

Project Kapsa

Peter Gurský

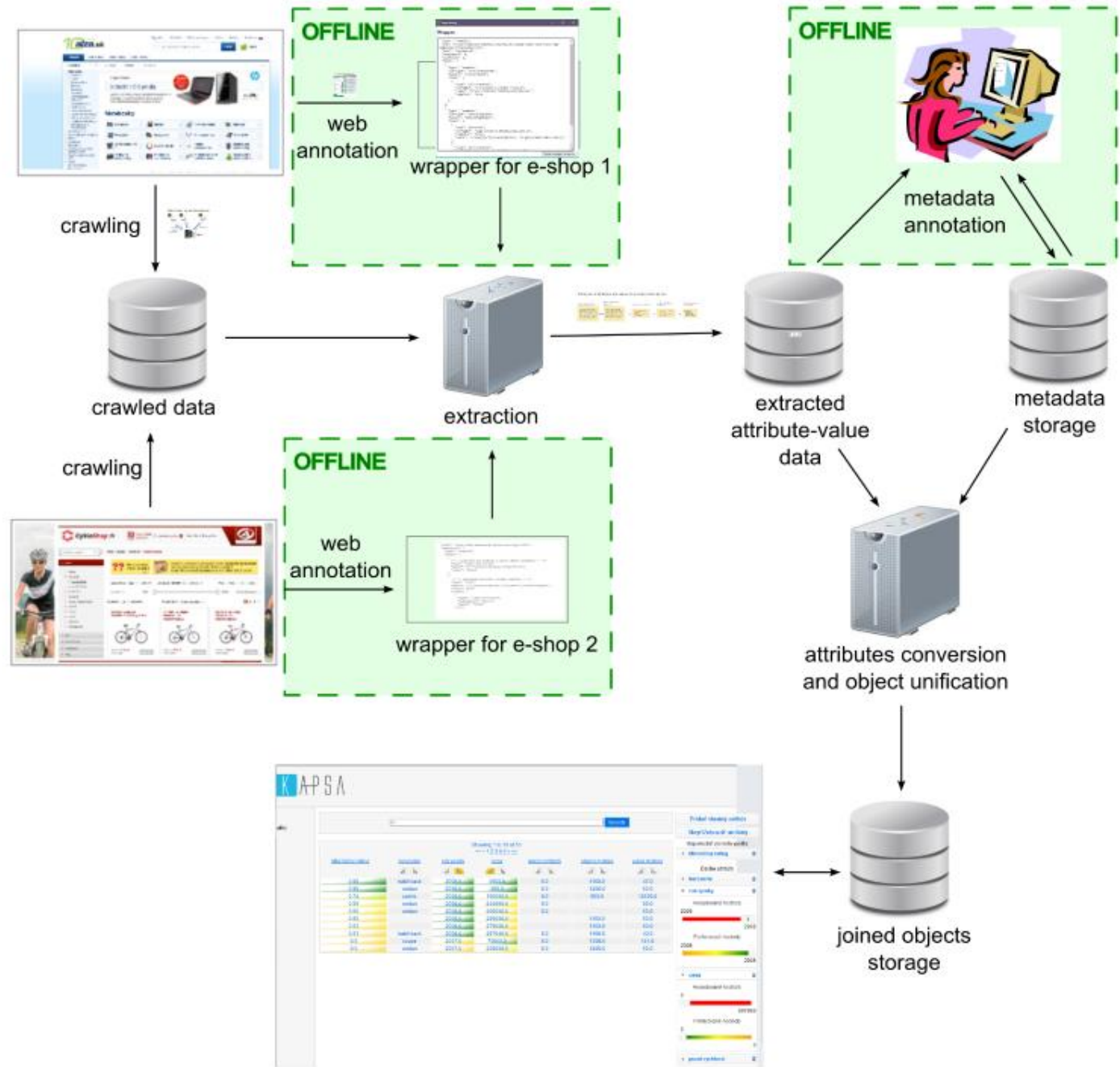
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Cocreators:

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crawling



crawled data

crawling



OFFLINE

web
annotation

wrapper for e-shop 1



extraction



OFFLINE

web
annotation

wrapper for e-shop 2



OFFLINE



web
annotation

Exago dialog

Wrapper:

```
"type": "complex",
"url": "https://mobilne-telefony.heureka.sk/xiaomi-redmi-note-8-pro-6gb-128gb/specifikace/#section",
"site": "heureka.sk",
"languageId": 1,
"countryId": 1,
"items": [
  {
    "type": "complex",
    "configId": "crawlerRulesTab",
    "target": "crawlerRules",
    "items": [
      {
        "type": "url-presence",
        "configId": "url-presence_crawler-rules_1",
        "regex": "https://mobilne-telefony.heureka.sk/",
        "negative": false
      }
    ]
  },
  {
    "type": "complex",
    "configId": "detailSpecTab",
    "target": "detailPageRules",
    "items": [
      {
        "type": "presence",
        "configId": "page-presence_detail_page_spec_1",
        "negative": false,
        "xpath": "//span[7]/*[contains(@class, 'js-gtm-breadcrumbs-item')]"
      },
      {
        "type": "url-presence",
        "configId": "url-presence_detail_page_spec_2"
      }
    ]
  }
]

