

Alexandria University - Faculty of Engineering
Electrical Engineering Department

Summer Research Project - 2015

Weekly Report Num. 4

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Research Fields:

databases, android/web development and machine learning.

Research Goals:

Developing an intelligent application for efficient database management.



Development of a front-end (android/web app) and back-end prototype, and the design of a database to store various data with a large set of attributes.

Capability of applying intelligent data management techniques on the stored data.



Week-3 approach

- Implementing custom search
- Implementing watchlist
- Displaying item, promotion and store details.
- Support shopping by stores.
- User interface modifications.
- Database design modifications to support and optimize smart search techniques.
- Implementing parser to parse user's input for smart search.
- Illustrate system overall interaction.
- Conduct performance study.



Database design modifications


  shop_now_db.key_computer

- # fk_item_id : int(11)
- # keyword : int(11)

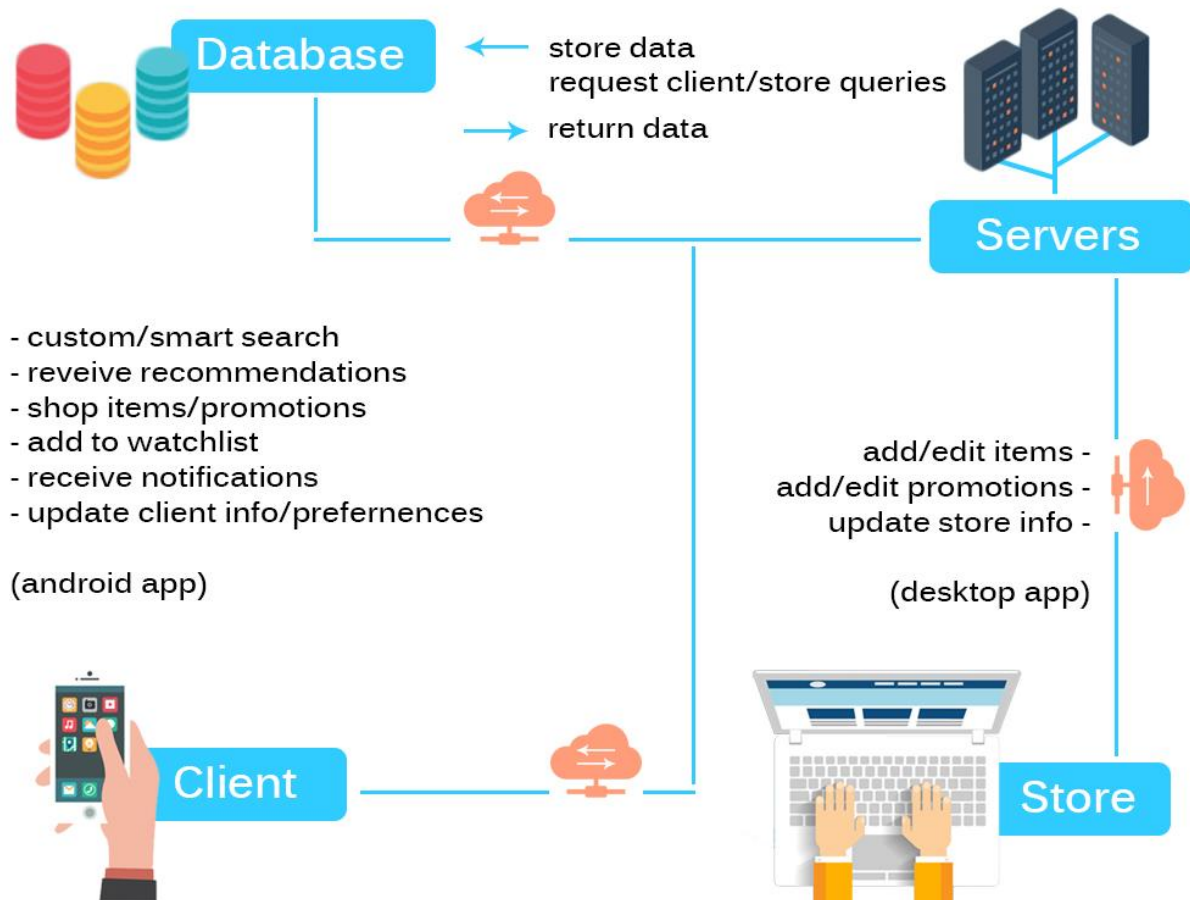
  shop_now_db.items_keys

- # fk_info_id : int(11)
- # keyword : varchar(25)

  shop_now_db.db_info

-  id : tinyint(4) unsigned
- # sub_category_name : varchar(20)
- # category_name : varchar(20)
- # item_tb_name : varchar(20)
- # stock_tb_name : varchar(20)
- # promotion_tb_name : varchar(20)
- # feature_tb_name : varchar(20)
- # key_tb_name : varchar(20)
- # items_count : mediumint(9) unsigned
- # promotions_count : mediumint(9) unsigned

