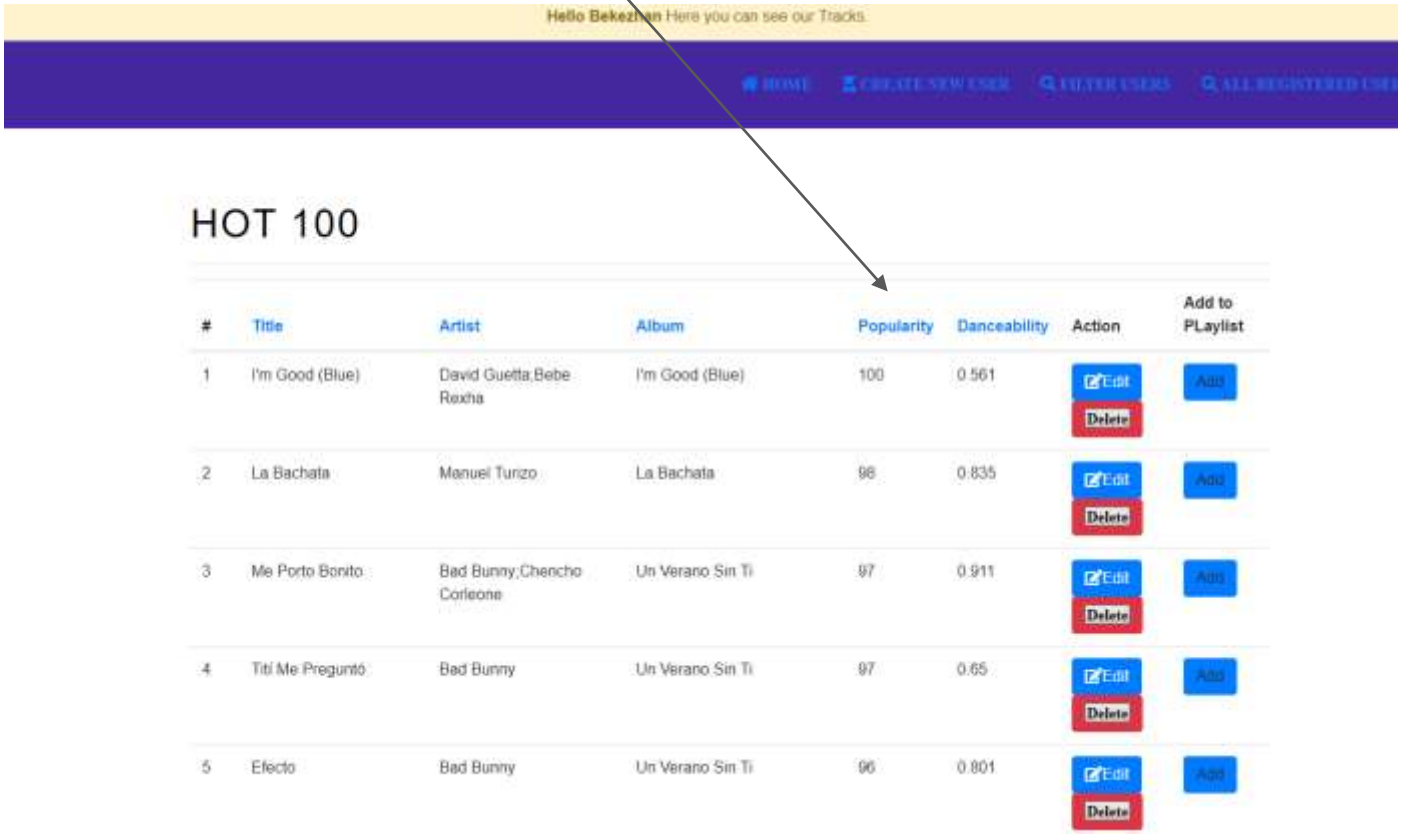
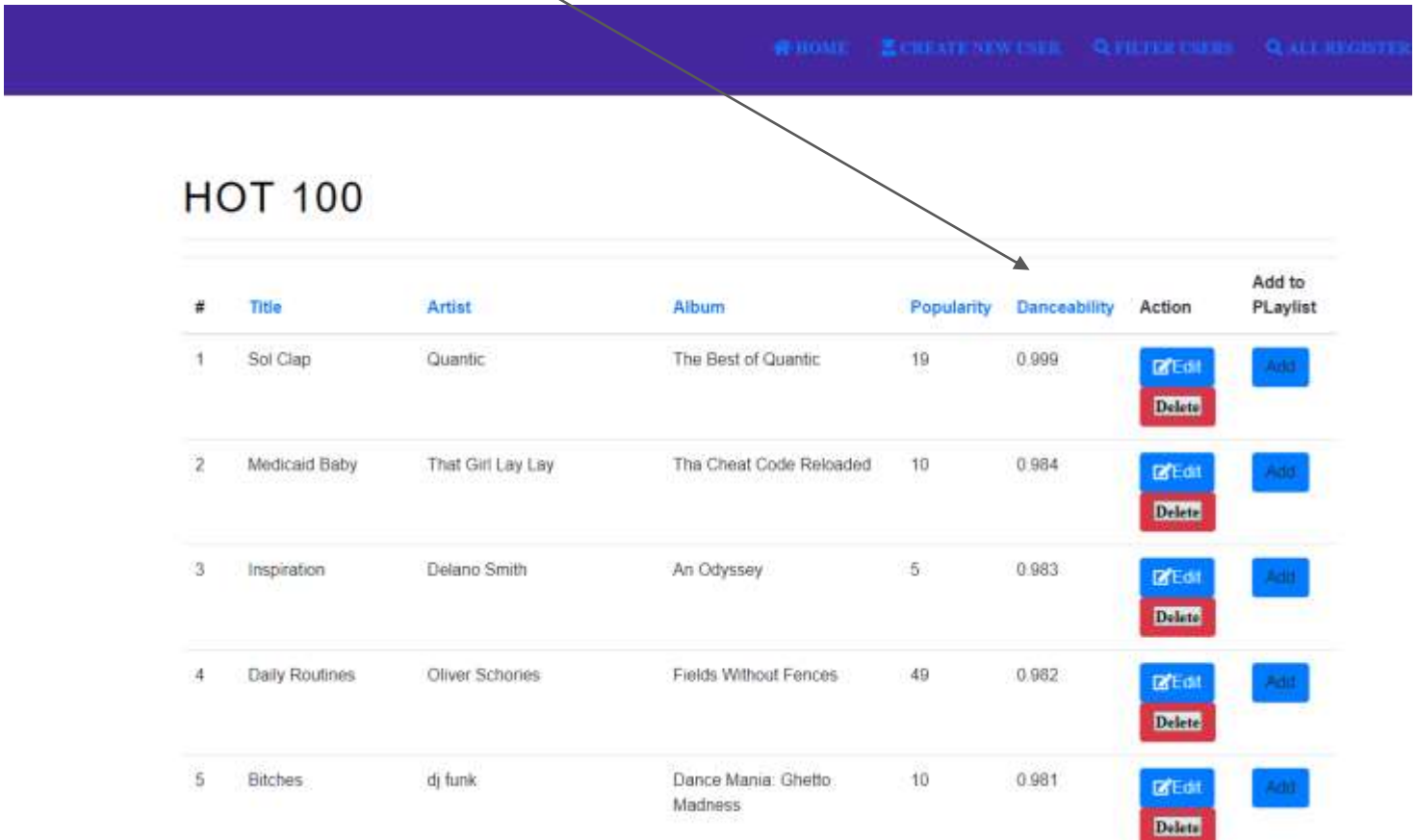
# Bekezhan Abdykarimov