```

Send wrapper to server

wrapper for e-shop 1



Annotation of web parts

Exago 2

Start new annotation

Part of URL indicating e-shop: imdb.com

Show and send wrapper Open crawler manager

Crawler rules Detail page spec. Annotation

Start page Add click

Attributes Comments General data

Object: can contain many attribute-value pairs

Attribute name and value pair Manual XPath

Attribute name: Herci

List of items:

xPath: //tbody/tr

Choose parent or child

Choose between children 0

Object: can contain many attribute-value pairs

Attribute name and value pair Manual XPath

Attribute name

xPath: td[2]/a

RegEx: 0

More than element found by the XPath!

Result: ["Tom Hanks", "Halle Berry", "Jim Broadbent", "Hugo Weaving", "Jim Stur..."]

List of items:

xPath: td[4]/a

Choose parent or child

Choose between children 0

Simple value

xPath:

RegEx: 0

Result: ["Dr. Henry Goose", "Hotel Manager", "Isaac Sachs", "Dermot Hoggins", "..."]

attribute name-value pair

attribute name-value pair

Extraction Preview

Start Crawling (server)

Cloud Atlas (2012) - IMDb

imdb.com/title/tt1371111/?ref=

Cast

Cast overview, first billed only:

	Tom Hanks	...	Dr. Henry Goose / Hotel Manager / Isaac Sachs / Dermot Cavendish Look-a-Like Actor / Zachry
	Halle Berry	...	Native Woman / Jocasta Ayrs / Luisa Rey / Indian Party Meronym
	Jim Broadbent	...	Captain Molyneux / Vyvyan Ayrs / Timothy Cavendish / President 2
	Hugo Weaving	...	Haskell Moore / Tadeusz Kesselring / Bill Smoke / Nurse Boardman Meph / Old Georgie
	Jim Sturgess	...	Adam Ewing / Poor Hotel Guest / Megan's Dad / Highway Chang / Adam (Zachry's Brother-in-Law)
	Doona Bae	...	Tilda / Megan's Mom / Mexican Woman / Sonmi-451 / Sex Prostitute
	Ben Whishaw	...	Cabin Boy / Robert Frobisher / Store Clerk / Georgette
	Keith David	...	Kupaka / Joe Napier / An-kor Apis / President
	James D'Arcy	...	Young Rufus Sixsmith / Old Rufus Sixsmith / Nurse Jam
	Xun Zhou	...	Talbot (Hotel Manager) / Yoona-939 / Rose
	David Gyasi	...	Aulus / Lester Rey / Duophysite
	Susan Sarandon	...	Madame Horrox / Older Ursula / Yusouf Suleiman / Abbe
	Hugh Grant	...	Rev. Giles Horrox / Hotel Heavy / Lloyd Hooks / Denhol Seer Rhee / Kona Chief
	Robert Fyfe	...	Old Salty Dog / Mr. Meeks / President 1
	Martin Wuttke	...	Mr. Boerhaave / Guard / Leary the Healer

See full cast »

IMDb.com View production box office & company info

Features

- annotation of various objects on webpages
- support for
 - one object on one page
 - many objects on one page
 - one object on many pages
 - pagination
 - hierarchical structures
- semi-automatic annotation with mouse clicks, with possibility to precise the rules manually
 - generation of XPath a regular expressions
 - correction of rules by possitive and negative examples
 - nesting and emergence to/from elements
- extraction from URL link and HTML structures



Semiautomatic annotation

- identification of repeating structures
- modified MDR algorithm
 - breadth-first search
 - using class and id attributes of <div> and elements
 - Levenshtein distance of DOM tree levels, not whole subtrees

Future annotation features

- infinite scrolling
- forms filling
- CSS selectors

Wrapper:

