

# RacQual Design Review

By The Dream Team

# What is RacQual again?

- Web-based utility for trading tennis racquets.
- Based on racquet quality index.
  - Objective measure of tennis racquet quality.
  - Based on physics.
  - Credit to Wilmot McCutchen.
  - More info: [www.racquetresearch.com](http://www.racquetresearch.com)

# Use Cases

- Compute quality index.
- Create, view, and remove classified listings.
  - Racquets sortable by quality index.
  - Also sortable by mass, length, swingweight, etc.
- Express and receive interest in listing(s).
- Get in touch with seller of any listed racquet.
- Rate/comment on listings/sellers.

# Implementation: Organization

MVC architecture!

→ Model: JavaBeans

    → Backbone for data model.

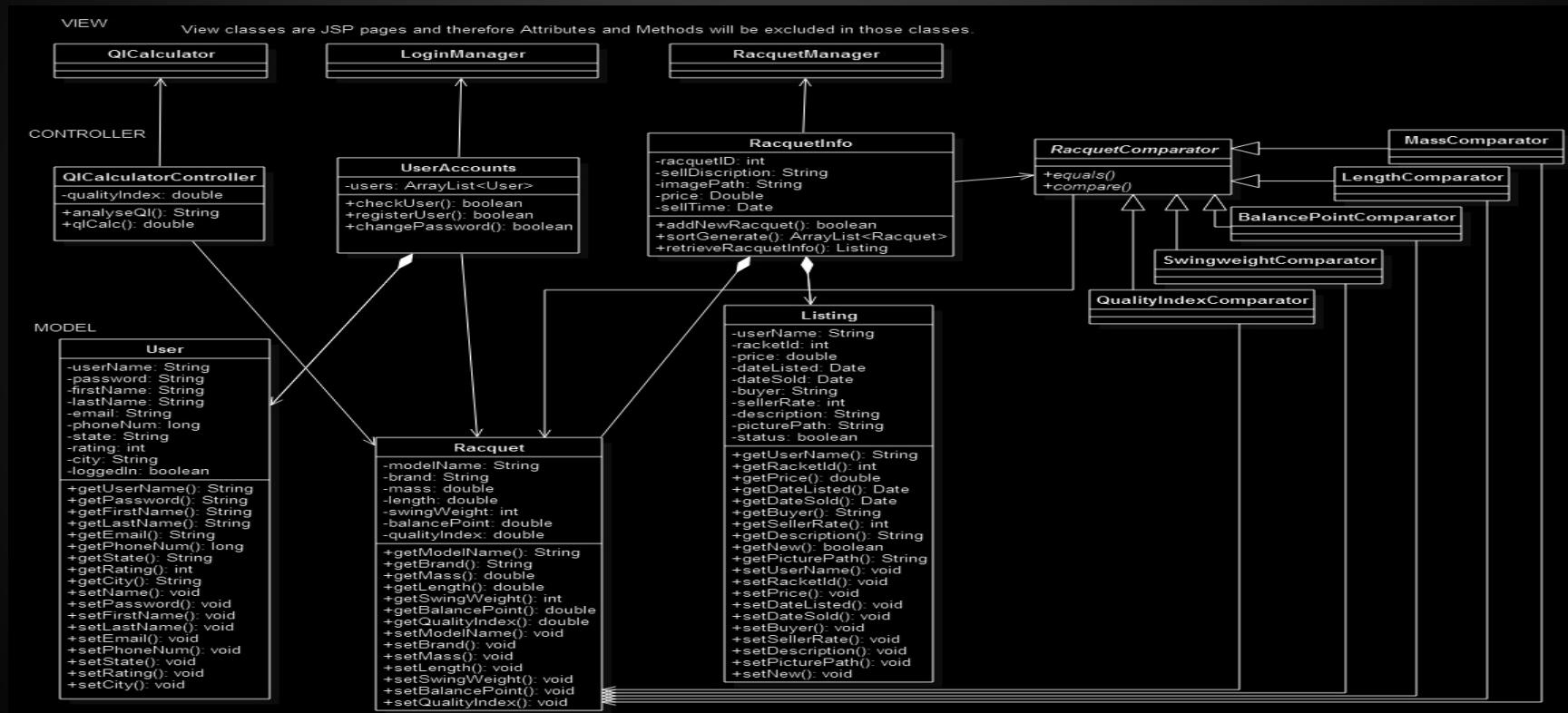
→ View: JSPs

    → Responsible for UI content.