System overall interaction



Performance Study


Tested with

- **1.37 GB RAM**
- **Intel i5 2.4 GHz**
- **Apache Server**
- **MySQL engine**

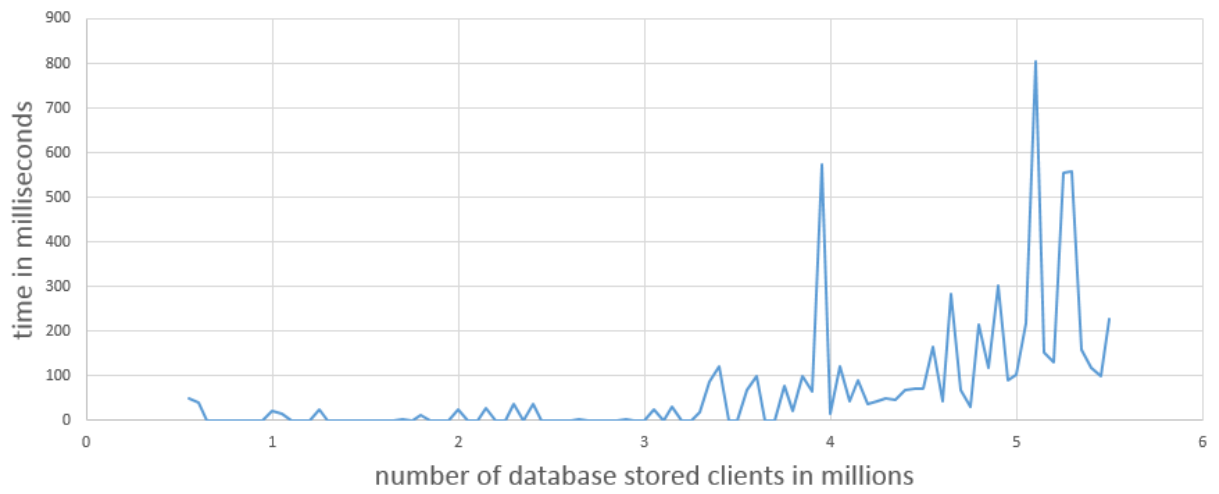
Database server

- Server: localhost via TCP/IP
- Server type: MySQL
- Server version: 5.6.12-log - MySQL Community Server (GPL)
- Protocol version: 10
- User: root@localhost
- Server charset: UTF-8 Unicode (utf8)

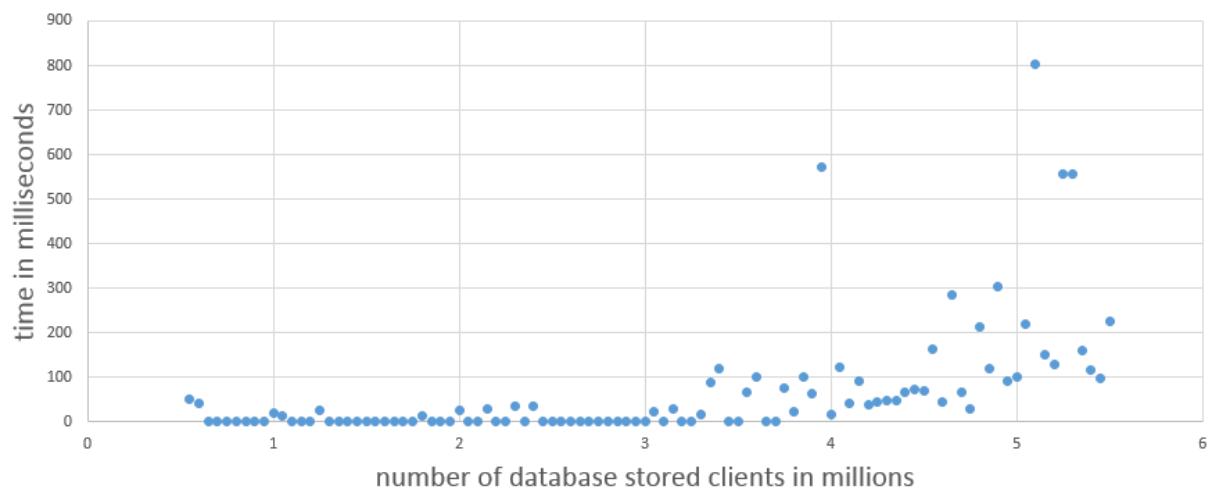
Web server

- Apache/2.4.4 (Win64) PHP/5.4.12
- Database client version: libmysql - mysqlnd 5.0.10 - 20111026 - \$Id: e707c415db32080b3752b232487a435ee0372157 \$
- PHP extension: mysqli 