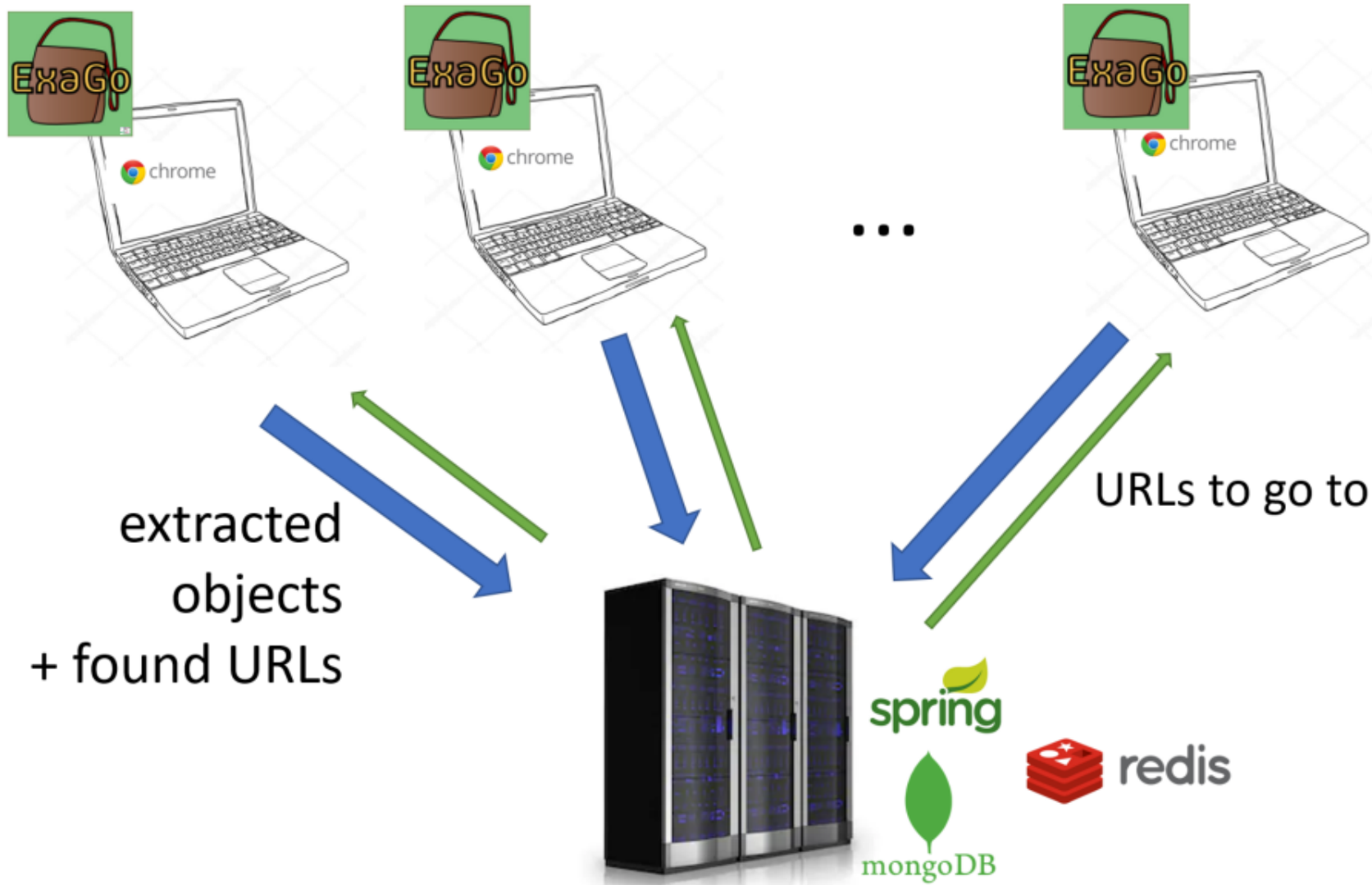
```
{
  "type": "complex",
  "url": "https://mobilne-telefony.heureka.sk/xiaomi-redmi-note-8-pro-6gb-128gb/specifikace/#section",
  "site": "heureka.sk",
  "languageId": 1,
  "countryId": 1,
  "items": [
    {
      "type": "complex",
      "configId": "crawlerRulesTab",
      "target": "crawlerRules",
      "items": [
        {
          "type": "url-presence",
          "configId": "url-presence_crawler-rules_1",
          "regex": "https://mobilne-telefony.heureka.sk/",
          "negative": false
        }
      ]
    },
    {
      "type": "complex",
      "configId": "detailSpecTab",
      "target": "detailPageRules",
      "items": [
        {
          "type": "presence",
          "configId": "page-presence_detail_page_spec_1",
          "negative": false,
          "xpath": "//span[7]/*[contains(@class, 'js-gtm-breadcrumbs-item')]"
        },
        {
          "type": "url-presence",
          "configId": "url-presence_detail_page_spec_1"
        }
      ]
    }
  ]
}
```

Send wrapper to server

wrapper for e-shop 1



Web crawling and extraction



Exago 2

Start new annotation

Part of URL indicating e-shop:

Show and send wrapper

Open crawler manager

Crawler rules

Detail page spec.