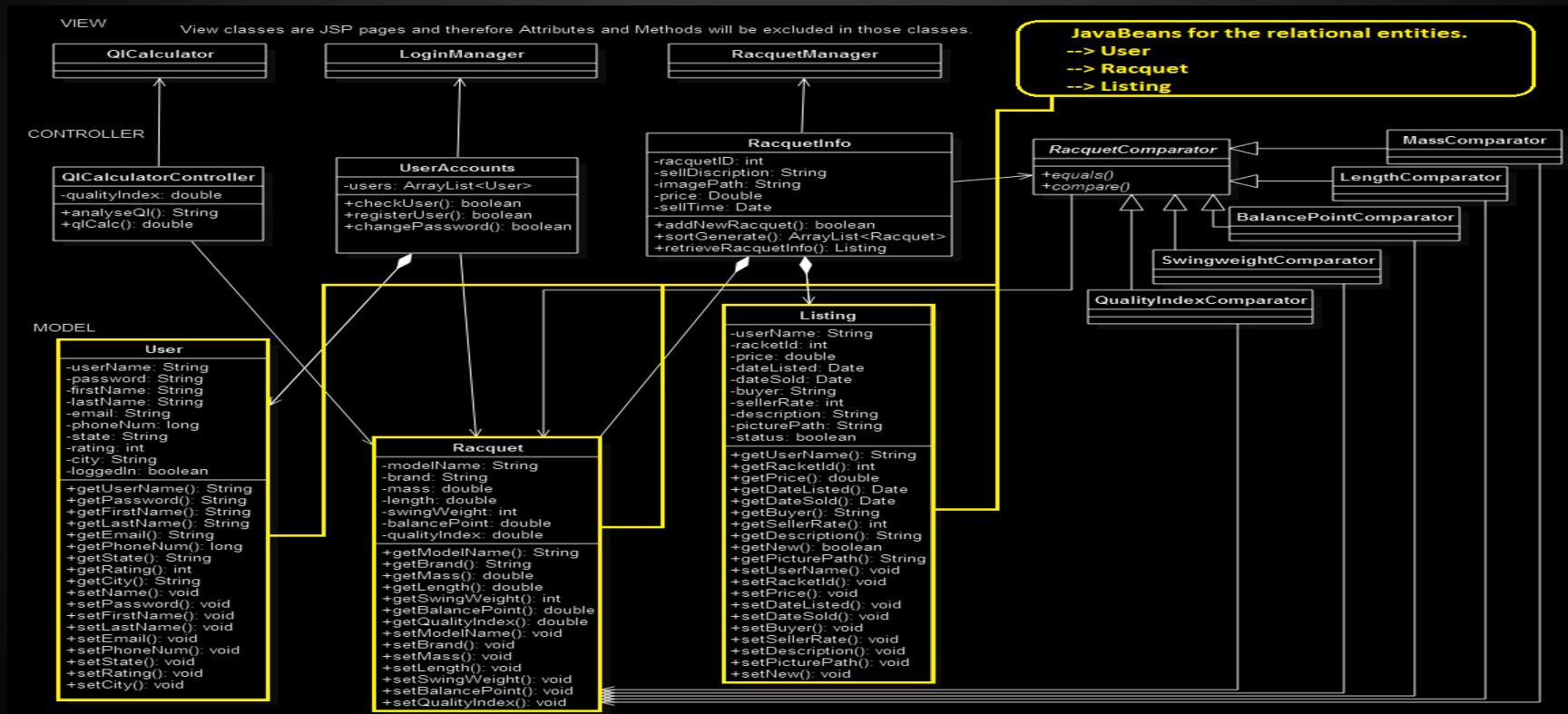
→ Controller: Servlets

    → Bridge.

