



UNIVERZITET U NOVOM SADU
FAKULTET TEHNIČKIH NAUKA U NOVOM SADU



JEZIK ZA ZAPIS KULINARSKIH RECEPTA

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Zadatak

- ▶ Napraviti jezik za zapis kulinarskih recepata, omogućiti pretragu recepata po nazivu, vremenu pripreme, kategoriji kojoj pripada, težini pripreme i potrebnim sastojcima za pripremu recepta i brisanje recepta.
- ▶ Implementirati aplikciju koja će koristiti novokreirani recept.

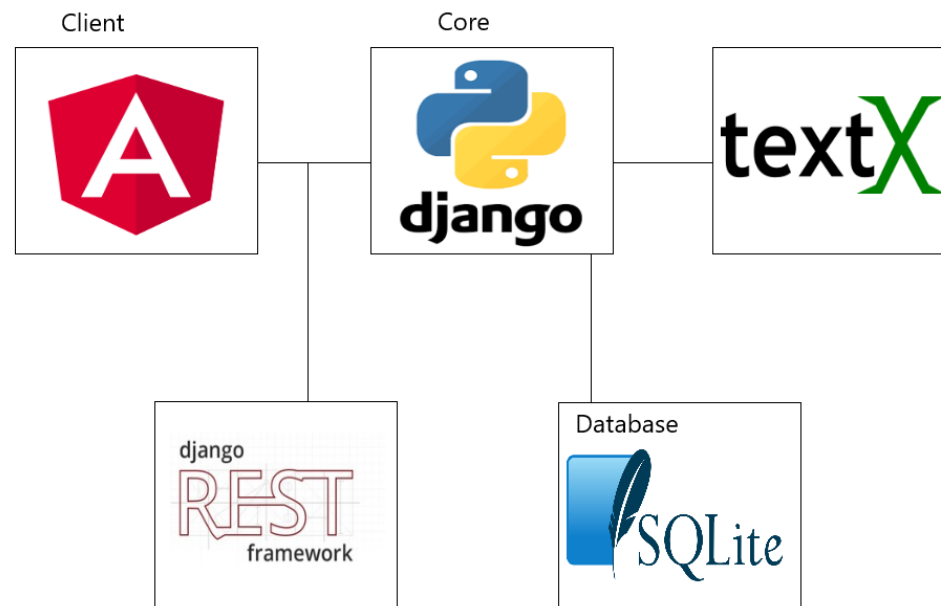
Šta su programski prevodioci?

- ▶ Programski prevodioci su programi koji prevode izvornik kod napisan u jednom programskom jeziku u kod napisan u nekom drugom jeziku.
- ▶ Proces prevođenja koda sastoji se iz 5 faze:
 - Leksička analiza
 - Sintaksna analiza
 - Semantička analiza
 - Generisanje koda
 - Optimizacija

Jezik specifičan za domen (DSL)

- ▶ DSL je jezik specijalizovan za određeni domen aplikacije.
- ▶ Poznati DSL-ovi:
 - SQL
 - HTML
 - XML
 - UML

Arhitektura aplikacije



TextX

- ▶ Meta-jezik za kreiranje jezika specifičnih za domen u programskom jeziku Python.
- ▶ Opis jezika (pravila) => meta-model
- ▶ Parsira jezik i automatski pravi graf Python objekata

Gramatika

Program:

```
commands *= Command[';']  
;
```

Command

```
: Create_recipe  
| Search_recipe  
| Delete_recipe  
;
```

Gramatika - kreiranje novog recepta

Create_recipe

```
: "ADD RECIPE" recipe_name=STRING  
  "IN CATEGORY" category=Category ","  
  "INGREDIENTS" "(" ingredients*=Ingredient[','] ")" ","  
  "STEPS" "(" steps*=Step[','] ")" ","  
  "PREPARATION TIME" time=Time "," "PREPARATION WEIGHT " weight=Weight  
;
```


Gramatika - kreiranje novog recepta

```
Category
: "SANDWICH" | "LUNCH" | "APPETIZER" | "SALAD" | "HRONO" | "DESERT" | "DINNER" | "SOUP" | "BREAKFAST" | "PIZZA" | "BURGER"
;

Weight
: "EASY" | "MIDDLE" | "HARD"
;

Time
: time=INT "min"
;
```

```
Ingredient
: quantity=Quantity ingredient_name=STRING
;

Quantity
: q=FLOAT unitMeasure=Unit
;

Unit
: "g" | "kg" | "small spoon" | "big spoon" | "cup" | "ml" | "l" | "dl" | ""
;
```

```
Step
: "STEP" no=INT ":" step_doing=STRING
;
```

Gramatika - pretraga recepata

```
Search_recipe  
  : "VIEW RECIPE WHICH" criteri*= Search_command[' ','']  
  ;
```

```
Search_command  
  : Search_by_name  
  | Search_by_category  
  | Search_by_weight  
  | Search_by_time  
  | Search_by_ingredient  
  ;
```