2020297

1)Reading the Spotify Tracks dataset.
( By default it sorted by Track popularity, on the next slide we gonna sort it by danceability)



2)Now it sorted by Danceability:



3) Edit Track Page, where user can change track's data, it has validation for all fields, so it won't be possible to leave it blank or put a String in the Popularity section for example

# Edit Track

Artist:

Quantic

Album Name:

The Best of Quantic

Track name:

Sol Clap

Danceability:

0.999

Popularity:

19

SAVE BACK

# Edit Track

Artist:

Quantic

Album Name:

The Best of Quantic

Track name:

Sol Clap

Danceability:

0.999

Popularity:

99

SAVE BACK

4) After updating the file user will be redirected to the same page he was before, and now we can see our changes :

# HOT 100

| # | Title | Artist | Album | Popularity | Danceability | Action | Add to PLaylist |
|---|---|---|---|---|---|---|---|
| 1 | I'm Good (Blue) | David Guetta;Bebe Rexha | I'm Good (Blue) | 100 | 0.561 | Edit Delete | Add |
| 2 | Sol Clap | Quantic | The Best of Quantic | 99 | 0.999 | Edit Delete | Add |
| 3 | La Bachata | Manuel Turizo | La Bachata | 98 | 0.835 | Edit Delete | Add |
| 4 | Tití Me Preguntó | Bad Bunny | Un Verano Sin Ti | 97 | 0.65 | Edit Delete | Add |
| 5 | Me Porto Bonito | Bad Bunny;Chencho | Un Verano Sin Ti | 97 | 0.911 | Edit | Add |

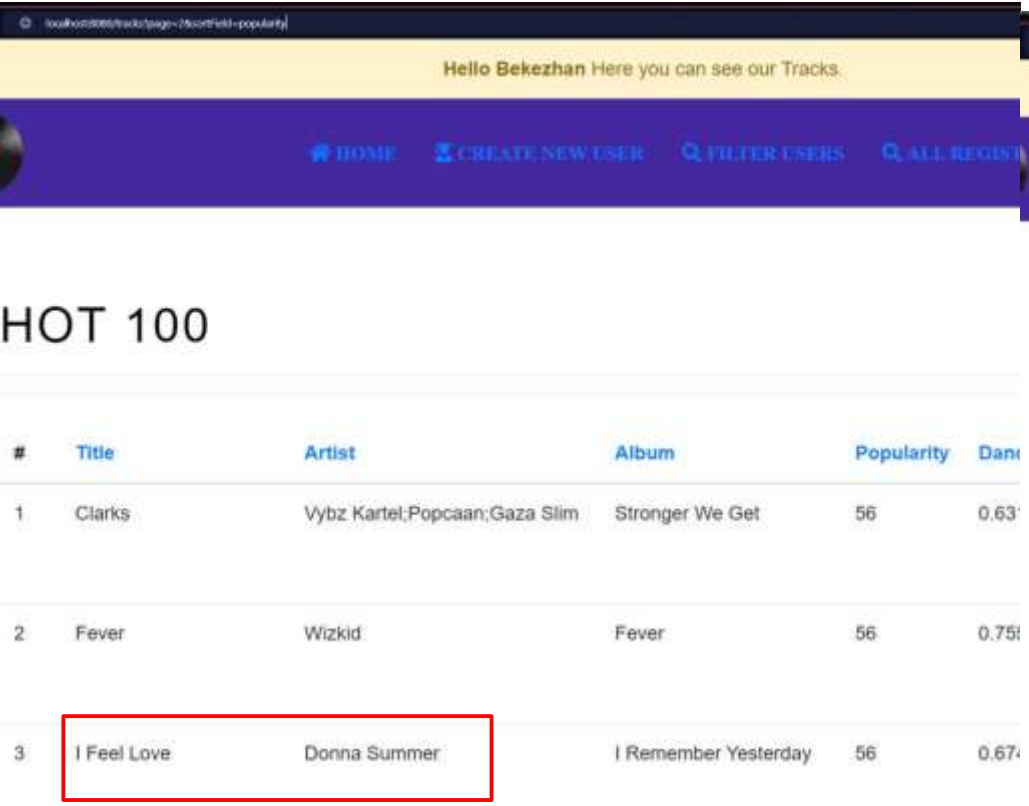
5) Navigation buttons that helps user to navigate through the dataset, plus makes it easier and faster to load the data from the Database

| | | |
|---|---|---|
| 99 | Mi Gente (feat. Beyoncé) | J Balvin;Willy William;Beyoncé |
| 100 | Know me | GEMINI |