Annotation

Start page

Add click

Attributes

Comments

General data

List of items:

xPath:

//*[contains(@class, 'pages')]/section

Choose parent or child

Choose between children 0

Pagination

Object: can contain many attribute-value pairs

Názov

Cena

Popis

attribute name-value pair

Extraction Preview

Start Crawling (server)

Extracting...

http://www.zsolticars.sk/?page=ponuka

AUTOBAZÁR ZSOLTI CAR

Not secure | zsolticars.sk/?page=ponuka

Domov

Ponuka

Video

Služby

Kontakty



ALFA ROMEO MITO 1.4TURBO MULTIAIR QUADRIFOGLIO VERDE

170 KONÍ tempomat DNA NASTAVITEĽNÝ MÓD JAZDY športový multifunkčný volant v koži 17 HLINÍKOVÉ DISKY SO ZÁNOVNÝMI KVALITNÝMI PNEUMATIKAMI krásna červená farba POLO-KOŽENÉ ŠPORTOVÉ SEDEADLA 2 zónová klimatizácia ORIGINÁLNY SPLÝŇOVAČ BRC...

162 000 km, 125 kW/170 PS, MANUÁL, BENZÍN, 3/2012

1.4 Turbo Quadrifoglio Verde + originálne namontovaný splýňovač BRC, 125kW/170 koní, Alfa Romeo Driving Modes "DNA" nastaviteľný mód jazdy, Polo-kožené športové sedadla textilizantens predovšetkým zeleno-bielou ríboú, Krásna červe...

5 999 €



AUDI A3 SPORTBACK 2.0 TDI AMBITION S-TRONIC *ZÁRUKA 1 ROK*

KENÓNOVÉ SVETLOMETY S LED DENNÝM SVIETENÍM tempomat 17 HLINÍKOVÉ DISKY parkovacie senzory vzadu ŠPORTOVÝ MULTIFUNKČNÝ VOLANT V KOŽI športovo ladený podvozok 2 ZÓNOVÁ AUTOMATICKÁ KLIMATIZÁCIA ...

193 000 km, 103 kW/140 PS, AUTOMAT, DIESEL, 1/2011

2.0 TDI Ambition S-Tronic, 103kW/140 koní, Kenónové svetlomety s LED-denným svietením, Tempomat, 17 palcové hliníkové disky, Športový multifunkčný volant v koži a možnosťou F1 radenia, Trnované ovis, Elektricky nastaviteľs...

3 999 €



Repeating webportal data extraction

- crawling with focus to relevant pages
 - other pages can provide links to relevant pages (or not)
 - relevant pages: lists of products, detail pages
 - irrelevant pages: shopping card, contact information, terms of use, ...
 - optimization of crawling process shorten processing time significantly

Relevant links

The screenshot displays the website for 'Raj Dáždnikov' (Umbrellas). The header includes a search bar, a shopping cart icon, and a navigation menu with links to 'SKLADACIE DÁŽDNIKY', 'PALICOVÉ DÁŽDNIKY', 'PRIESVITNÉ DÁŽDNIKY', 'DETSKÉ DÁŽDNIKY', 'GOLFOVÉ DÁŽDNIKY', 'DÁŽDNIKY TEMATICKY', 'DOPLNKY', 'SLUŽBY ZAKAZNÍKOM', and 'BLOG'. The left sidebar features filters for 'KATEGÓRIE' (Children's, Golf, Folding, Manual, Automatic, Palcové, Transparent, Thematic, Accessories) and 'DOSTUPNOSŤ' (In stock, Cashmere, FARE, FULTON, miniMAX). The main content area is titled 'SKLADACIE DÁŽDNIKY' and includes a description, a 'Viac' button, sorting options, a 'POROVNAŤ' button, and a grid of four folding umbrella products. Each product card shows an image, a 'NOVINKA' tag, a description, and a price of 25,70 €. The bottom right of the product grid includes a 'Porovnať' button.

Navigation Links:

- SKLADACIE DÁŽDNIKY
- PALICOVÉ DÁŽDNIKY
- PRIESVITNÉ DÁŽDNIKY
- DETSKÉ DÁŽDNIKY
- GOLFOVÉ DÁŽDNIKY
- DÁŽDNIKY TEMATICKY
- DOPLNKY
- SLUŽBY ZAKAZNÍKOM
- BLOG

Filters:

- KATEGÓRIE:** Detské dáždniky, Golfové dáždniky, Skladacie dáždniky, Manuálne skladacie dáždniky, Automatické dáždniky, Palcové dáždniky, Priesvitné dáždniky, Dáždniky tematicky, Doplnky
- DOSTUPNOSŤ:** Skladom (54), Cashemir® (1), FARE (1), FULTON (33), miniMAX® (6)

Main Content:

SKLADACIE DÁŽDNIKY

Skladacie dáždniky sú ideálne dáždniky do kabelky či pánskej tašky. Kvalitná vetruodolná konštrukcia a široký...