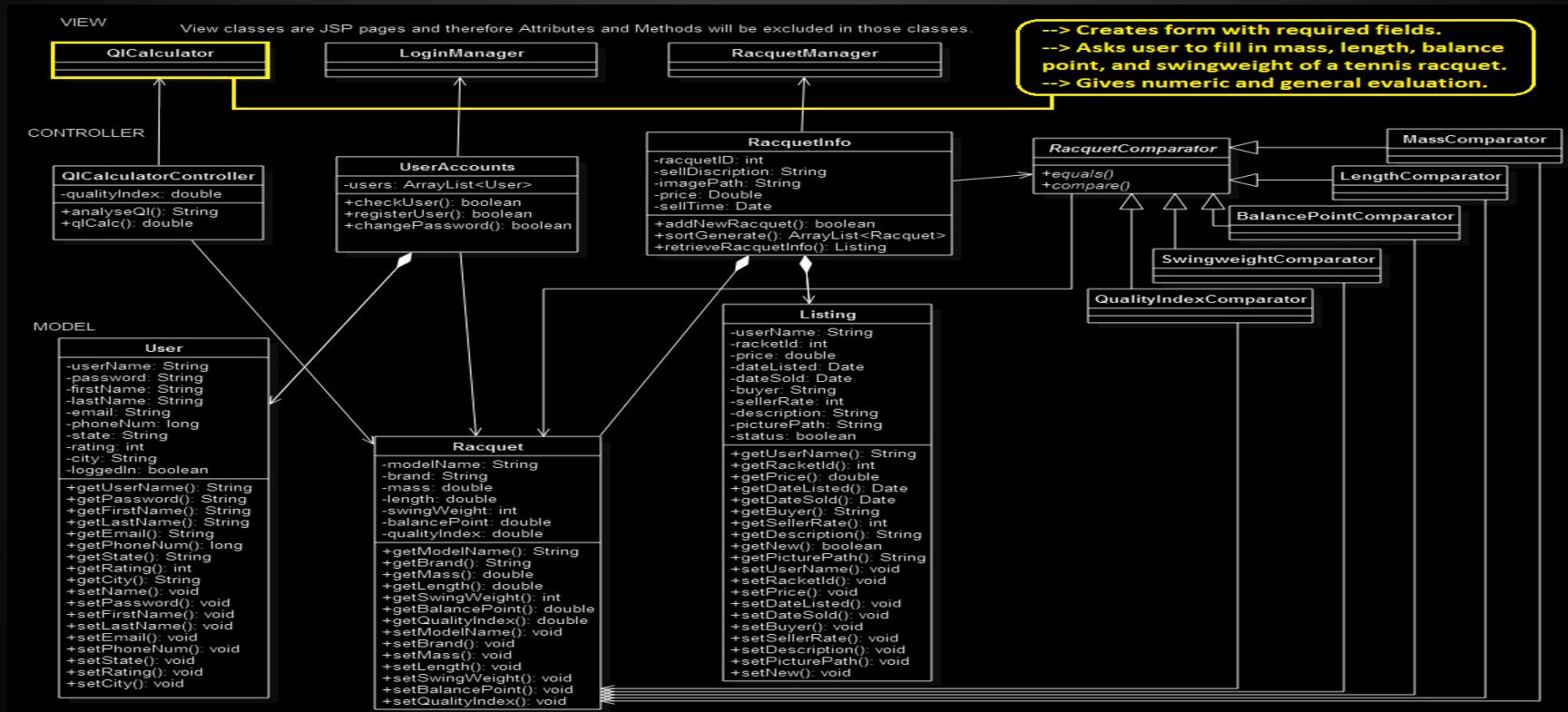
# MVC Design: UML Class Diagram



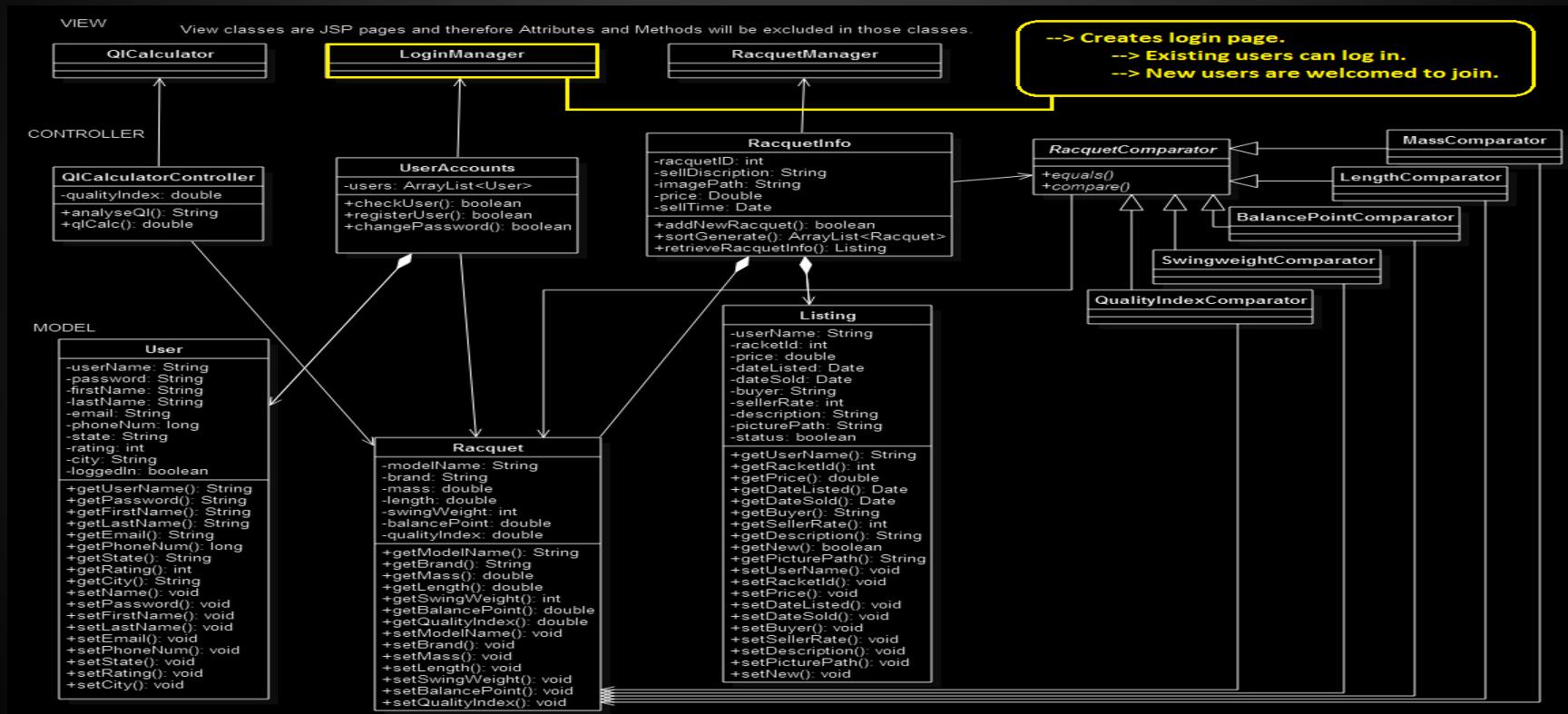
# MVC Details: Classes for Model