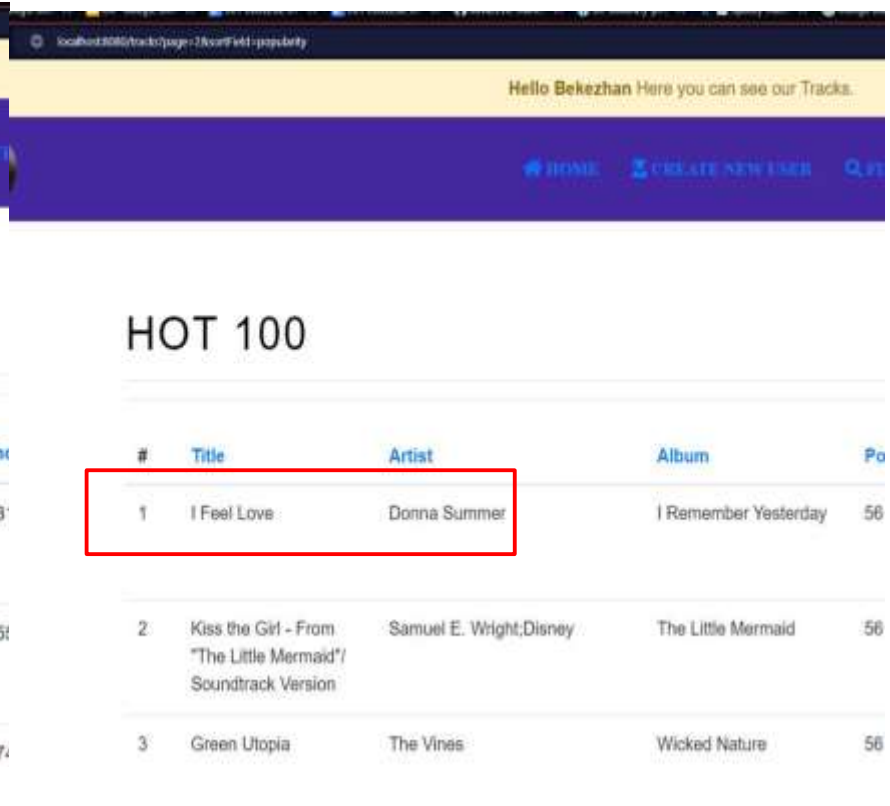
<< < 1 >

6) On this slide we have deleted first 2 songs, so now song#3 will become #1:

Before:



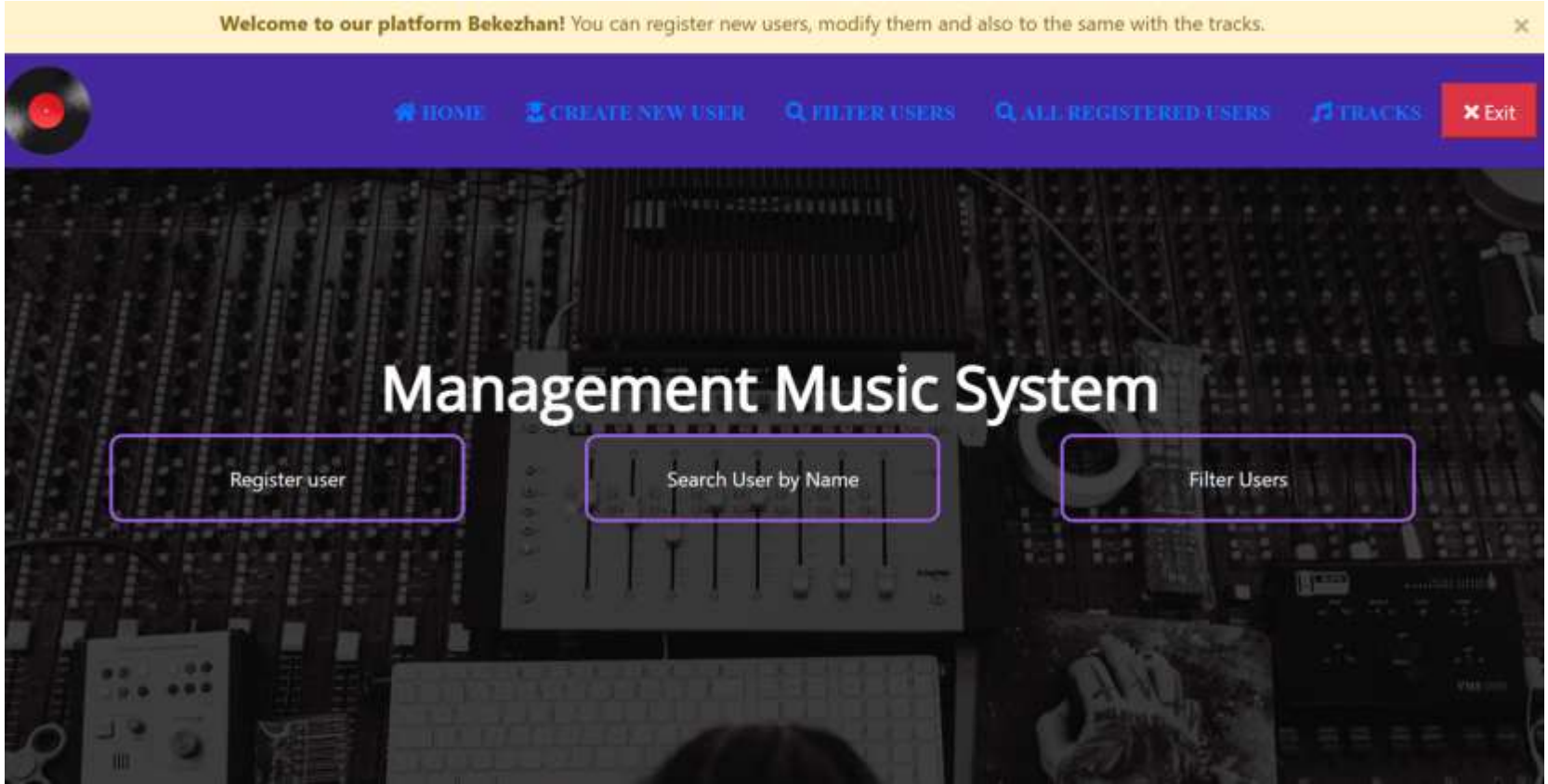

After:



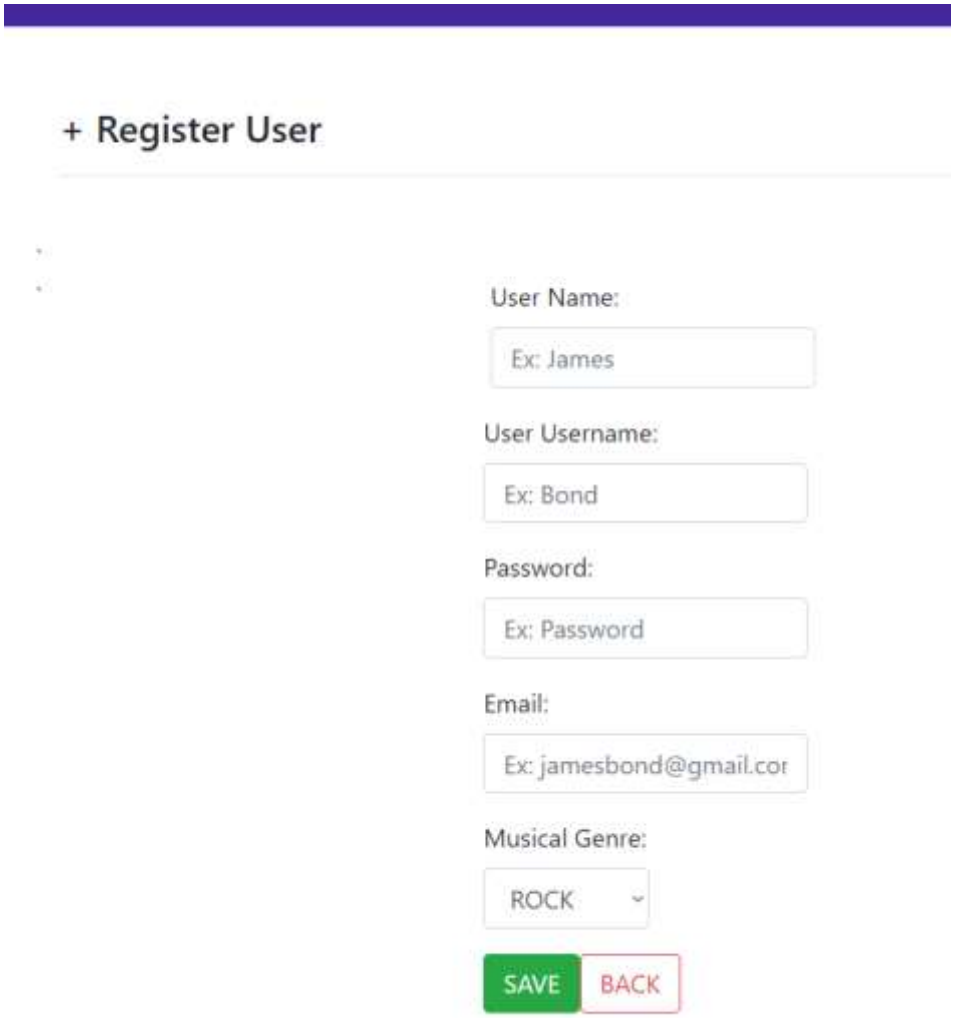
# Jefferson De Oliveira Lima

2020373

1) Home page:

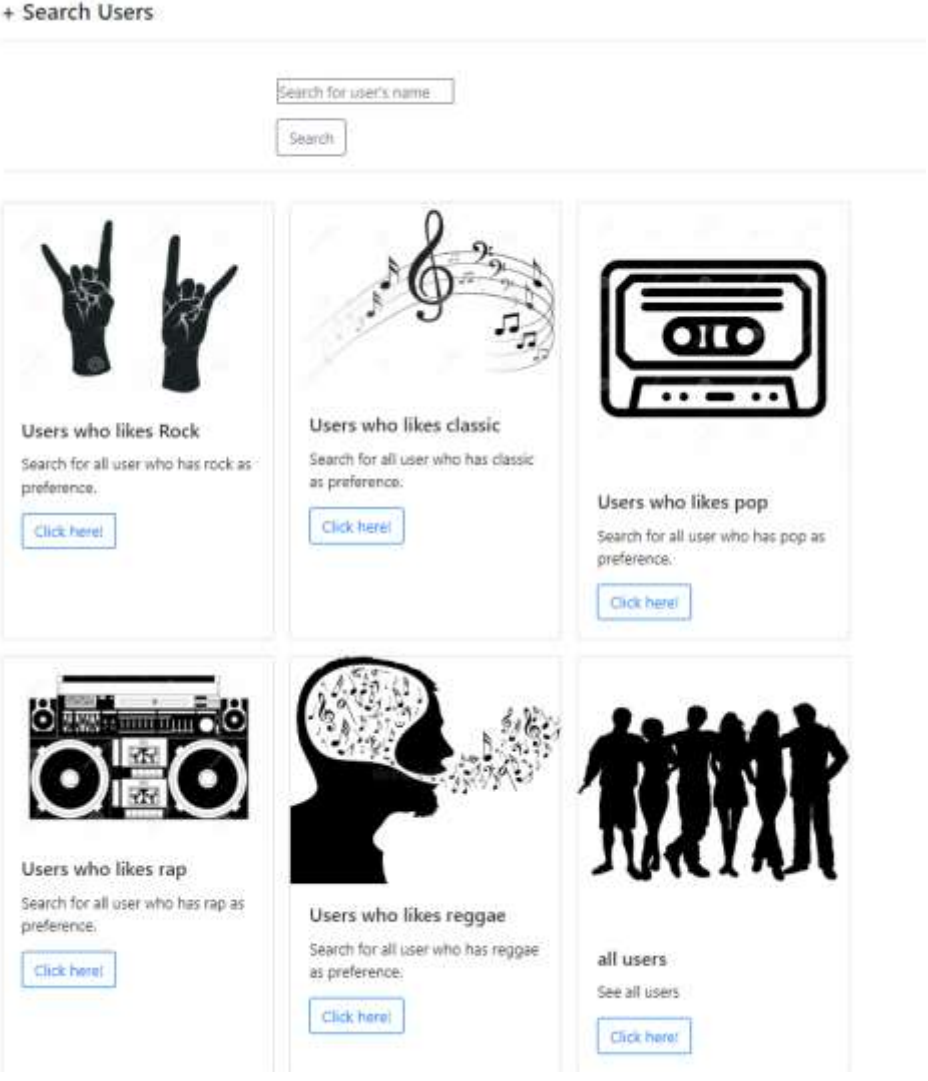

Welcome to our platform Bekezhan! You can register new users, modify them and also to the same with the tracks.
HOME
CREATE NEW USER
FILTER USERS
ALL REGISTERED USERS
TRACKS
Exit
Management Music System
Register user
Search User by Name
Filter Users

# 2) User Registration Form:

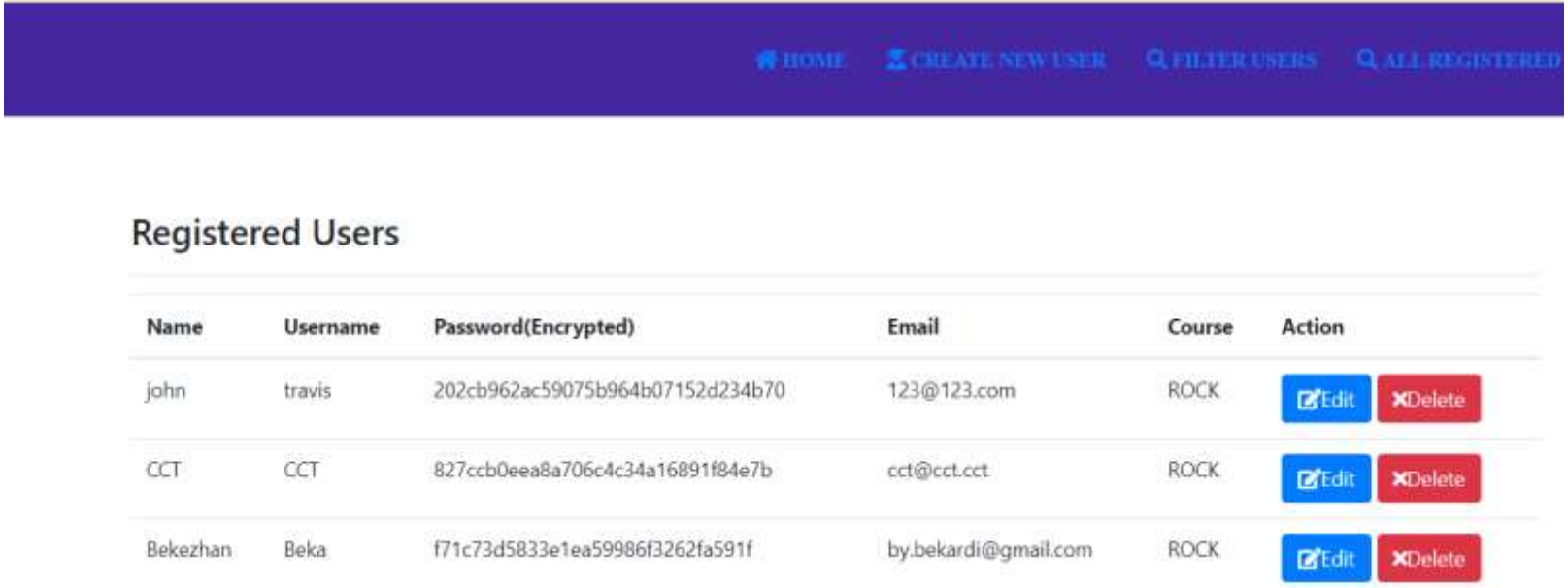


# 3) User Search page:

Here Users can search for the other users by their name, or favourite music genre:

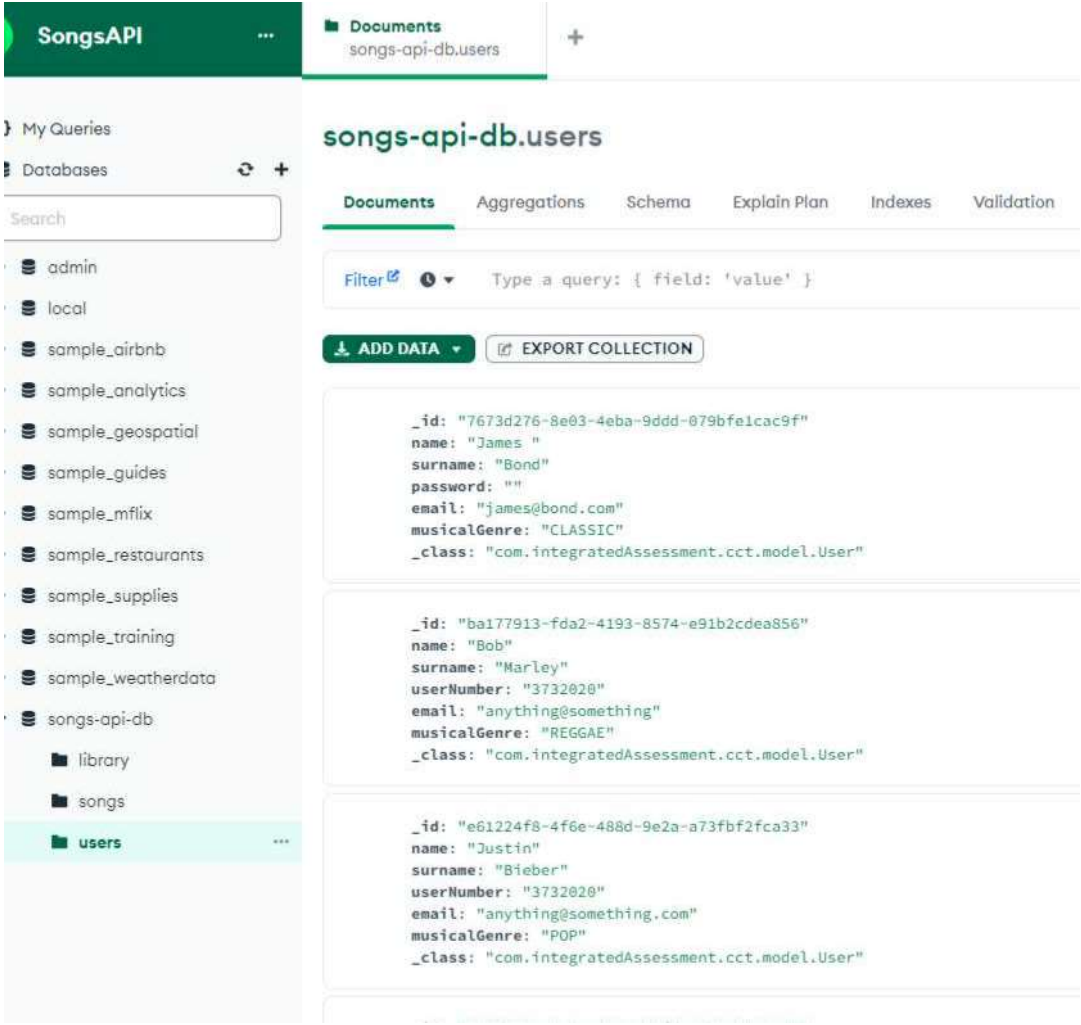


4) Registered Users Page, were we can perform CRUD operations on them:



# 5) Mongo DB

Created a collection “users” to store all the registered users:



# Daniel Bezerra Martellini

2020356

1- imported CSV dataset to Hadoop

```
hduser@integratedCA:~$ hadoop fs -put ./dataset.csv /user1
```

2- Executed MapReduce

```
hduser@integratedCA:~/Desktop/Hadoop$ hadoop jar $HADOOP_HOME/share/hadoop/tools
/lib/hadoop-streaming-3.2.4.jar  -mapper ./mymapper.py  -reducer ./myreducer.py
-input /user1/datasetupdated.csv -output /out111
2023-05-06 01:16:28,458 INFO impl.MetricsConfig: Loaded properties from hadoop-m
etrics2.properties
2023-05-06 01:16:28,543 INFO impl.MetricsSystemImpl: Scheduled Metric snapshot p
eriod at 10 second(s).
```

3- Mapper.py

Open *mymapper.py ~/Desktop/Hadoop

*mymapper.py myreducer.py

```python
#!/usr/bin/env python3
import sys

# which column want to map and reduce
column_index = 21
delimiter = ","


for line in sys.stdin:

    # Split the line
    data = line.strip().split(delimiter

    # If the column has data
    if len(data) > column_index:


        value = data[column_index].stri


        print(f"{value}\t1")
```

4- reducer.py

Open myreducer.py ~/Desktop/Hadoop Save

mymapper.py myreducer.py reducer.py

```python
#!/usr/bin/env python3

import sys

current_value = None
current_count = 0

for line in sys.stdin:
    line = line.strip()
    if "\t" in line:
        value, count = line.split("\t")
    elif "," in line:
        value, count = line.split(",")
    else:
        continue

    if current_value != value:
        if current_value is not None:
            print("%s\t%d" % (current_value, current_count))
        current_value = value
        current_count = 0

    current_count += int(count)

if current_value is not None:
    print("%s\t%d" % (current_value, current_count))
```