Gramatika - pretraga recepata

```
Search_by_name
: "NAME IS " name=STRING
;

Search_by_category
: "CATEGORY IS " category=Category
;

Search_by_weight
: "WEIGHT IS " weight=Weight
;

Search_by_time
: "TIME " op=Operator time=INT
;

Search_by_ingredient
: "CONTAINS INGREDIENTS " ingredients*=STRING[' ','']
;

Operator
: "IS"
| "LESS THAN"
| "GREATER THAN"
;
```

Gramatika - brisanje recepta

```
Delete_recipe  
: "DELETE RECIPE " pk=INT  
;
```

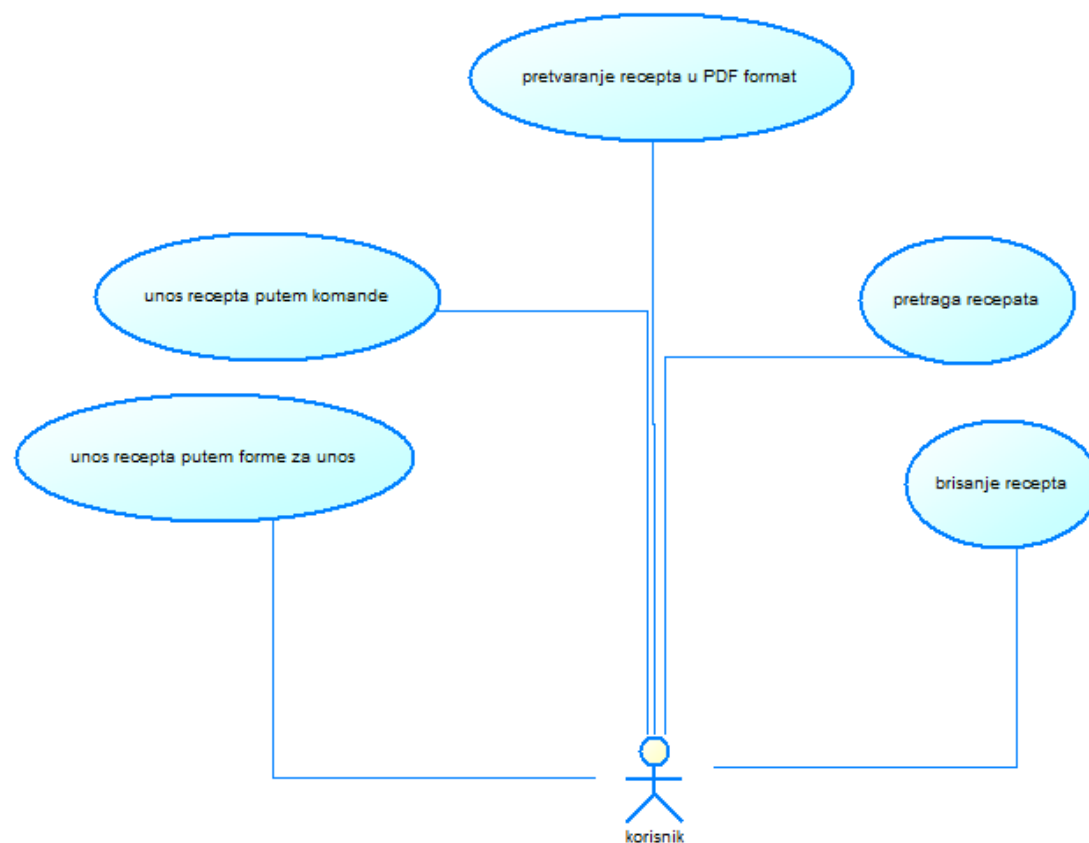
Primeri

```
ADD RECIPE "plazma torta" IN CATEGORY DESERT ,  
  INGREDIENTS ( 1 kg "mlevene plazme", 100 g "suvog grozdja",  
  250 g "margarina", 1 cup "soka od narandze", 100 g "zele bombona",  
  100 g "oraha", 200 g "secera u prahu"),  
  STEPS ( STEP 1: "U jednu vecu posudu sipati plazmu i secer u prahu i promesati.",  
  STEP 2: "U smesu dodati margarin i sok i mesiti dok se ne dobije glatka smesa.",  
  STEP 3: "U smesu dodati orahe, suvo grozdje i zele bombone i pomesati jos jednom sve.  
  Od dobijene smese napraviti zeljeni oblik. Tortu ukrasiti slagom ili cokoladom."),  
  PREPARATION TIME 45 min,  
  PREPARATION WEIGHT EASY;
```

```
VIEW RECIPE WHICH NAME IS 'plazma';  
VIEW RECIPE WHICH CATEGORY IS SOUP;  
VIEW RECIPE WHICH TIME IS 10;  
VIEW RECIPE WHICH CONTAINS INGREDIENTS 'mleko', 'plazma';  
VIEW RECIPE WHICH WEIGHT IS EASY, NAME IS 'torta', CATEGORY IS DINNER;
```

```
DELETE RECIPE 75;  
DELETE RECIPE 80;
```

Aplikacija - dijagram slučajeja korišćenja



PRIKAZ RADA APLIKACIJE

HVALA NA PAŽNJI!