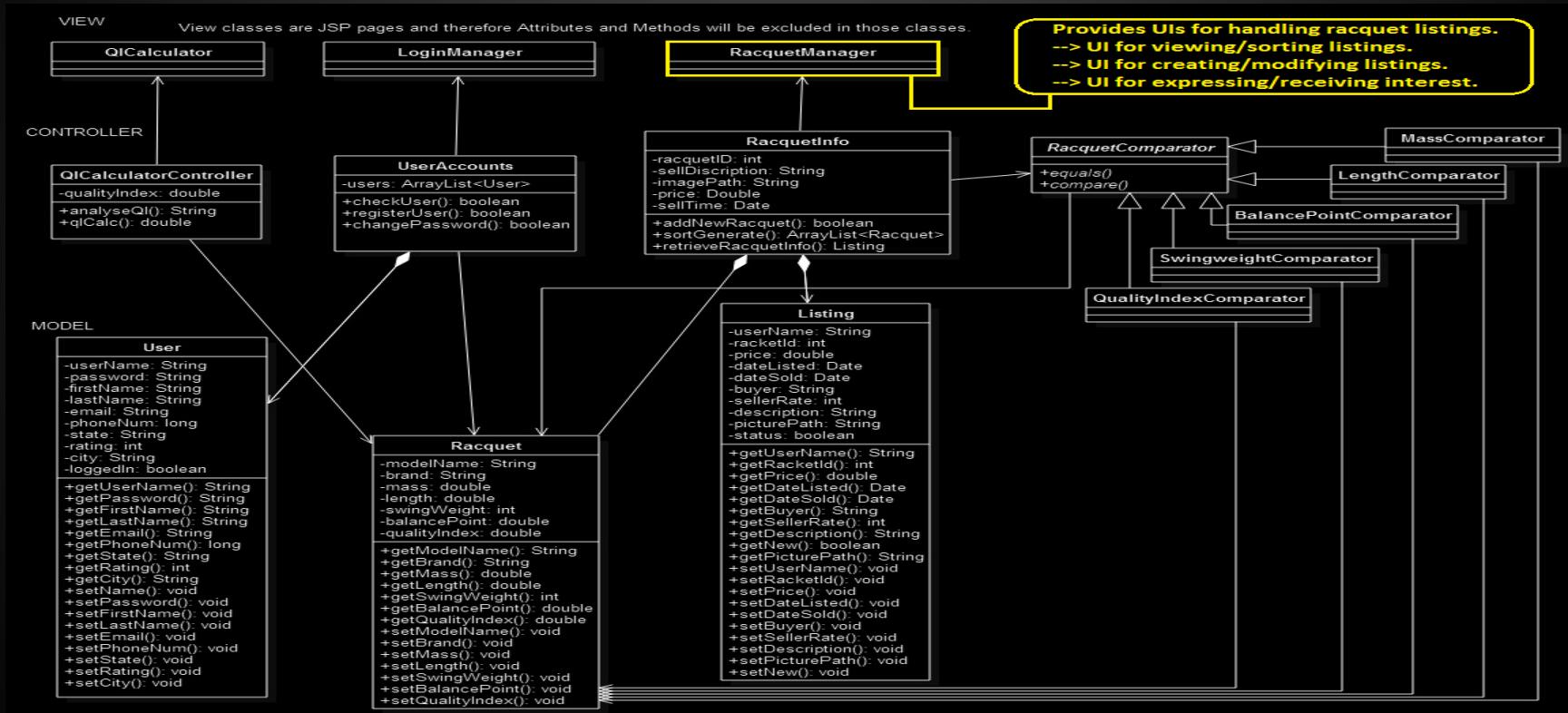
# MVC Details: Classes for View



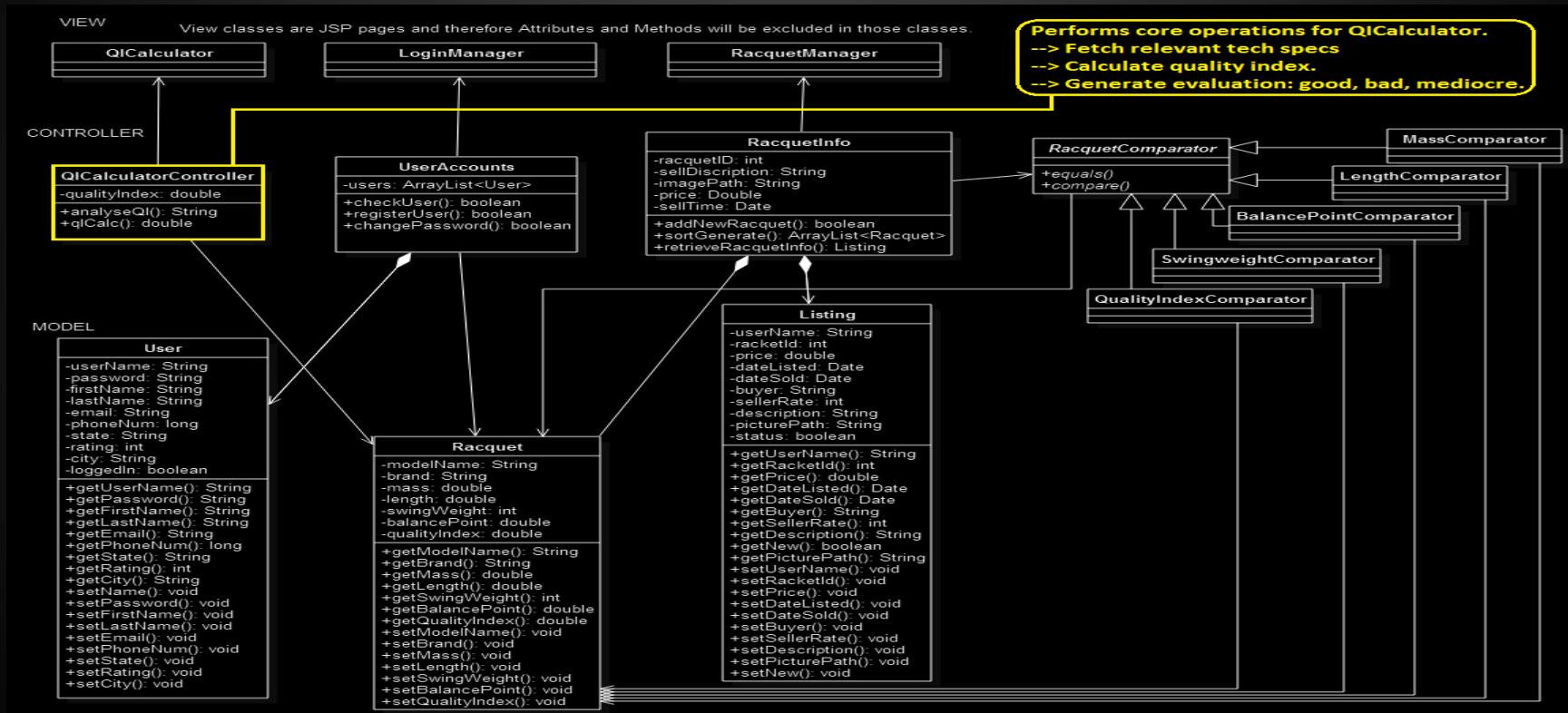
# MVC Details: Classes for