5- Part of my MapReduce output:

```
Zumbis no Espaço        1
Zuris   1
Zuukou mayzie   1
Zuukou mayzie;Tom Hardy 1
Zuukou mayzie;Vickie Cherie     1
Zvláštný škola   2
Zwette;Tom Rosenthal    1
Zyon    1
Zyrtck;Radical;Mothz    1
Zé Bigode Orquestra     2
Zé Bigode Orquestra;Guinu       1
Zé Cantor;Avine Vinny   1
Zé Cantor;Luan Estilizado       1
Zé Cantor;Raí Saia Rodada       2
Zé Felipe & Miguel;Paraná       1
Zé Henrique & Gabriel   5
Zé Henrique & Gabriel;Marília Mendonça  1
Zé Keti 1
Zé Ramalho      25
Zé Ramalho;Andreas Kisser       1
Zé Ramalho;Elba Ramalho 1
Zé Ramalho;Geraldo Azevedo      1
Zé Ramalho;Paulinho Moska       2
Zé Ricardo & Thiago     1
Zé Vaqueiro     20
Zé Vaqueiro Estilizado  3
Zé Vaqueiro;Dilsinho    1
Zé Vaqueiro;Vitor Fernandes     1
Zélia Duncan    7
```

1- Importing my CSV file from Hadoop and creating a database in mongoDB with it:

Daniel Bezerra Martellini

```
hduser@integratedCA:~$ hadoop fs -cat /user1/dataset.csv | mongoimport --db mydb --colle
ction mycollection --type csv --headerline
2023-05-06T00:24:30.599+0100    connected to: mongodb://localhost/
2023-05-06T00:24:33.599+0100    mydb.mycollection       9.18MB
2023-05-06T00:24:36.600+0100    mydb.mycollection       19.2MB
2023-05-06T00:24:36.686+0100    mydb.mycollection       19.2MB
2023-05-06T00:24:36.686+0100    114000 document(s) imported successfully. 0 document(s)
failed to import.
```

2- Successfully create database with desired parameters:

```
> db.mycollection.find().pretty()
{
        "_id" : ObjectId("6455902e05219e80871f2944"),
        "" : 0,
        "track_id" : "5SuOikwiRyPMVoIQDJUgSV",
        "artists" : "Gen Hoshino",
        "album_name" : "Comedy",
        "track_name" : "Comedy",
        "popularity" : 73,
        "duration_ms" : 230666,
        "explicit" : "False",
        "danceability" : 0.676,
        "energy" : 0.461,
        "key" : 1,
        "loudness" : -6.746,
        "mode" : 0,
        "speechiness" : 0.143,
        "acousticness" : 0.0322,
        "instrumentalness" : 0.00000101,
        "liveness" : 0.358,
        "valence" : 0.715,
        "tempo" : 87.917,
        "time_signature" : 4,
        "track_genre" : "acoustic"
}
```

Daniel Bezerra Martellini

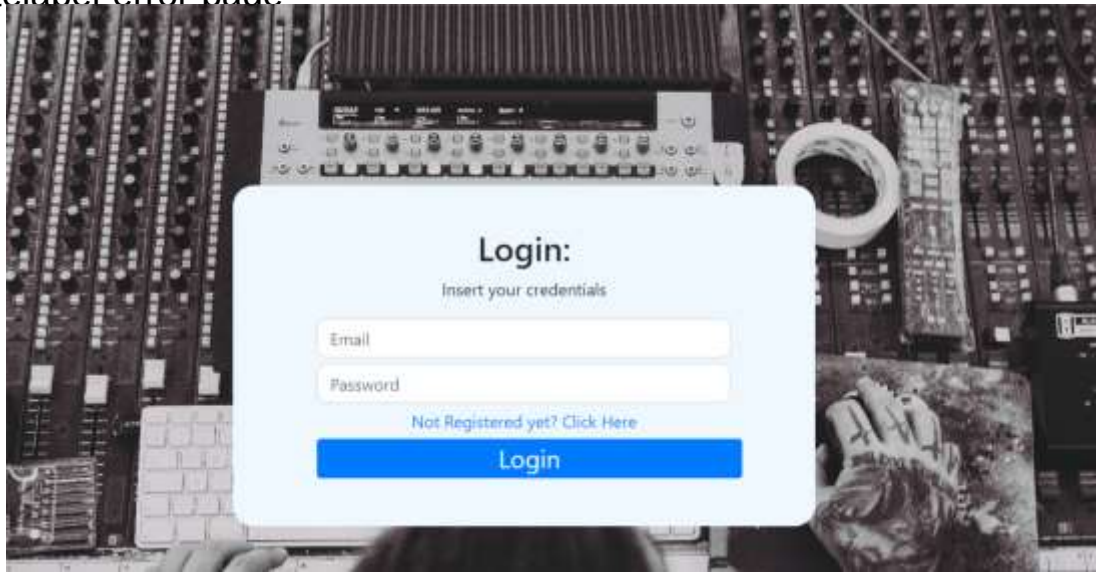
1- Tested MongoDB with preloaded workload, then edited preoloadb to test it with 10,000 rows instead of 1,000

```
Command line: -load -db site.ycsb.db.MongoDbClient -s -P workloads/workloa
YCSB Client 0.17.0

Loading workload...
Starting test.
2023-05-06 01:55:48:078 0 sec: 0 operations; est completion in 0 second
mongo client connection created with mongodb://localhost:27017/ycsb?w=1
DBWrapper: report latency for each error is false and specific error codes
are: []
2023-05-06 01:55:50:126 2 sec: 10000 operations; 4816.96 current ops/sec;
=2211, Min=2210, Avg=2211, 90=2211, 99=2211, 99.9=2211, 99.99=2211] [INSER
4063, Min=85, Avg=166.88, 90=255, 99=608, 99.9=4071, 99.99=14135]
[OVERALL], RunTime(ms), 2077
[OVERALL], Throughput(ops/sec), 4814.6364949446315
[TOTAL_GCS_PS_Scavenge], Count, 5
[TOTAL_GC_TIME_PS_Scavenge], Time(ms), 20
[TOTAL_GC_TIME_%_PS_Scavenge], Time(%), 0.9629272989889264
[TOTAL_GCS_PS_MarkSweep], Count, 0
[TOTAL_GC_TIME_PS_MarkSweep], Time(ms), 0
[TOTAL_GC_TIME_%_PS_MarkSweep], Time(%), 0.0
[TOTAL_GCs], Count, 5
[TOTAL_GC_TIME], Time(ms), 20
[TOTAL_GC_TIME_%], Time(%), 0.9629272989889264
[CLEANUP], Operations, 1
[CLEANUP], AverageLatency(us), 2211.0
[CLEANUP], MinLatency(us), 2210
[CLEANUP], MaxLatency(us), 2211
[CLEANUP], 95thPercentileLatency(us), 2211
[CLEANUP], 99thPercentileLatency(us), 2211
[INSERT], Operations, 10000
[INSERT], AverageLatency(us), 166.8767
[INSERT], MinLatency(us), 85
[INSERT], MaxLatency(us), 104063
[INSERT], 95thPercentileLatency(us), 338
[INSERT], 99thPercentileLatency(us), 608
[INSERT], Return=OK, 10000
hduser@integratedCA:~/ycsb-0.17.0$
```

```
# Copyright (c) 2010 Yahoo! Inc. All rights reserved.
#
# Licensed under the Apache License, Version 2.0 (the "License"); you
# may not use this file except in compliance with the License. You
# may obtain a copy of the License at
#
# http://www.apache.org/licenses/LICENSE-2.0
#
# Unless required by applicable law or agreed to in writing, software
# distributed under the License is distributed on an "AS IS" BASIS,
# WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
# implied. See the License for the specific language governing
# permissions and limitations under the License. See accompanying
# LICENSE file.


# Yahoo! Cloud System Benchmark
# Workload A: Update heavy workload
#   Application example: Session store recording recent actions
#
#   Read/update ratio: 50/50
#   Default data size: 1 KB records (10 fields, 100 bytes each, plus key)
#   Request distribution: zipfian

recordcount=10000
operationcount=1000
workload=site.ycsb.workloads.CoreWorkload

readallfields=true

readproportion=0.5
updateproportion=0.5
```