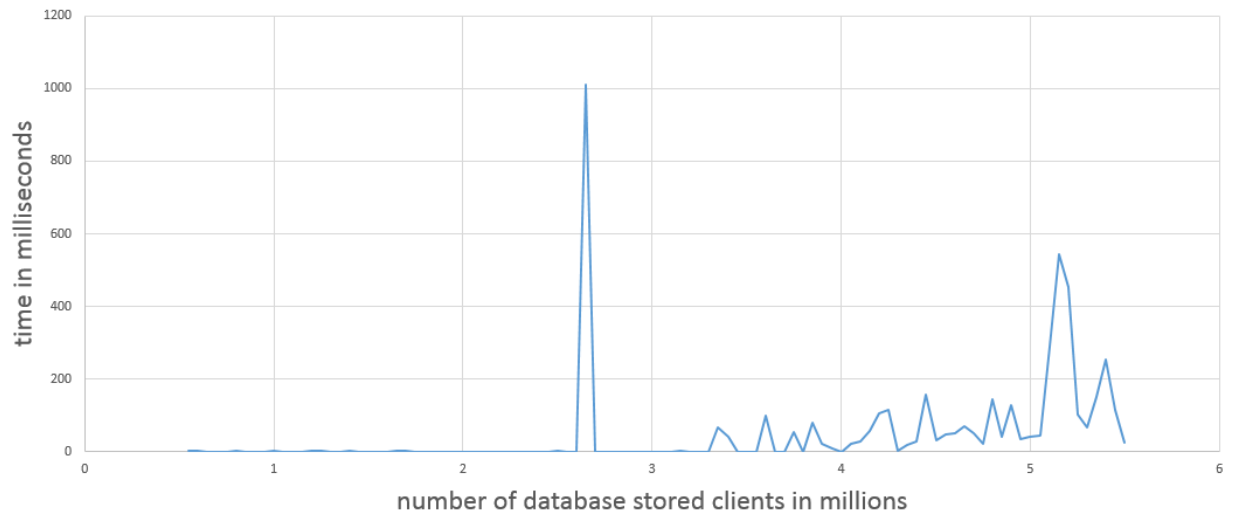
Server's response to fetching a random client



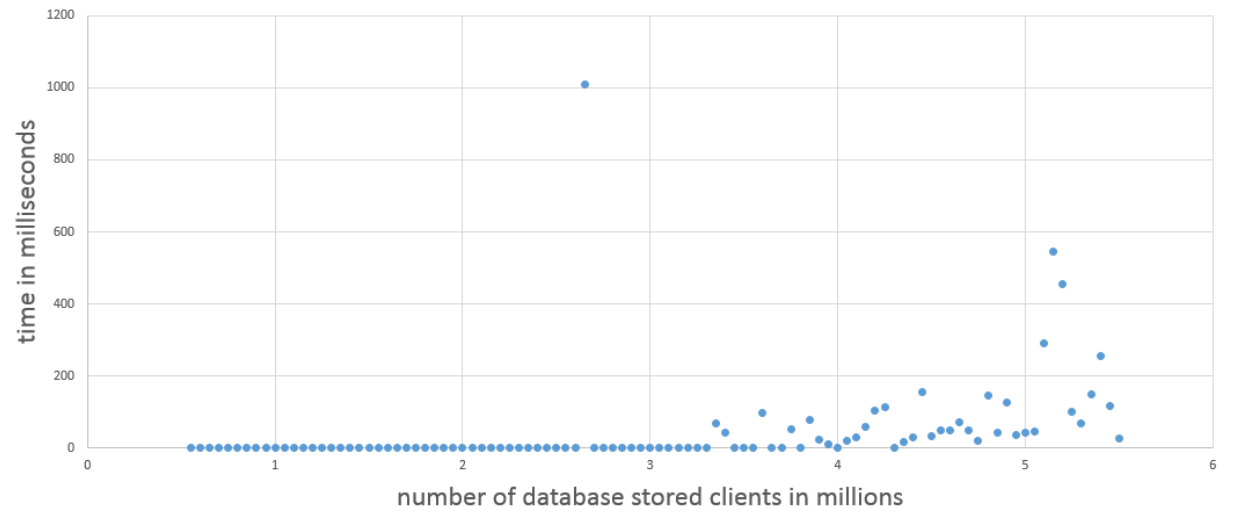
Server's response to fetching a random client