Viac

Zoradiť podľa: -- View as: -- Zobrazíť: 12 Produkty

POROVNAŤ

1 2 3 4 5

NOVINKA	NOVINKA	NOVINKA	NOVINKA
Dámsky skladací dáždnik Superslim 2 Modern check	Dámsky skladací...	Dámsky skladací dáždnik Superslim 2 Scottie dog	Dámsky skladací dáždnik Superslim 2 Peacock
25,70 €	25,70 €	25,70 €	25,70 €
			Porovnať

Web scrapping: Future work

- limiting data transfer for browser background scrapping
 - amount of processed data in my extraction tasks should correlate with scrapping for other people
- scheduling
- postprocessing of extracted data
 - mapping from HTML snippets to specific structures
 - aggregation of data
- dashboard with reports of current tasks
- API for accessing the results
- publication to Chrome web store



wrapper for e-shop 1



extraction

Extraction of attributes and values from product descriptions



extracted
attribute-value
data

Extraction of attributes and values from product descriptions

original description:

The two integrated front-facing speakers and powerfully immersive Dolby Atmos sound give you louder, clearer and dynamic audio . . . Even without headphones. Display: 8 inch screen. Specifications: 1.3GHz quad core processor. 1GB RAM. 16 GB internal storage. Weight 550g.

known attributes detection:

The two integrated front-facing speakers and powerfully immersive Dolby Atmos sound give you louder, clearer and dynamic audio . . . Even without headphones. Display: 8 inch screen. Specifications: 1.3GHz quad core processor. 1GB RAM. 16 GB internal storage. Weight 550g.

sentence extraction:

- Display: 8 inch screen.
- 1GB RAM.
- 16 GB internal storage.
- Weight 550g.

units nad values detection:

- Display: 8 inch screen.
- 1GB RAM.
- 16 GB internal storage.
- Weight 550g.

canonical values conversion:

- Display: 8 "
- RAM: 1 GB
- HDD: 16 GB
- Weight: 0.55 kg.

Extraction of attributes and values

original description:

The two integrated front-facing speakers and powerfully immersive Dolby Atmos sound give you louder, clearer and dynamic audio . . . Even without headphones. Display: 8 inch screen. Specifications: 1.3GHz quad core processor. 1GB RAM. 16 GB internal storage. Weight 550g.



known attributes
detection:

The two integrated front-facing speakers and powerfully immersive Dolby Atmos sound give you louder, clearer and dynamic audio . . . Even without headphones. **Display:** 8 inch screen. Specifications: 1.3GHz quad core processor. 1GB **RAM**. 16 GB **internal storage**. **Weight** 550g.

Attributes and values from product de

known attributes
detection:

The two integrated front-facing speakers and powerfully immersive Dolby Atmos sound give you louder, clearer and dynamic audio . . . Even without headphones. **Display**: 8 inch screen. Specifications: 1.3GHz quad core processor. 1GB **RAM**. 16 GB **internal storage**. **Weight** 550g.


sentence extraction:

- **Display**: 8 inch screen.
- 1GB **RAM**.
- 16 GB **internal storage**.
- **Weight** 550g.


from product descriptions

sentence extraction:

units nad values
detection:


- 
- Display: 8 inch screen.
 - 1GB RAM.
 - 16 GB internal storage.
 - Weight 550g.




- Display: 8 inch screen.
 - 1GB RAM.
 - 16 GB internal storage.
 - Weight 550g.
- 

descriptions

units nad values
detection:

- 
- Display: 8 inch screen.
 - 1GB RAM.
 - 16 GB internal storage.
 - Weight 550g.

canonical values
conversion:

- 
- Display: 8 "
 - RAM: 1 GB
 - HDD: 16 GB
 - Weight: 0.55 kg.

