LAMAS

Location-aware Mobile Advertisement System

Berk KARAOĞLU

Can Çağdaş CENGİZ

Enes TAYLAN

Information Retrieval Systems
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download (android)

download the app and try one of these keywords

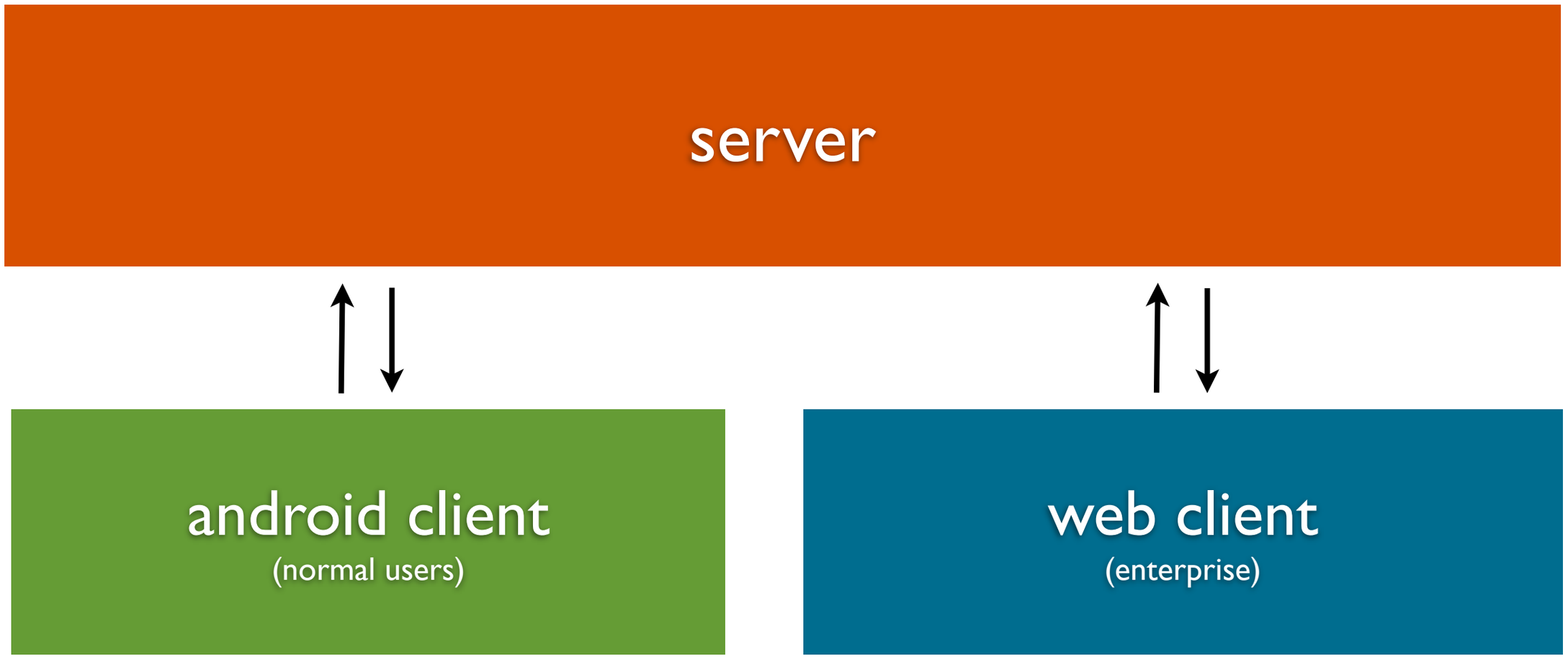
pizza, sushi, beer

http://139.179.13.210/lamas/lamas.apk

agenda

- brief introduction
- some technical stuff
- demo

introduction



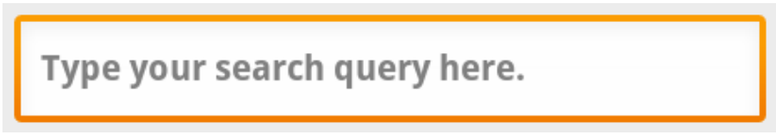
Server

- store user & advertisement details
- store inverted indexes
- term weighting
- generate rank for advertisements
- calculate distances

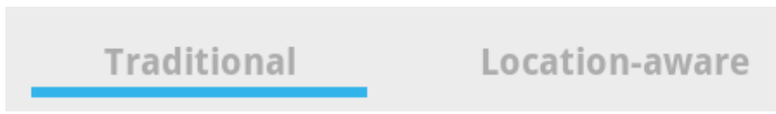
Android client

obtain coarse location

obtain & send user query



display results



obtain & send UX rating

indexing

indexing

new advertisement

Special offer! Large Mexicano pizza for $10!
Come to El Fuego and try our delicious, spicy Mexicano pizza for just $10.

