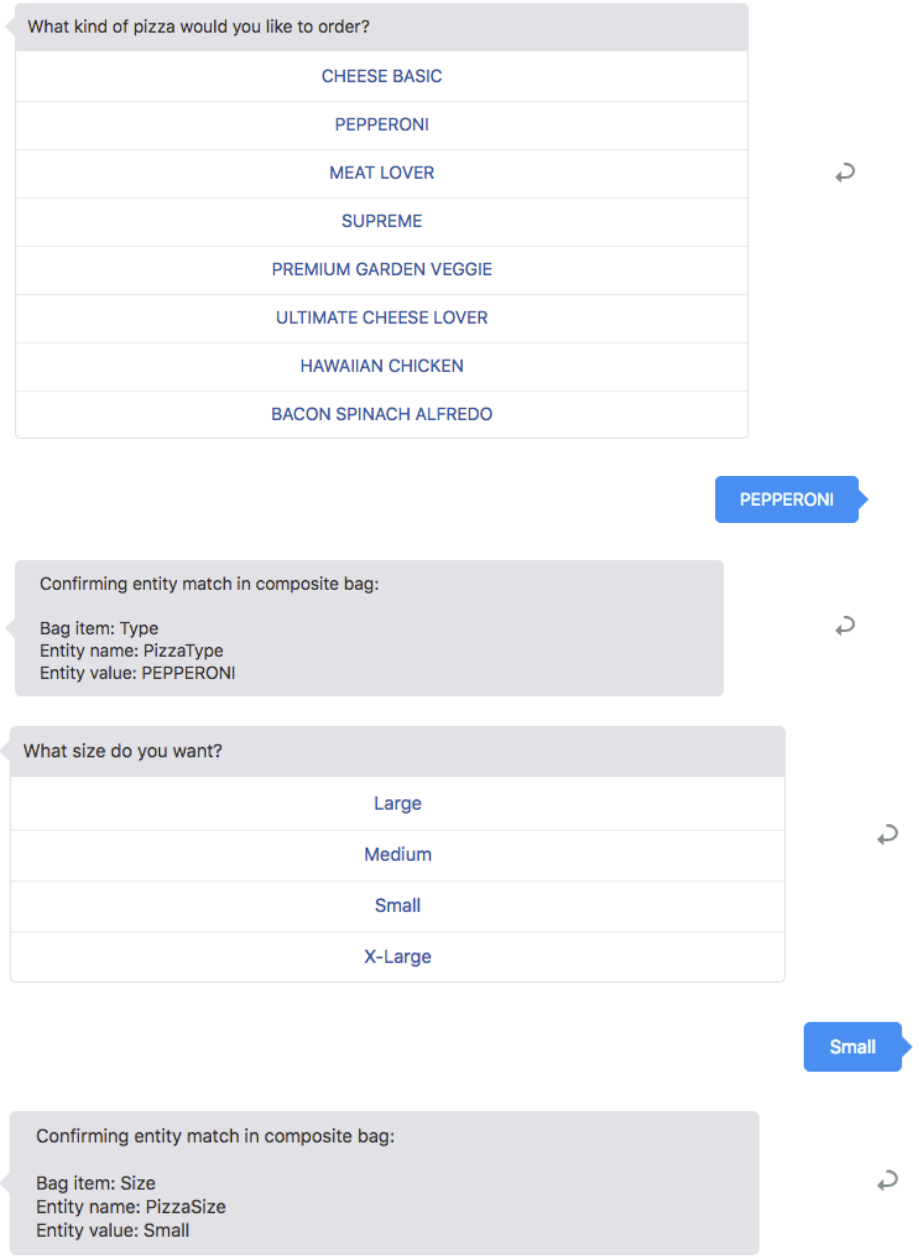
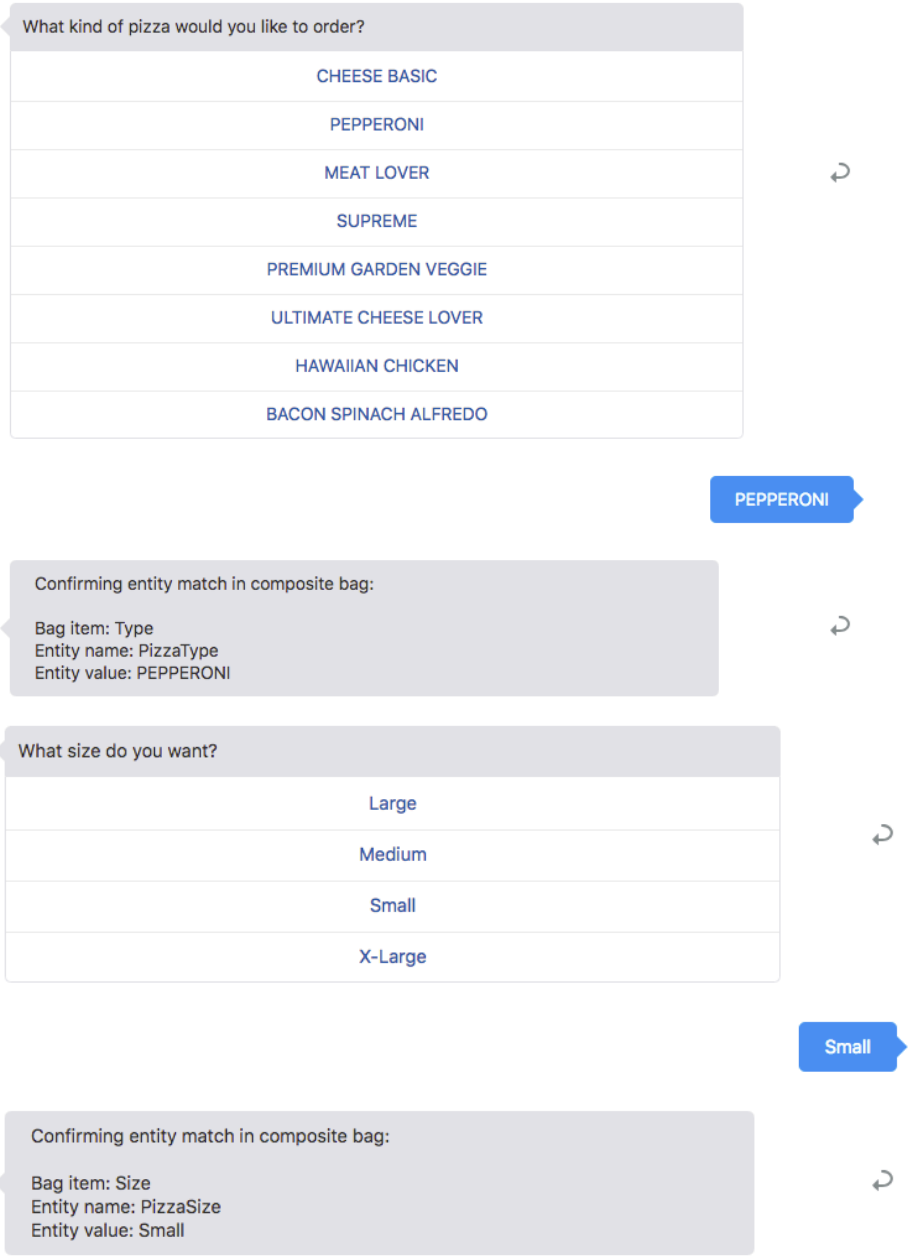
'transitionAfterMatch' property