Daniel Bezerra Martellini

1- Created the whole login system, user service class, handled exceptions and customized whitelabel error page




Daniel Bezerra Martellini

1- YCSB in MongoDB for 100,000 record, compared to time took on MySQL (Right Figure), mongoDB was significantly faster.

```
hduser@integratedCA: ~
  GNU nano 6.2                    output-workloadB100000
/usr/bin/java  -classpath /home/hduser/ycsb-0.17.0/conf:/hom
mongo client connection created with mongodb://localhost:270
[OVERALL], RunTime(ms), 19559
[OVERALL], Throughput(ops/sec), 5112.735824939926
[TOTAL_GCS_PS_Scavenge], Count, 11
[TOTAL_GC_TIME_PS_Scavenge], Time(ms), 196
[TOTAL_GC_TIME_%_PS_Scavenge], Time(%), 1.0020962216882252
[TOTAL_GCS_PS_MarkSweep], Count, 0
[TOTAL_GC_TIME_PS_MarkSweep], Time(ms), 0
[TOTAL_GC_TIME_%_PS_MarkSweep], Time(%), 0.0
[TOTAL_GCs], Count, 11
[TOTAL_GC_TIME], Time(ms), 196
[TOTAL_GC_TIME_%], Time(%), 1.0020962216882252
[CLEANUP], Operations, 1
[CLEANUP], AverageLatency(us), 15788.0
[CLEANUP], MinLatency(us), 15784
[CLEANUP], MaxLatency(us), 15791
[CLEANUP], 95thPercentileLatency(us), 15791
[CLEANUP], 99thPercentileLatency(us), 15791
[INSERT], Operations, 100000
                                [ Read 26 lines ]
^G Help      ^O Write Out ^W Where Is  ^K Cut       ^T Execu
^X Exit      ^R Read File ^\ Replace   ^U Paste     ^J Justi
connecting to: test
```

```
  GNU nano 6.2                          output_SQL.txt
/usr/bin/java  -classpath /home/hduser/ycsb-0.17.0/conf:/home
Adding shard node URL: jdbc:mysql://localhost:3306/BenchTest
Using shards: 1, batchSize:-1, fetchSize: -1
[OVERALL], RunTime(ms), 763692
[OVERALL], Throughput(ops/sec), 130.9428408311204
[TOTAL_GCS_PS_Scavenge], Count, 124
[TOTAL_GC_TIME_PS_Scavenge], Time(ms), 202
[TOTAL_GC_TIME_%_PS_Scavenge], Time(%), 0.026450453847886322
[TOTAL_GCS_PS_MarkSweep], Count, 0
[TOTAL_GC_TIME_PS_MarkSweep], Time(ms), 0
[TOTAL_GC_TIME_%_PS_MarkSweep], Time(%), 0.0
[TOTAL_GCs], Count, 124
[TOTAL_GC_TIME], Time(ms), 202
[TOTAL_GC_TIME_%], Time(%), 0.026450453847886322
[CLEANUP], Operations, 1
[CLEANUP], AverageLatency(us), 2331.0
[CLEANUP], MinLatency(us), 2330
[CLEANUP], MaxLatency(us), 2331
[CLEANUP], 95thPercentileLatency(us), 2331
[CLEANUP], 99thPercentileLatency(us), 2331
[INSERT], Operations, 100000
[INSERT], AverageLatency(us), 7621.20515
[INSERT], MinLatency(us), 2920
[INSERT], MaxLatency(us), 156415
[INSERT], 95thPercentileLatency(us), 13015
[INSERT], 99thPercentileLatency(us), 18655
[INSERT], Return=OK, 100000
```