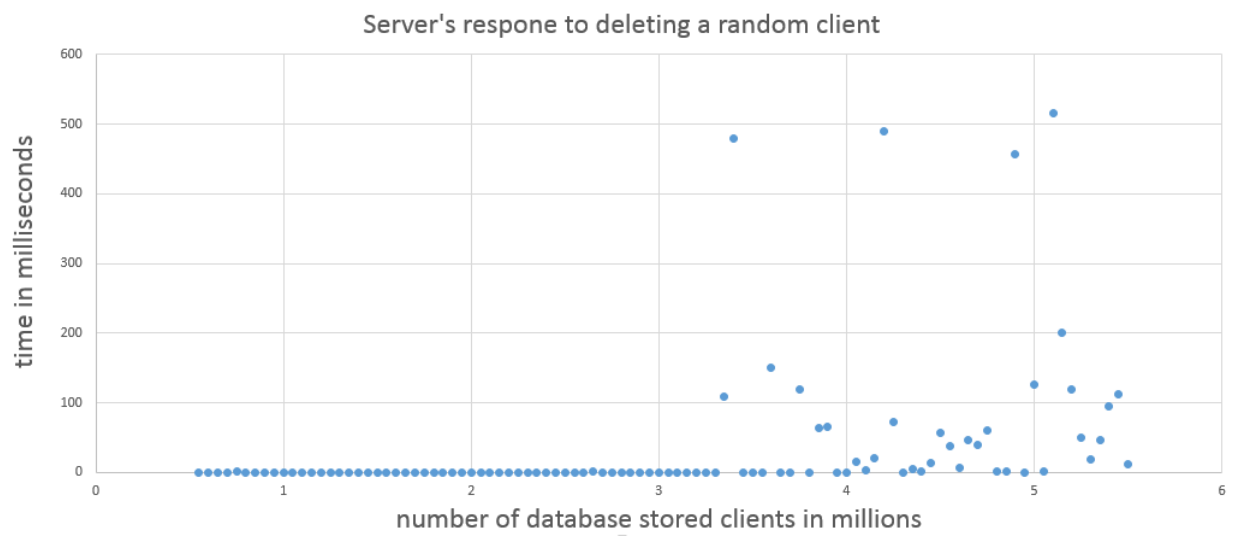
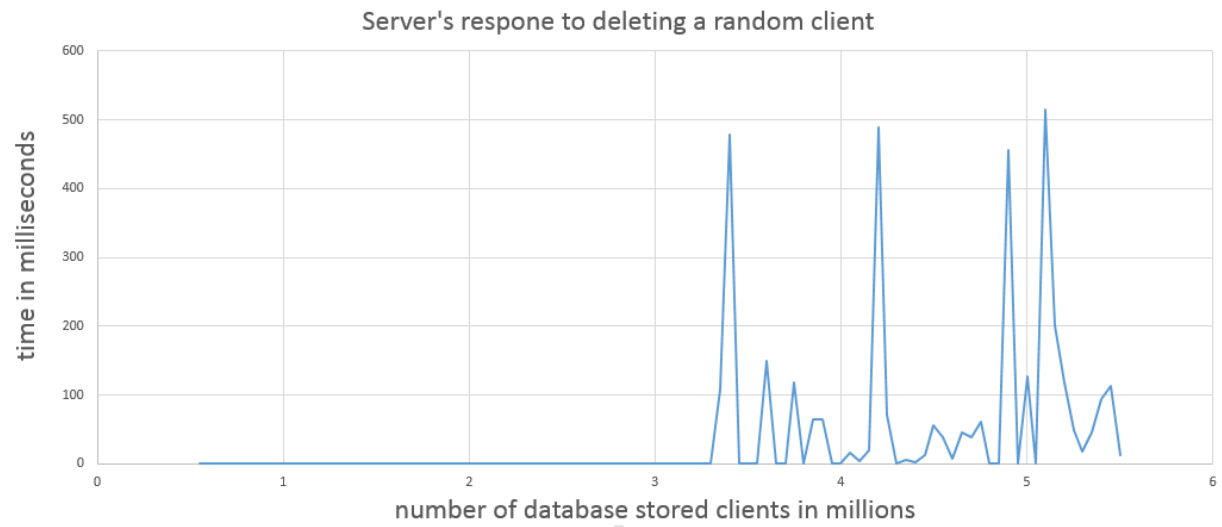