wrapper for e-shop 1



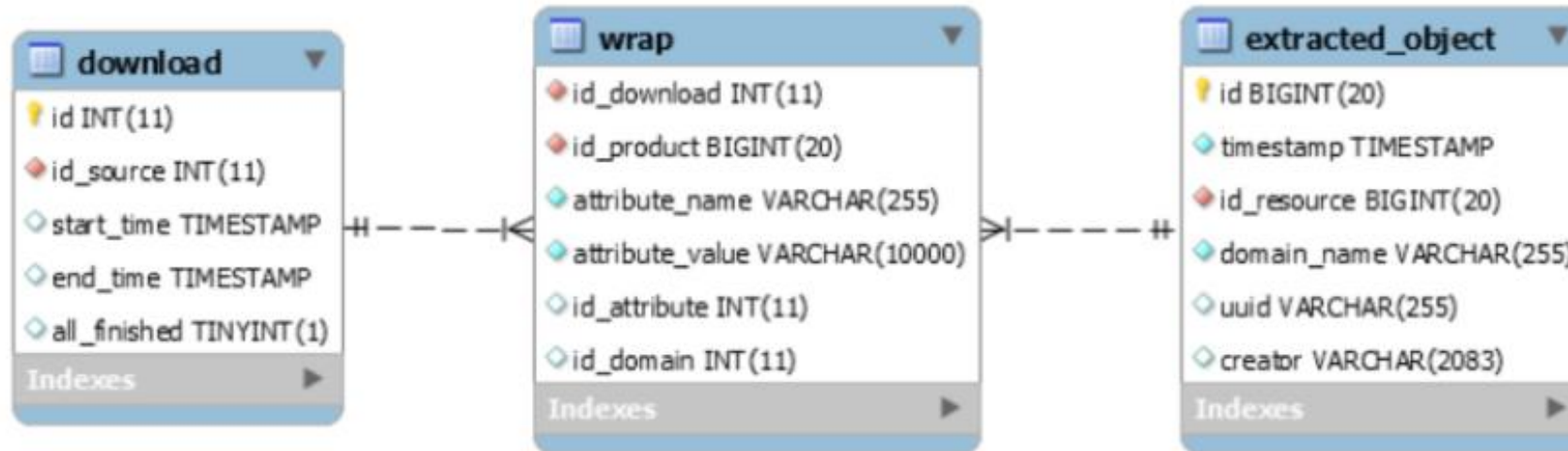
extraction

Extraction of attributes and values from product descriptions



extracted
attribute-value
data

Canonical structure for product attributes



OFFLINE



metadata
annotation

one product description



extracted
attribute-value
data

metadata
storage

Metadata annotation: tasks

- Metadata to “always successful” automatic conversion to corresponding domain, attribute, type and form
- Attribute name and domain name mapping
 - synonyms, different languages, different precision of domain specification
- Identifying attribute types
 - continuous, discrete ordinal, nominal, hierarchical, text, datetime, string,...
- Value formats
 - localized formatting, units
- Enumerated attribute types
 - extraction of possible values

Units

10 KHz
4
0,5 kHz
?
5000 Hz
7500



kHz(kilohertz)

10
4
0,5
null
5
7,5

- regular expressions for decomposition to value and unit
- default unit
- unit abbreviation variants
- unit conversions
- hidden units
- buggy values notification



Admin page

localhost:8077/wicket/bookmarkable/sk.kapsa.wicket.admin.HomePage?2

Doména bola zablokovaná.

Zdroj Doména **Tablety** Derivované atribúty Atribút

Atribút ✓ Der ✓ Obyč

Obyč Podpora NFC

Obyč Podpora pamäťovej karty

Obyč WiFi

Obyč Predná kamera

Obyč Procesor

Obyč Rozlíšenie displeja

Der Rozmery (VxŠxH)

Obyč Senzory

Hodnoty atribútu

261 x 178 x 9,2 mm (6)
189,3 x 113,7 x 9,6 mm (5)
192 x 110 x 12,5 mm (2)
197,5 x 120 x 9 mm (2)
198 x 121 x 9,9 mm (2)
200 x 136,5 x 8,3 mm (2)

Nový derivovaný atribút

výška šírka hĺbka **Objem**

Meno derivovaného atribútu: Objem

Výraz pre hodnotu: {{ \$v * \$s * \$h }} mm3

Premenné:

Meno	Extrahované z	Regulárny výraz	Skupina regexu
\$name	mena atribútu	(Rozmery.*VxŠxH.*)	1 ✕
\$v	hodnoty atribú	([0-9,]+) W*x W*[0-9,]+ W*x W*[0-9,]+	1 ✕
\$s	hodnoty atribú	[0-9,]+ W*x W*([0-9,]+) W*x W*[0-9,]+	1 ✕
\$h	hodnoty atribú	[0-9,]+ W*x W*[0-9,]+ W*x W*([0-9,]+)	1 ✕

Pridať premennú

Výsledné hodnoty atribútu

427413.6 mm3 (6)
206624.73600000003 mm3 (5)
122616.0 mm3 (2)
206779.32 mm3 (2)
213300.0 mm3 (2)
226590.00000000003 mm3 (2)
237184.2 mm3 (2)
259804.16000000006 mm3 (2)
264000.0 mm3 (2)
264132.39999999997 mm3 (2)
299757.60000000003 mm3 (2)
329171.98600000003 mm3 (2)
10203.52 mm3 (1)

Semiautomated domain and attribute identification using full-text search (J.Kuper)

- Preventing same attribute or domain to be twice in the system
- "Schema unification" problem
- Our solution
 - values of attributes are more immune to synonyms and language differences
 - using fulltext index to find most similar products to currently annotated products with the same domain value
 - extract "promissing" domains and attributes from returned products
 - decomposition of non-atomic attributes