View



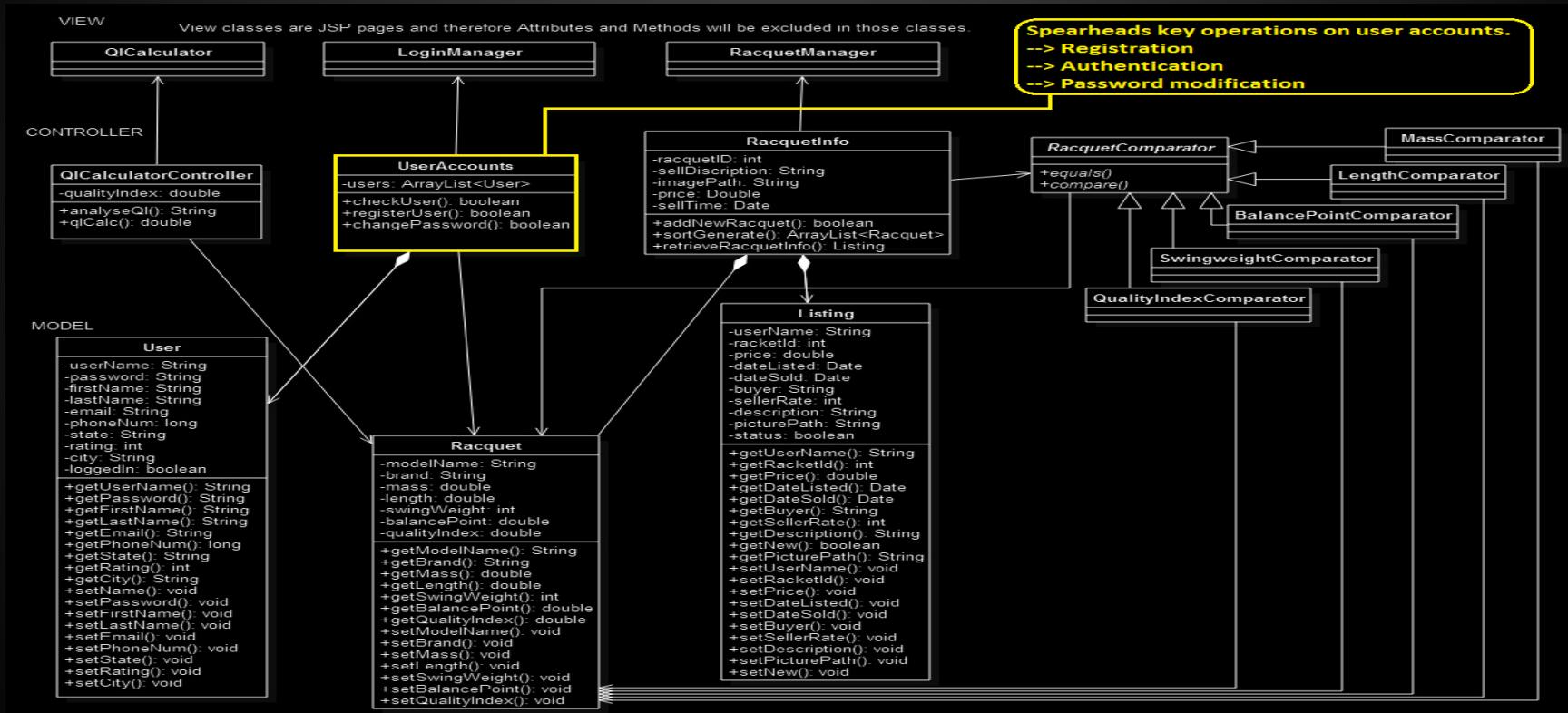
# MVC Details: Classes for View



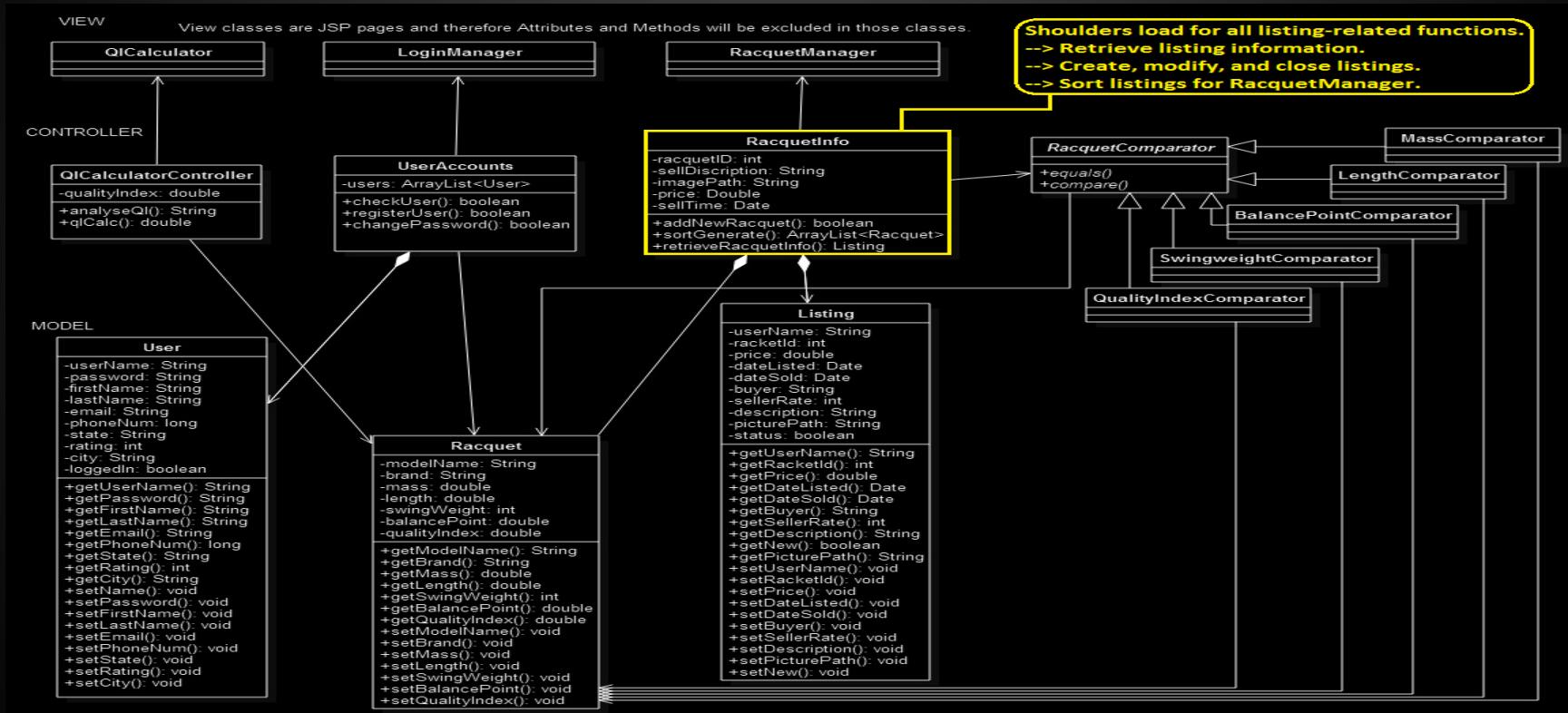
# MVC Details: Classes