- If set to "true", component transitions to dialog flow state upon entity match
  - String "true", not the boolean true
  - Bot designers can call custom component or just acknowledge the value match
- 'match' action transition called for each entity match



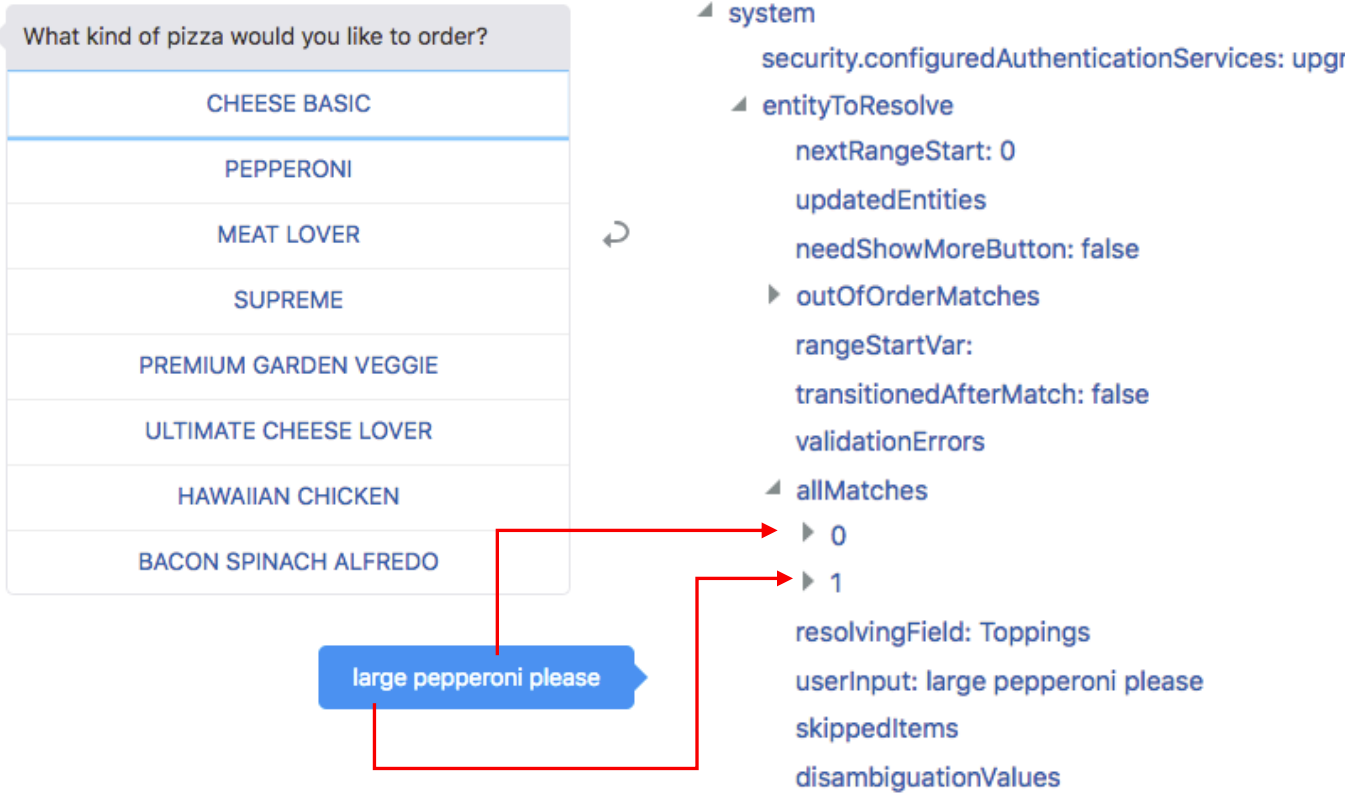
Navigating on entity match

```
orderPizza:
  component: "System.ResolveEntities"
  properties:
    variable: "pizza"
    nlpResultVariable: "iResult"
    maxPrompts: 2
    transitionAfterMatch: "true"
    showMoreLabel: "More"
    translate:
  transitions:
    next: "confirmation"
    actions:
      match: "handleAfterMatch"
      cancel: "cancelorder"

handleAfterMatch:
  component: "System.Output"
  properties:
    text: |-
          Confirming entity match in composite bag:

          Bag item: ${system.entityToResolve.value.resolvingField}
          Entity name: ${system.entityToResolve.value.allMatches[0].entityName}
          Entity value: ${pizza.value[system.entityToResolve.value.resolvingField]}

    keepTurn: true
  transitions:
    #resume orderPizza
    next: "orderPizza"
```



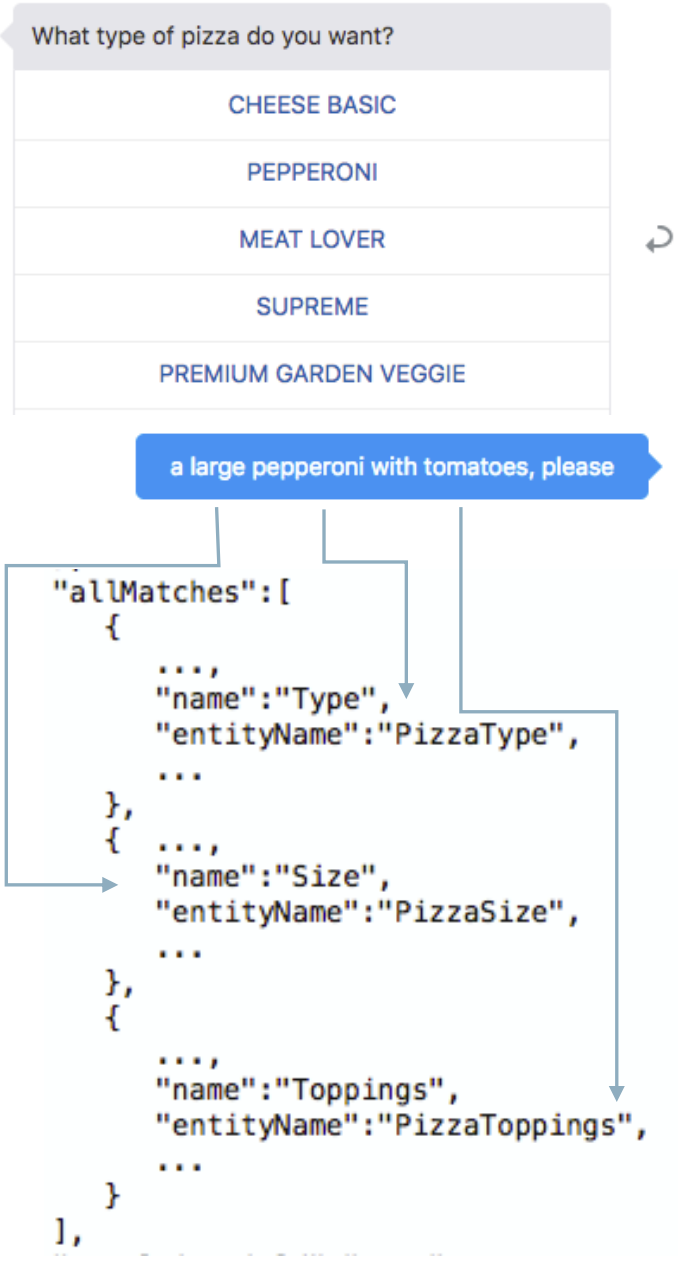
Behavior when multiple entities are getting resolved