Server's response to updating a random client

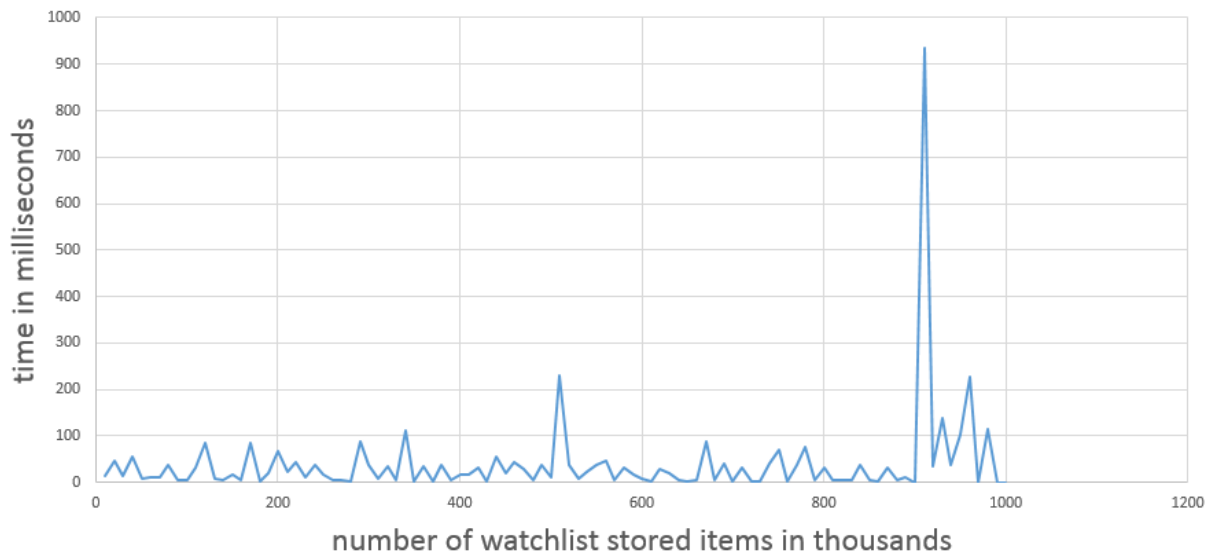


Server's response to updating a random client

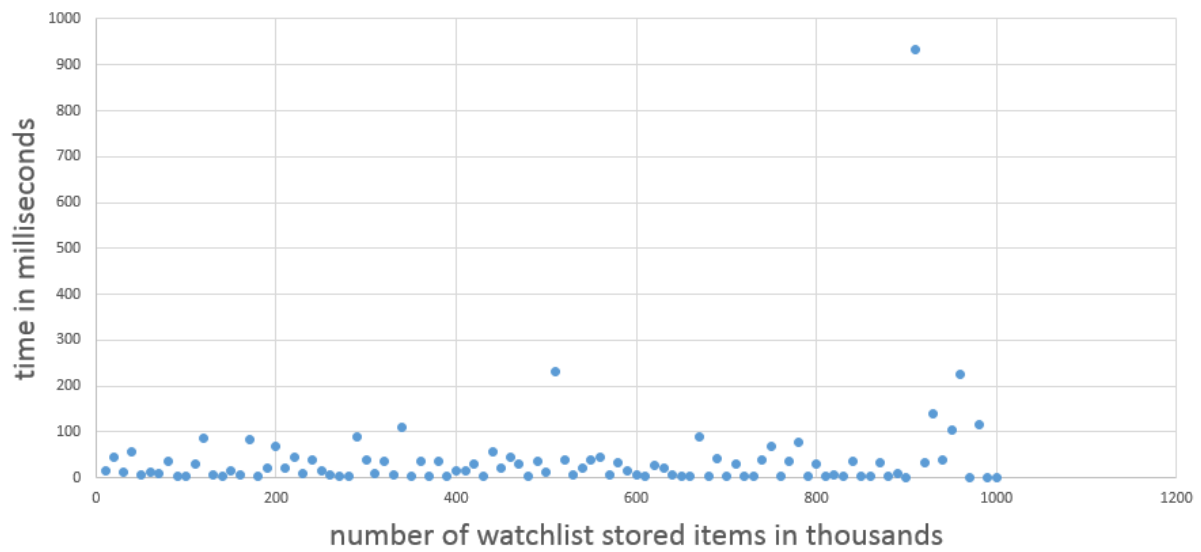