for Controller



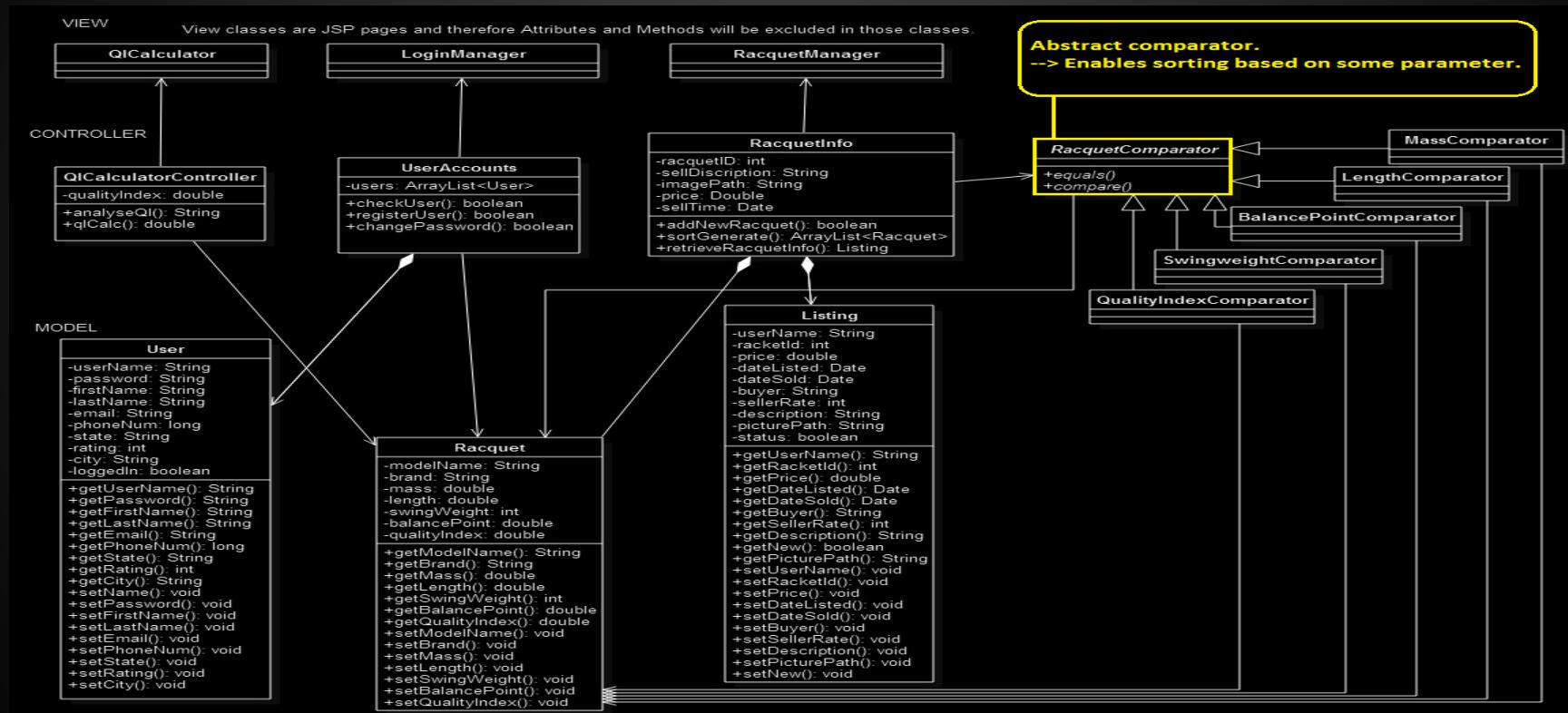
# MVC Details: Classes for Controller



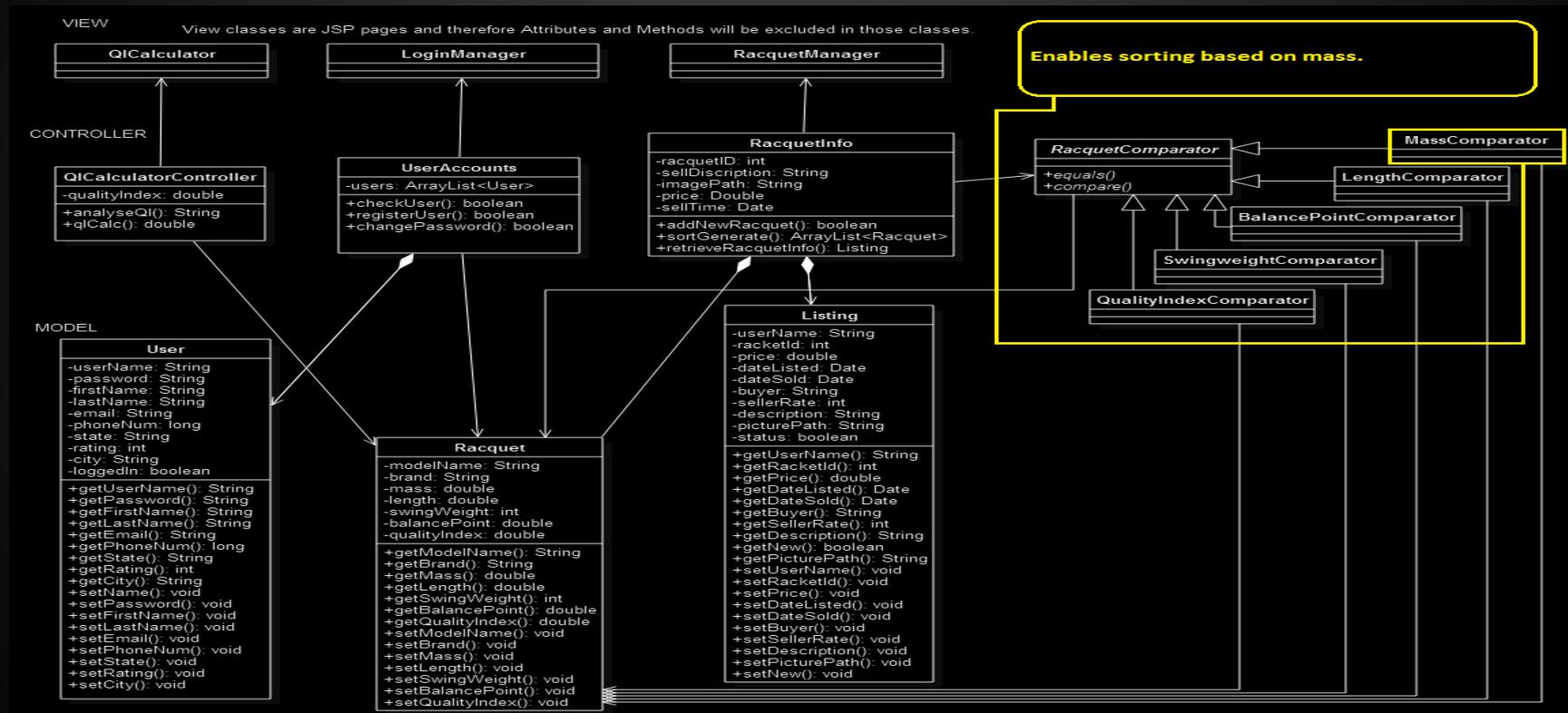
