



RECIPE DIALOGUE SYSTEM

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API

Recipe lookup

Information about:

- Recipe
- Steps
- Ingredients
- Objects

Ingredient substitutions



DATA COLLECTION AND ANALYSIS

Domain specific

Ingredient: amount, form

Object: temperature

time, condition

Three garlic cloves, finely sliced.

OK, then you can begin by preheating the oven to 180 degrees

Add the mushrooms for three to four minutes or until they are soft.



DATA COLLECTION AND ANALYSIS

User

"Hmm", "the **rosemary**", "It's **bleeding**"

"**Champions**, do they work?", "I am allergic to that.", "What can I use instead of the **onions**?"

"Stirring? Lid on? Or what?", "Shall I ähmm...use a different temperature or just the same?"



DATA COLLECTION AND ANALYSIS

Instructor

"And also ähh **juniper berries.**" - "Hmm. I have" - "Around **a teaspoon.**"

"I have done it." - "Hmm" - "What's next?"

"3 branches or how many **was it?**" - "**It was** just one to two tablespoons"



IMPLEMENTATION

Domain

Listing of ingredients and steps

Detailed instructions for steps

Keeping track of current ingredient, object
and step

HTTP service

Current ingredient

Information about amount, form,
temperature, time and condition

Substitutions

IMPLEMENTATION

```
<recipe name="omelette" image_url="https://link.to/image">
  ...
  <utterances>
    <utterance>prepare a French omelette</utterance>
    ...
  </utterances>
  <ingredients>
    <ingredient name="egg" amount="three">We need three eggs</ingredient>
    ...
  </ingredients>
  <steps>
    <step>
      <substep ingredient="egg mixture" object="pan">Add the egg mixture to the pan</substep>
      <substep ingredient="egg" amount="four" time="30 seconds">stir the eggs for about 30 seconds.</substep>
      <how>
        <step>
          <substep>Use a fork and stir them consistently</substep>
        </step>
      </how>
    </step>
    ...
  </steps>
  <finisher>Amazing! You have finished preparing a French omelette. Bon appétit!</finisher>
</recipe>
```



DEMO

FUTURE WORK

MEMORY

S> I know. Cover the tin ähh with kitchen foil.

U> I don't have a **kitchen foil**. What should I use instead?

S> Then you can maybe use a **lid**

...

S> And now you take out the pork and remove they **lid**.

ADAPTING TO USER LANGUAGE

S> Then you should chop the Rosemary finely.

U> OK. 3 branches or how many was it?

S> It was just one to two tablespoons...

ACKs WITH QUESTIONS

S> OK, you can try to feel the meat with the tip of a knife. if it's tender or not. Is it tender?

U> It's bleeding.

...