Metadata annotation : open problems

- ordinal string type (XS, X,M,L,XL,...; C,B,A,A+,A++) and their conversions
- handling unsuccessful conversions

OFFLINE



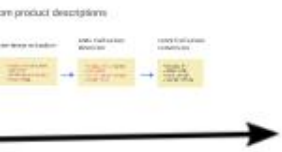
metadata
annotation



extracted
attribute-value
data



metadata
storage





extracted
attribute-value
data



metadata
storage



attributes conversion
and object unification

Product unification

- First step : conversion from pile of "object - attribute - string value" rows to table for each domain having row for each extracted product with attribute values of appropriate type

wrap

id_download	id_product	attribute_name	attribute_value
10	235	domain	notebook
10	235	HDD	500 GB
10	235	size	13"
10	236	domain	notebook
10	236	HDD	1 TB
10	236	size	11

wrap_joined_notebook

id_source	id_product_wrap	id_product	HDD	size
5	235	null	500	13
5	236	null	1000	11

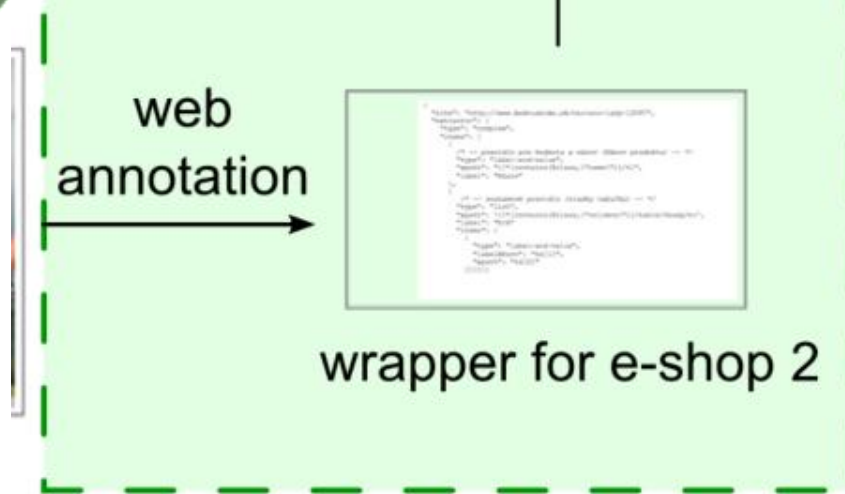
Product unification

- second step: find same products and assign them common id
 - new products have new id
 - similar products have new id and a hint for administrator
- 3 types of attributes
 - determining (ISBN, EAN, local web id)
 - relevant (name, weight, size,...)
 - other (description, price, on stock,...)
- source dependance
 - local web id, price,.. are source dependent
 - name, weight, size,... are source independent

Product unification: open problems

- administrator UI to handle similar objects
- hierarchy of domains
- many missing values -> false equality
 - using product images





KAPSA

Showing 1 to 10 of 50

Microsiny rating	karoseria	rok výroby	cena	počet rychlostí	objem motoru	výkon motoru
3.98	hatchback	2008.0	4500.0	6.0	1108.0	47.0
3.99	sedan	2008.0	259.0	6.0	1200.0	53.0
3.74	cabrio	2008.0	150000.0	8.0	500.0	12000.0
3.59	sedan	2008.0	244900.0	6.0		55.0
3.55	sedan	2008.0	269000.0	8.0		53.0
3.55		2008.0	269000.0		1150.0	53.0
3.53		2008.0	279000.0		1150.0	53.0
3.51	hatchback	2008.0	207645.0	6.0	1198.0	40.0
3.5	coupe	2007.0	75000.0	6.0	1308.0	141.0
3.5	sedan	2007.0	238000.0	6.0	1200.0	53.0

Přidat vlastní atribut

Skrýt/Zobrazit atributy

Uspořádat výsledky podľa

Minimální rating

Ďalšie atribúty

karoseria

rok výroby

Akceptované hodnoty

2006 2008

Preferované hodnoty

2008 2008

cena

Akceptované hodnoty

0 597960

Preferované hodnoty

0 0

počet rychlostí



Showing 1 to 10 of 50
 <<< 1 2 3 4 5 >>>

Minimálny rating	karoseria	rok výroby	cena	pocet rychlosti	objem motora	vykon motora
0.99	hatchback	2008.0	4500.0	6.0	1108.0	47.0
0.99	sedan	2008.0	289.0	6.0	1200.0	53.0
0.74	cabrio	2008.0	150000.0	8.0	500.0	12000.0
0.59	sedan	2008.0	244900.0	6.0		55.0
0.55	sedan	2008.0	269000.0	6.0		53.0
0.55		2008.0	269000.0		1150.0	53.0
0.53		2008.0	279000.0		1150.0	53.0
0.51	hatchback	2008.0	287645.0	6.0	1198.0	40.0
0.5	coupe	2007.0	75000.0	6.0	1308.0	141.0
0.5	sedan	2007.0	239000.0	6.0	1200.0	53.0

