

Project Group 1

Jie Feng
Telvin Zhong
Yiman Liu

Sprint 1

Trello Link:

<https://trello.com/b/ytqCp3R9/2021-cs5500-full-summer>

Github Link:

<https://github.com/telvinzhong/Java-Database-Analytics>

User Stories:

1. user wishes to receive a subset of the data limited by location, so he or she inputs a restriction (Latitude above a certain coordinate) and the output is the set of data matching this (4 points)
2. the user wishes to get data directly from the dataset, such as how long he or she spent walking on a particular day. He or she enters the date and receives the number representing the time they spent walking that day (3 points)
3. A user may want to be able to be able to modify existing data and add new data points (2 points)
4. A user wants to receive a subset of the data limited by location, so he/she inputs a restriction (Latitude above a certain coordinate) and the output is the set of data matching this(4 points)
5. The user wants to get data directly from the dataset, such as how long he/she spent on a certain activity, such as walking or cycling on a particular day, how many calories he/she burns off on a certain day(3 points)
6. A user may want to be able to be able to modify existing data and add new data points (2 points)

User be able to modify existing data examples:

```
db.storyline.updateOne({ "date": "20130209"},{$push: {"summary":{"activity":  
"running"},"group":"walking" }}})
```

```
_id: ObjectId("60e08df11e397957a399bf35")  
date: "20130209"  
summary: Array  
  > 0: Object  
  > 1: Object  
  > 2: Array  
    > 0: Object  
      activity: "running"  
    > 1: Object  
      group: "walking"  
segments: Array  
caloriesIdle: 1439  
lastUpdate: "20150402T225557Z"
```

```
db.storyline.updateOne({ "date": "20130209"},{$push: {"summary":{"activity":  
"running" "group":"walking" }}})
```

```
_id: ObjectId("60e08df11e397957a399bf35")  
date: "20130209"  
summary: Array  
  > 0: Object  
  > 1: Object  
  > 2: Object  
    activity: "running"  
    group: "walking"  
segments: Array  
caloriesIdle: 1439  
lastUpdate: "20150402T225557Z"
```

```
db.storyline.updateOne({ "date": "20130209"},{$push: {"summary": "sa.hello" }})
```

```
_id: ObjectId("60e08df11e397957a399bf35")
date: "20130209"
summary: Array
  > 0: Object
  > 1: Object
  > 2: Object
  > 3: "sa.hello"
segments: Array
caloriesIdle: 1439
lastUpdate: "20150402T225557Z"
```

```
db.storyline.updateOne({ "date": "20130209"},{$unset: {"delete": 1}})
```

Query from database: how many calories a user burn off on a certain day.

storyline.storyline

DOCUMENTS 1.6k TOTAL SIZE 10.3MB AVG. SIZE 6.4KB INDEXES 1 TOTAL SIZE 36.0KB AVG. SIZE 36.0KB

Documents Aggregations Schema Explain Plan Indexes Validation

FILTER { date: "20130211" } **PROJECT** { "summary.calories": 1 } **SORT** { field: -1 } or [['field', -1]] **MAX TIME MS** 60000 **COLLATION** { locale: 'simple' } **SKIP** 0 **LIMIT** 0

FIND **RESET** **↺** **...**

VIEW **{} {} {}** Displaying documents 1 - 1 of 1 **REFRESH**

```
_id: ObjectId("60e4a45520286da1cb688042")
summary: Array
  > 0: Object
    calories: 203
  > 1: Object
```

Query from database: how long an activity take on a certain day.

storyline.storyline

DOCUMENTS 1.6k TOTAL SIZE 10.3MB AVG. SIZE 6.4KB INDEXES 1 TOTAL SIZE 36.0KB AVG. SIZE 36.0KB

Documents Aggregations Schema Explain Plan Indexes Validation

FILTER { date: "20130211" } **OPTIONS** **FIND** **RESET** **↺** **...**

PROJECT { "summary.duration": 1 }

SORT { field: -1 } or [['field', -1]] **MAX TIME MS** 60000

COLLATION { locale: 'simple' } **SKIP** 0 **LIMIT** 0

VIEW **{} {} {}** Displaying documents 1 - 1 of 1 **REFRESH**

```
{
  "_id": ObjectId("60e4a45520286da1cb688042"),
  "summary": Array
    0: Object
      duration: 3552
    1: Object

```

Our storyline.json in MongoDB:

cooker.storyline Documents

cooker.storyline

DOCUMENTS 1.6k TOTAL SIZE 10.2MB AVG. SIZE 6.4KB INDEXES 1 TOTAL SIZE 28.0KB AVG. SIZE 28.0KB

Documents Aggregations Schema Explain Plan Indexes Validation

FILTER { field: 'value' } **OPTIONS** **FIND** **RESET** **↺** **...**

ADD DATA **VIEW** **{} {} {}** Displaying documents 1 - 20 of 1644 **REFRESH**

```
{
  "_id": ObjectId("60e08df11e397957a399bf35"),
  "date": "20130209",
  "summary": Array
  "segments": Array
  "caloriesIdle": 1439
  "lastUpdate": "20140801T025557Z"
}

{
  "_id": ObjectId("60e08df11e397957a399bf36"),
  "date": "20130210",
  "summary": Array
  "segments": Array
  "caloriesIdle": 1439
  "lastUpdate": "20140801T025223Z"
}

{
  "_id": ObjectId("60e08df11e397957a399bf37"),
  "date": "20130211",
  "summary": Array
  "segments": Array
  "caloriesIdle": 1439
  "lastUpdate": "20140801T025223Z"
}

{
  "_id": ObjectId("60e08df11e397957a399bf38"),
  "date": "20130212",
  "summary": Array
  "segments": Array
  "caloriesIdle": 1439
  "lastUpdate": "20140801T025223Z"
}
```

Code analysis :