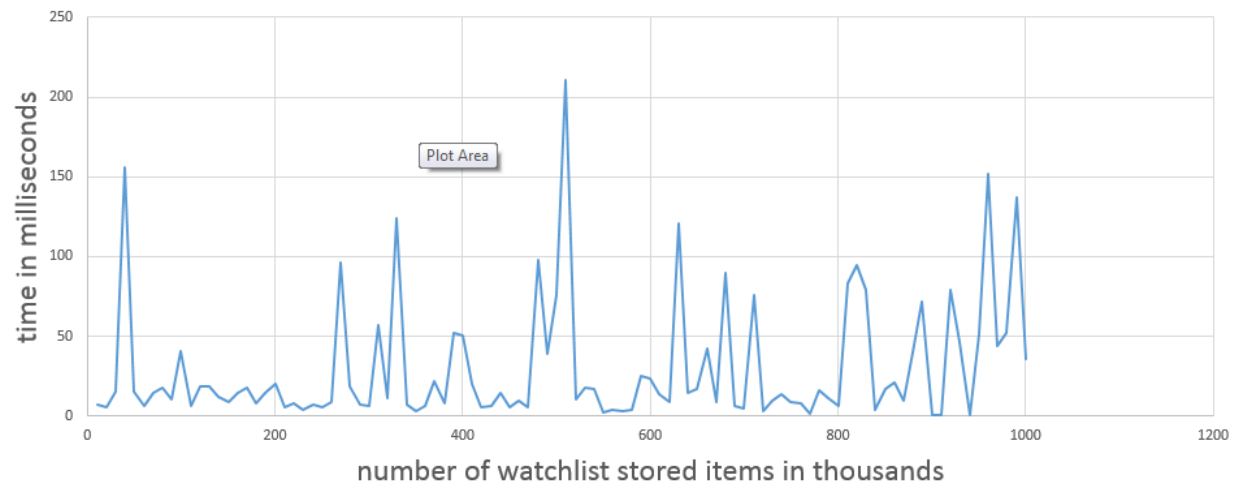
Server's response to removing a random item from items watchlist



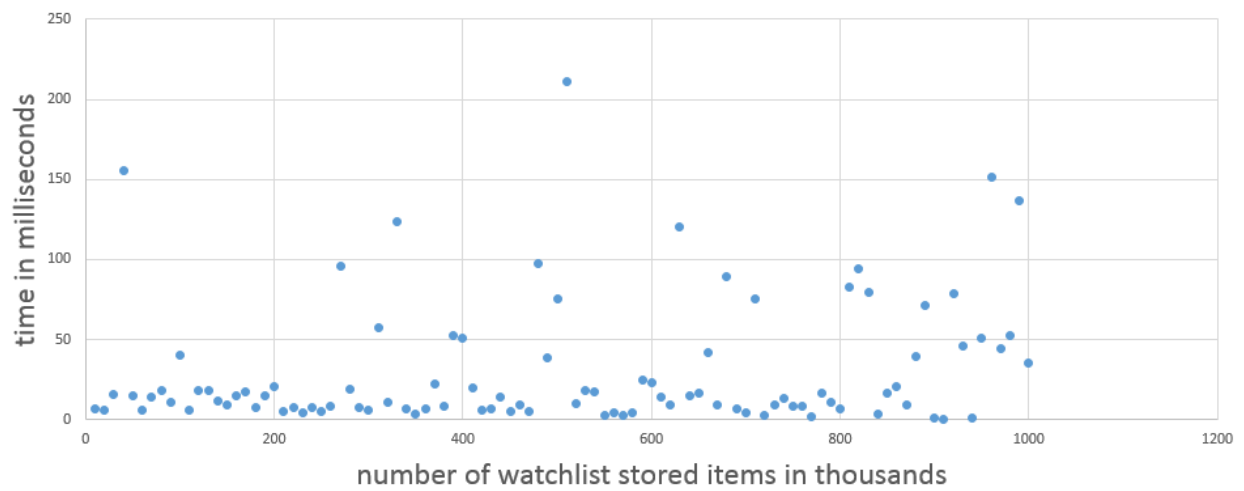
Server's response to removing a random item from items watchlist