# MVC Details: Classes for Controller



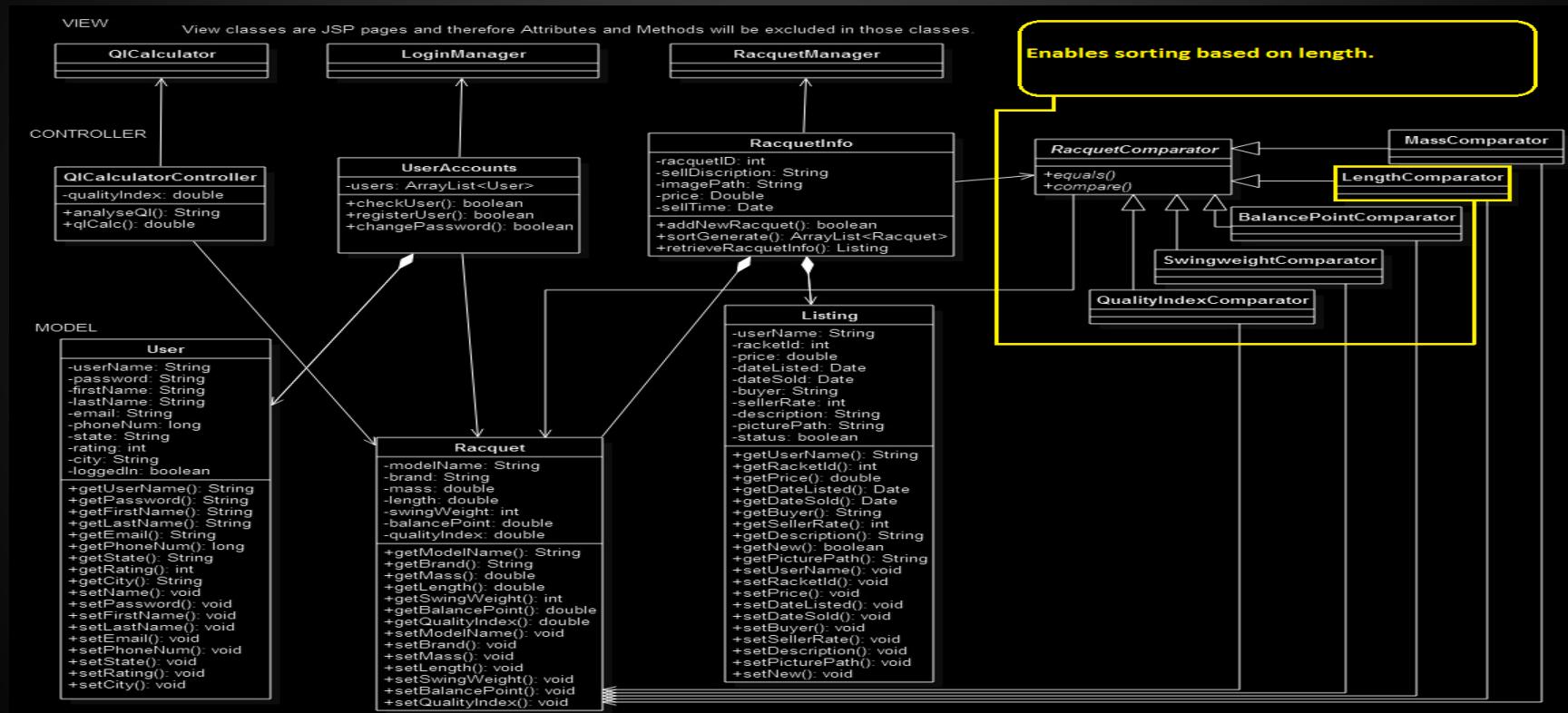
# Controller Classes: Comparators



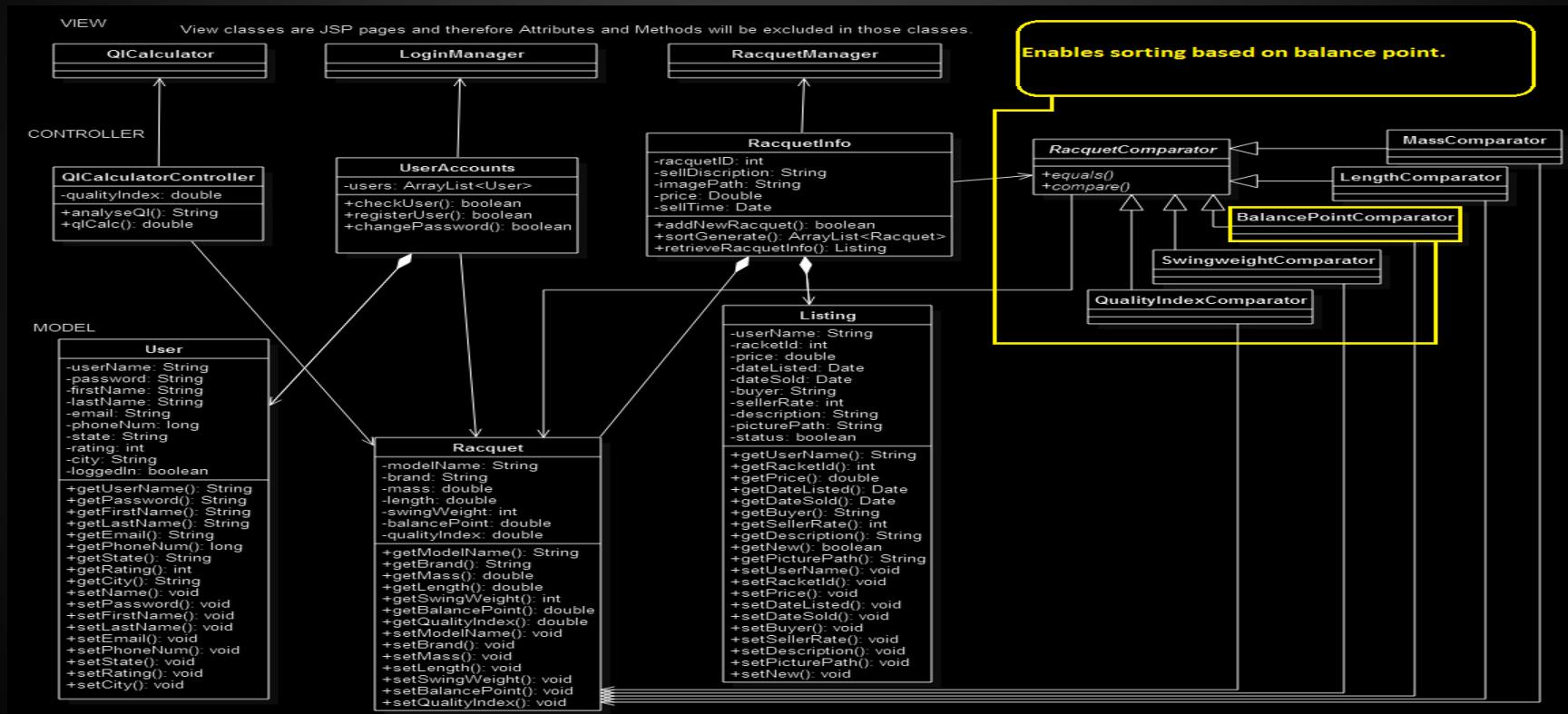