- User input may lead to multiple entity matches
  - Out-of-order extraction
- 'match' transition is called only once
- Access matched bag items
  - ${system.entityToResolve.value.allMatches[n].entityName}
  - ${system.entityToResolve.value.allMatches[n].name}



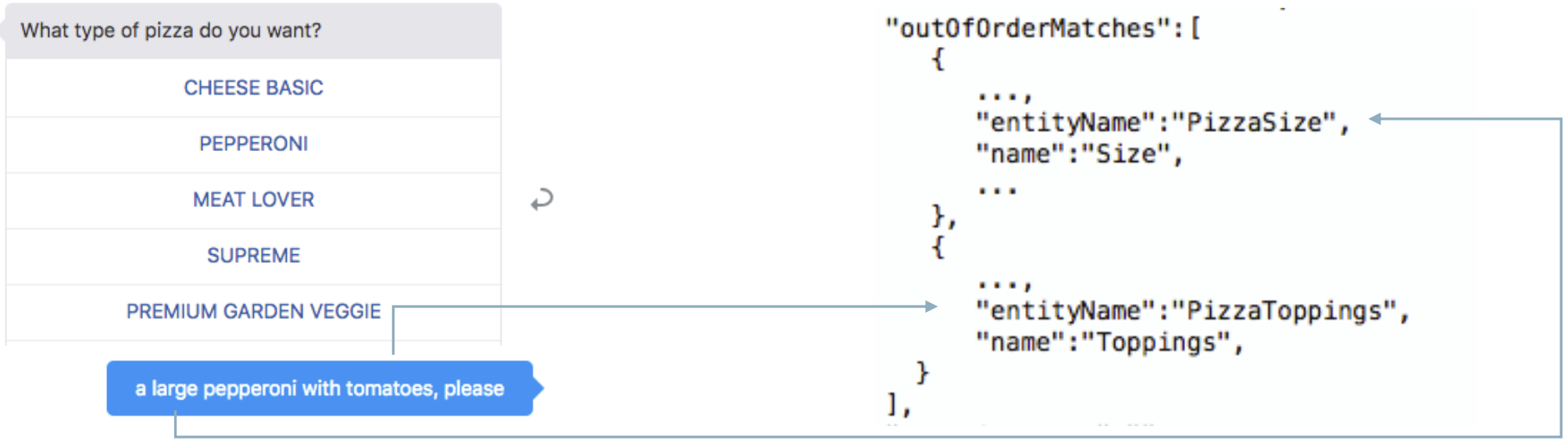
Accessing matched entities

- All updated entities from a user input
  - E.g. User provides more information than prompted for
    - Bot: "what pizza type do you like?"
    - User: "a large salami with tomatoes"
  - Updated entities: PizzaSize, PizzaType, PizzaToppings
- Expression to access matched entities
  - ${system.entityToResolve.value.allMatches?size}
  - ${system.entityToResolve.value.allMatches[n].entityName}
  - ${system.entityToResolve.value.allMatches[n].name}



Accessing out-of-order entity matches

- Updated entities from a user input for which there was no prompt
  - ${system.entityToResolve.value.outOfOrderMatches[n].entityName}
  - ${system.entityToResolve.value. outOfOrderMatches[n].name}
  - ${system.entityToResolve.value.outOfOrderMatches?has_content?then(...,...)}



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