Server's response to checking a random watchlist item



Server's response to checking a random watchlist item



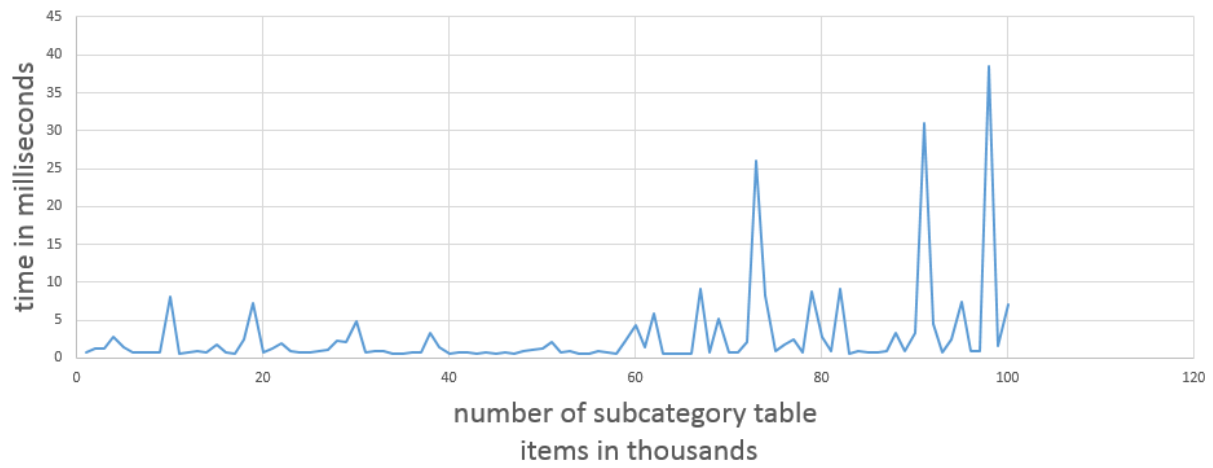
Server's response to adding a random item to items watchlist



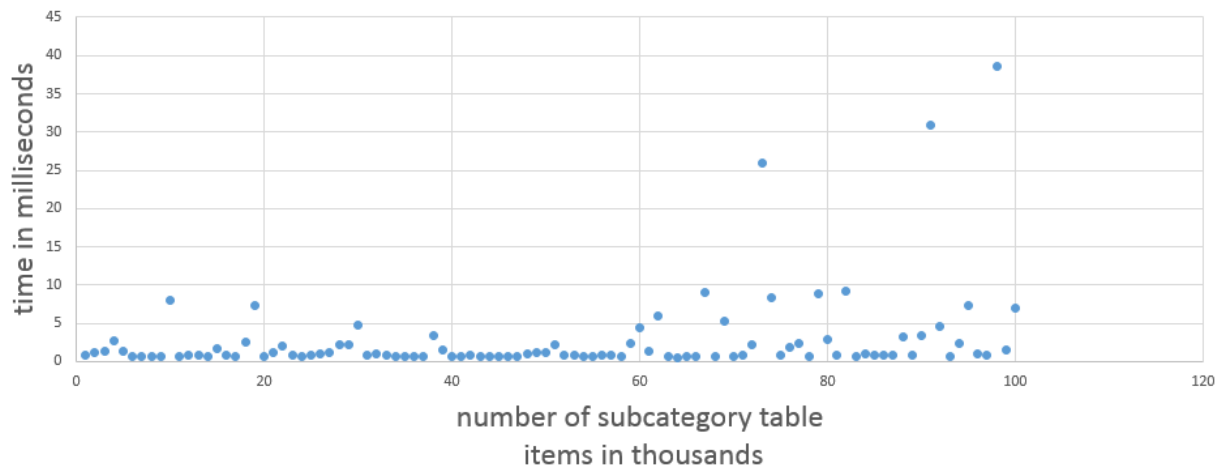
Server's response to adding a random item to items watchlist



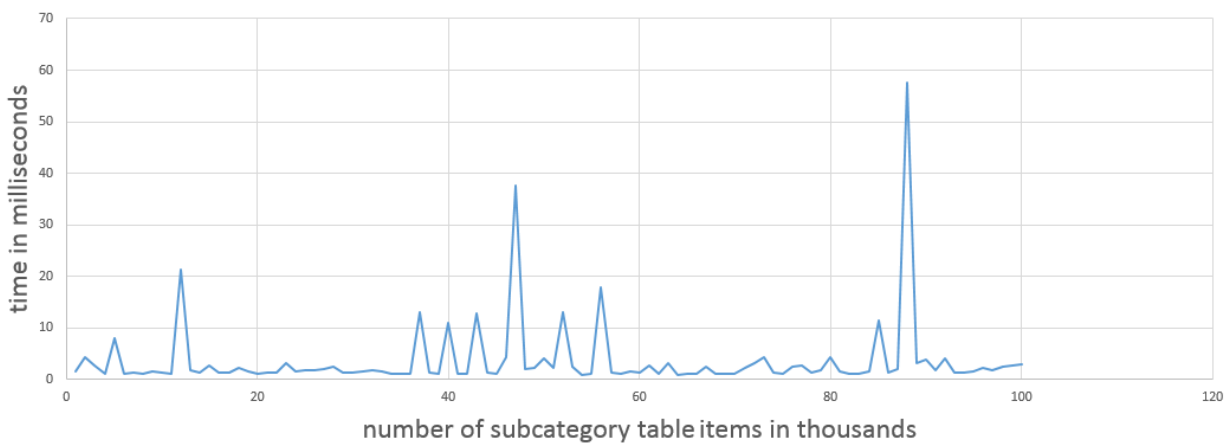
Server's response to fetching a random item from a subcategory table



