

On the lexical coverage of some resources on Italian cooking recipes

Alessandro Mazzei

mazzei@di.unito.it

Università degli Studi di Torino



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The MADiMAN project

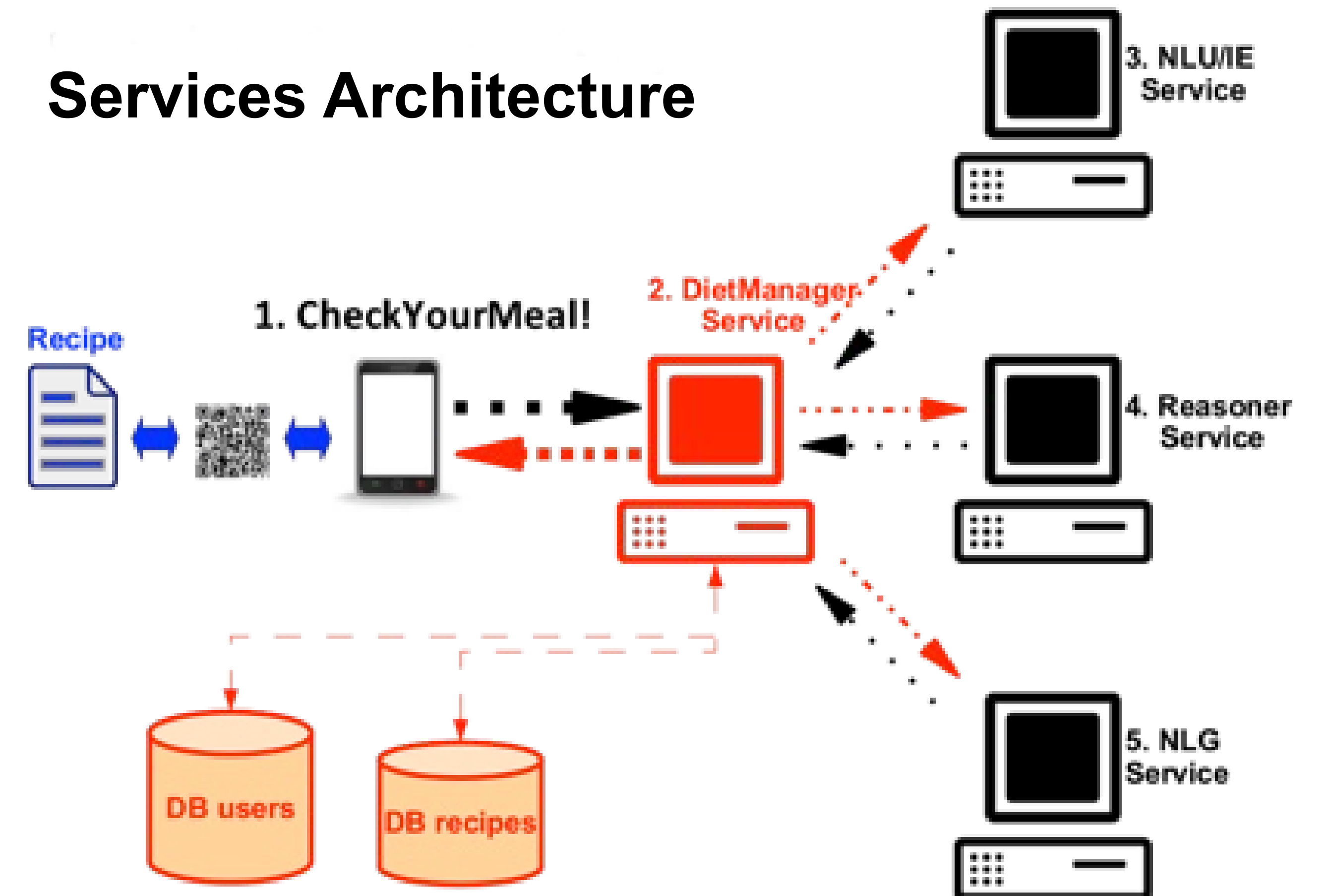
<http://di.unito.it/madiman>

Artificial Intelligence for diet management

- NLP for recipe analysis
- Automate Reasoning about diet and recipes
- Persuasive multimedia NLGeneration

Cloud Architecture

Services Architecture



Issues:

- Which recipes?
- Which resources?
- > **Experiments:**
- Morphosyntax
- Lexical Coverage

The recipes books



... 2. Aggiungere quindi i peperoni e le melanzane e fare insaporire fino a cottura completa aggiungendo un po' d'olio se necessario ...



... Tagliate le melanzane a cubetti e frigeteli in una padella colma d'olio ben caldo, sgocciolateli con la paletta bucata e asciugateli su carta assorbente da cucina ...



... Per 6. Pulite 800 grammi di melanzane, tagliatele a dadini e metteteli a strati in uno scolapasta cosparsi di sale per almeno 30' ...

Lexical Resources

- AGROVOC
- MultiWN
- BabelNet
- UniversalWN



Caponata



Qualitative analysis

	Tok/Sent.	N/V	Con/Fun words
WikiBook	11.8	2.3	1.7
Cucchiaino	16.6	2.8	1.5
Cuochi	21.7	1.9	1.2

Naive SuperSenseTagging

```

foreach content word in the sentence do
  Retrieve all the synsets corresponding to the
  word from MultiWordNet, BabelNet, UniversalWordNet
  foreach super-sense of a synset do
    if the super-sense is food or plant
    or animal then
      assign the label FOOD to the word
    ehd
    if the super-sense is quantity or
    artifact then
      assign the label Q/D to the word
    ehd
    if the super-sense is creation or
    change or contact then
      assign the label PREP to the word
    ehd
  end
end
end
    
```

	Tokens	AgrVoc		NaiveSST			
		TP	rec%	TP	FP	pre%	rec%
FOOD	37	23	62.2	35	5	87.5	94.6
PREP	19	1	5.3	15	8	65.2	79.0
Q/D	15	6	40.0	8	10	44.4	53.3
TOT.	71	30	42.3	58	23	71.6	81.7

	Tokens	AgrVoc		NaiveSST			
		TP	rec%	TP	FP	pre%	rec%
FOOD	61	35	57.4	55	10	86.6	90.2
PREP	49	4	8.2	35	12	74.5	71.4
Q/D	31	1	3.2	27	10	73.0	87.1
TOT.	141	40	24.4	117	117	73.6	83.0

	Tokens	AgrVoc		NaiveSST			
		TP	rec%	TP	FP	pre%	rec%
FOOD	45	27	60.0	43	11	79.6	95.6
PREP	52	2	3.9	49	4	92.5	94.2
Q/D	43	3	7.0	32	26	55.2	74.4
TOT.	140	32	22.9	124	41	75.2	88.6