indexing

- new advertisement
- downcase

special offer! large mexicano pizza for $10!
come to el fuego and try our delicious, spicy mexicano pizza for just $10.

indexing

- new advertisement
- downcase
- split

title={special, offer, large, mexicano, pizza, for, 10}
content={come, to, el, fuego, and, try, our, delicious, spicy, mexicano, pizza, for, just}

indexing

- new advertisement
- downcase
- split
- stopword elimination

```
title={special, offer, large, mexicano, pizza,10}
content={come, el, fuego, delicious, spicy,
mexicano, pizza}
```

indexing

- new advertisement
- downcase
- split
- stopword elimination
- frequency calculation

for title terms: 4
for content terms: 1

indexing

- new advertisement
- downcase
- split
- stopword elimination
- frequency calculation
- create db table or insert

term weighting

term weighting

get search query

cheap pizza

term weighting

get search query

cheap pizza

assign initial weight

$w_i = 1 / n_t = 0.50$

term weighting

get search query

cheap pizza

assign initial weight

$w_i = 1 / n_t = 0.50$

divide each weight with the number of ads containing each term

$w_1 = 0.50 / n_i = 0.50$
$w_2 = 0.50 / n_i = 0.10$

term weighting

get search query

cheap pizza

assign initial weight

$w_i = 1 / n_t = 0.50$

divide each weight with the number of ads containing each term

$w_1 = 0.50 / n_i = 0.50$
$w_2 = 0.50 / n_i = 0.10$

multiply each rank w/ frequencies

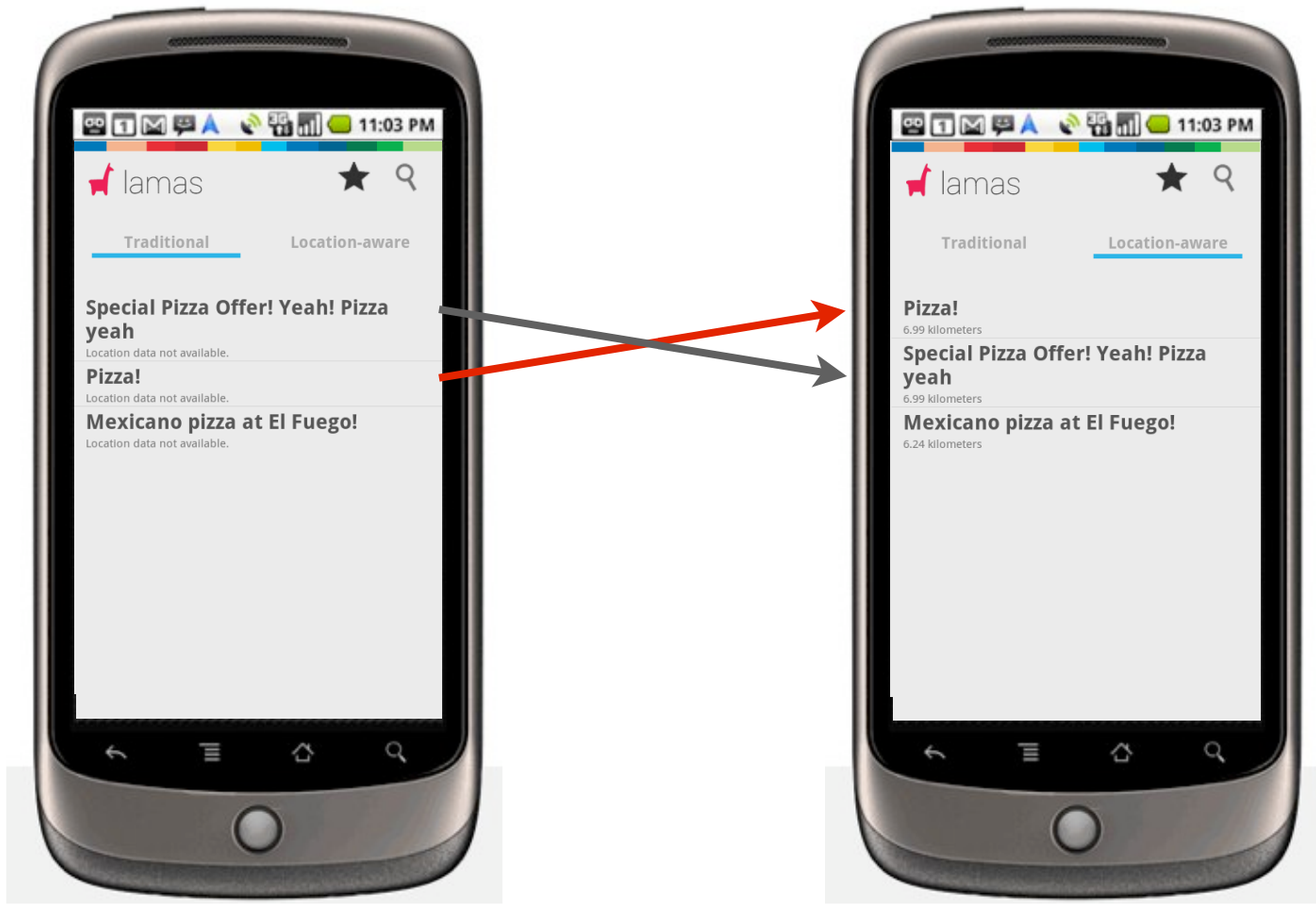
$R_i = \sum w_i * f_i$

term weighting

get search query	cheap pizza
assign initial weight	$w_i = 1 / n_t = 0.50$
divide each weight with the number of ads containing each term	$w_1 = 0.50 / n_i = 0.50$ $w_2 = 0.50 / n_i = 0.10$
multiply each rank w/ frequencies	$R_i = \sum w_i * f_i$
divide each rank w/ distance	$R_i = R_i$ / distance (user, enterprise)

sample results

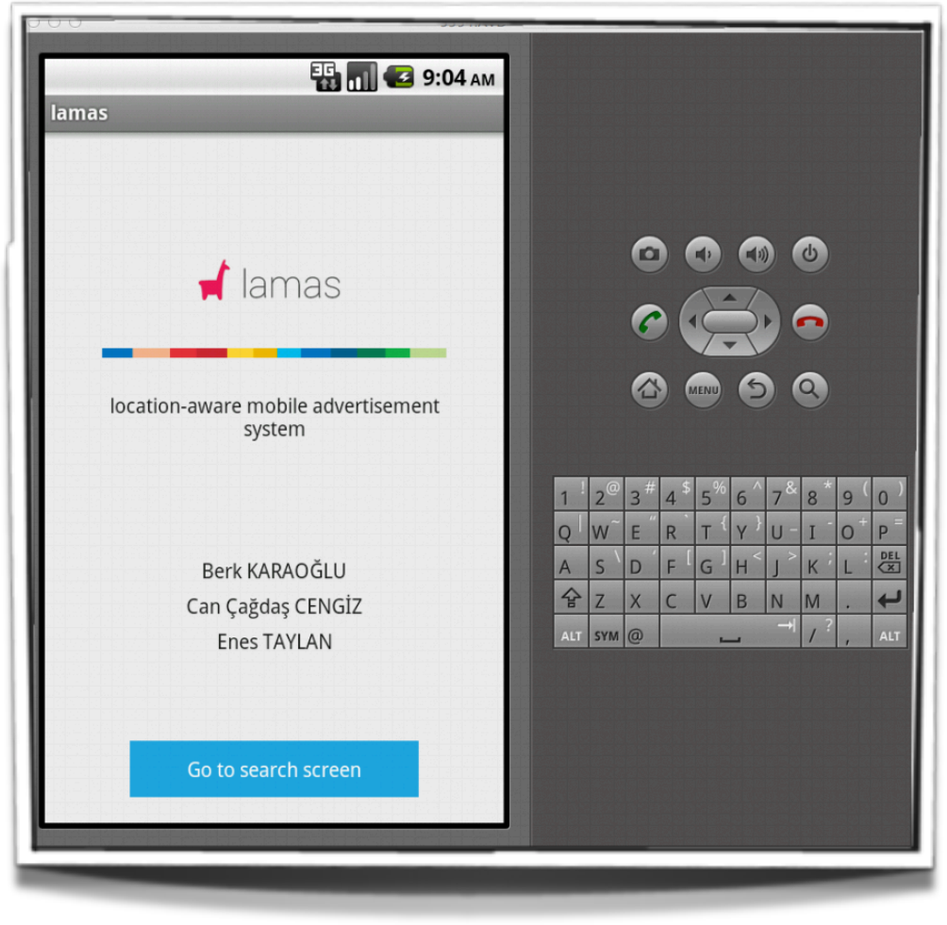
query: pizza



traditional

location-aware

See LAMAS in action.



Thank you for your patience.

Berk KARAOĞLU Can Çağdaş CENGİZ Enes TAYLAN

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