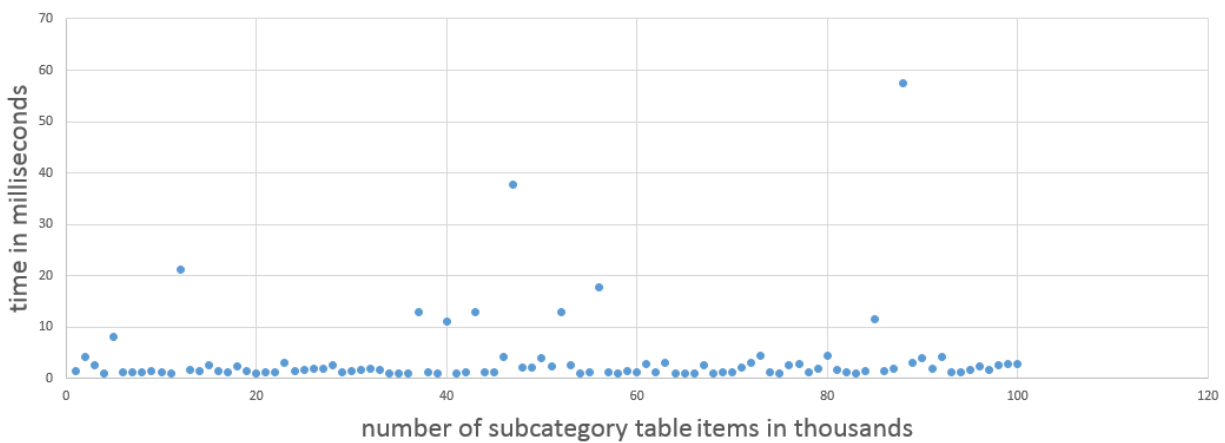
Server's response to fetching a random item from a subcategory table



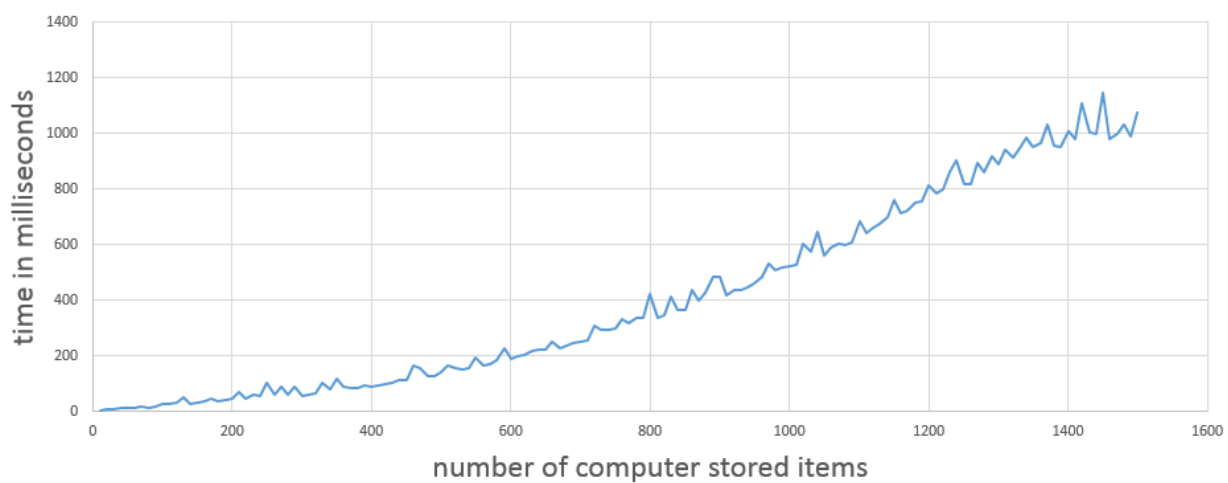
Server's response to fetching 10 items from a subcategory table with an offset of 1000



Server's response to fetching 10 items from a subcategory table with an offset of 1000



Server's response to custom search matching over 25 computer item features



Server's response to custom search matching over 25 computer item features