Pridať vlastný atribút

Skryť/Zobraziť atribúty

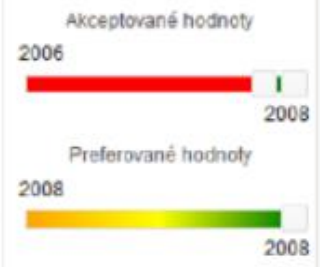
Usporiadať výsledky podľa

► Minimálny rating

Ďalšie atribúty

► karoseria

▼ rok výroby



▼ cena



► pocet rychlosti

Full-text with structural result

Matching domains

- ▼ Bezdrôtové audio (3)
 - ☐ Hmotnosť (1)
 - ☐ Názov (2)
- ▼ Externe baterie (3)
 - ☐ Konektory (3)
- ▼ Sluchadla (2)
 - ☐ cena (2)
- ▼ Operacny system (2)
 - ☐ Opercny system (2)
 - ☐ Názov (2)
- ▼ Tablety (17)
 - ☐ cena (1)
 - ☐ Výrobca (12)
 - ☐ Uhlopriečka displeja (5)
 - ☐ Lokálny identifikátor (1)
- ▼ TV a video (10)
 - ☐ Názov (10)
- ▼ Mobilny telefon (36)
 - ☐ Názov (36)
- ▼ Hifi veza (5)
 - ☐ Názov (5)

Search form

Search for :

Product name	Domain	
Samsung WAM551	Bezdrôtové audio	Id produktu = 69914 domain = [Bezdrôtové audio, null] Bluetooth
Samsung WAM551	Tablety	Id produktu = 68642 domain = [Tablety, Tablets] Bluetooth - áno Samsung WAM551
Samsung WAM551	Tablety	Id produktu = 68646 domain = [Tablety, Tablets] Bluetooth - áno Samsung WAM551
Samsung WAM551	Tablety	Id produktu = 68652 domain = [Tablety, Tablets] Bluetooth - áno Samsung WAM551
Samsung WAM551	Tablety	Id produktu = 68628 domain = [Tablety, Tablets] Bluetooth - áno Samsung WAM551
Samsung MX-H630	Hifi veza	Id produktu = 70017 domain = [Hifi veza, null] Bluetooth - áno Samsung MX-H630
Samsung MX-H630	Tablety	Id produktu = 68616 domain = [Tablety, Tablets] Bluetooth - áno - Samsung MX-H630
Samsung MX-H630	Tablety	Id produktu = 68619 domain = [Tablety, Tablets] Bluetooth - áno - Samsung MX-H630
Samsung MX-H630	Tablety	Id produktu = 68622 domain = [Tablety, Tablets] Bluetooth - áno - Samsung MX-H630
Philips SHE2001	Sluchadla	Id produktu = 70197 domain = [Sluchadla, null] Bluetooth - áno identifikátor - 78618 Názov - Philips SHE2001

KAPSA

adby

Search

Showing 1 to 15 of 50
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

Minimální rychlost	Kategorie	rok výroby	cena	počet rychlostí	celková rychlost	roční rychlost
al / h		al / h		al / h		al / h
2.58	hatchback	2008.0	4550.0	6.0	1100.0	47.0
2.58	sedan	2008.0	288.0	6.0	1200.0	53.0
2.74	sedan	2008.0	15000.0	6.0	503.0	12000.0
2.55	sedan	2008.0	244500.0	6.0		55.0
2.55	sedan	2008.0	209000.0	6.0		53.0
2.55		2008.0	269000.0		1150.0	53.0
2.53		2008.0	279000.0		1150.0	53.0
2.51	hatchback	2008.0	287145.0	6.0	1199.0	40.0
2.5	coupe	2007.0	75060.0	6.0	1308.0	141.0
2.5	sedan	2007.0	239000.0	6.0	1200.0	53.0

Přidat vlastní atribút

Skrýt/Zobrazit atribúty

Uspořádat výsledek podle

Stisknout rating

Časové atribúty

Kategorie

rok výroby

roční rychlost

2006

2008

2008

2008

Preferované hodnoty

0

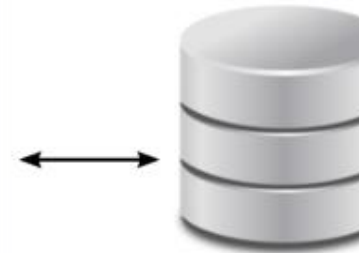
507960

Preferované hodnoty

0

0

počet rychlostí



joined object
storage





**Thank you !
Any questions?**

Thank you for tour attention



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