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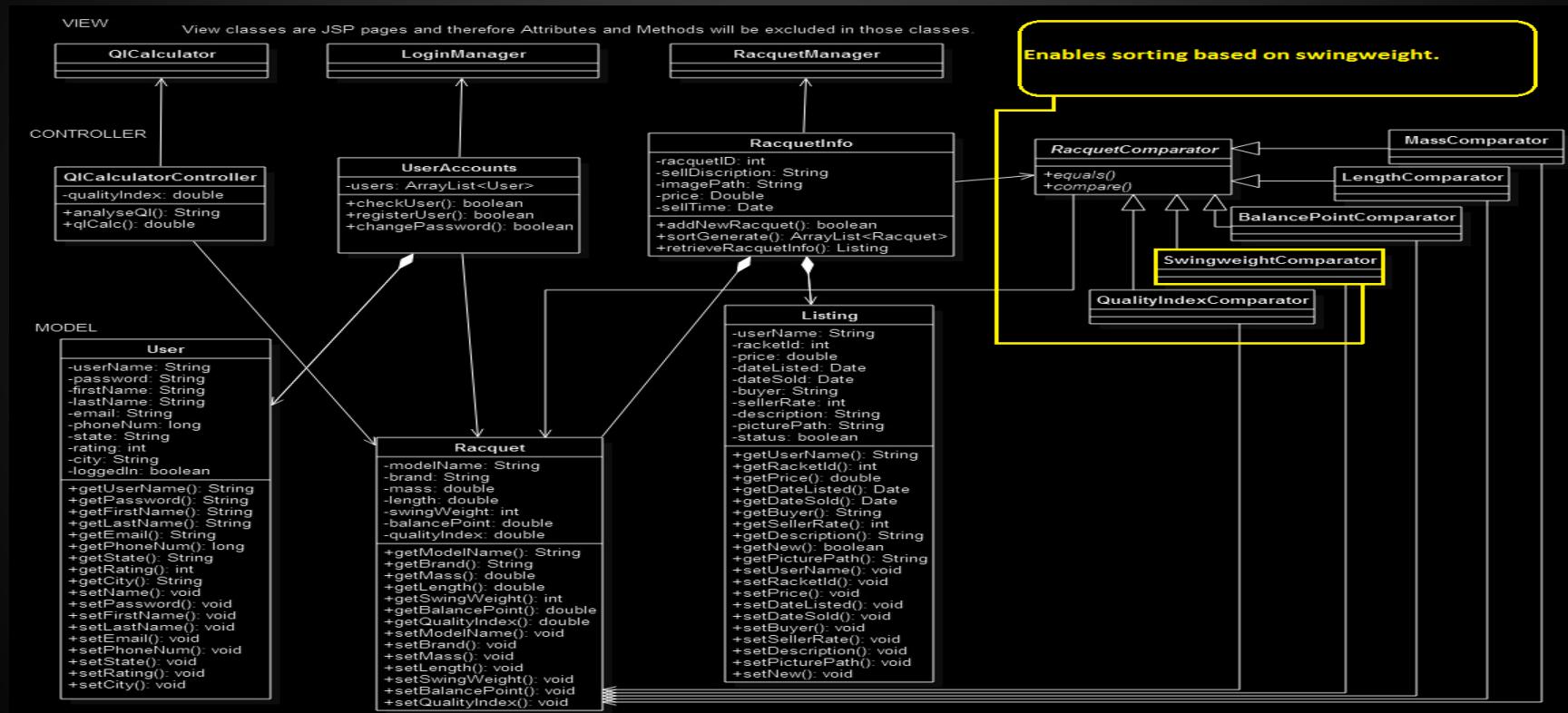
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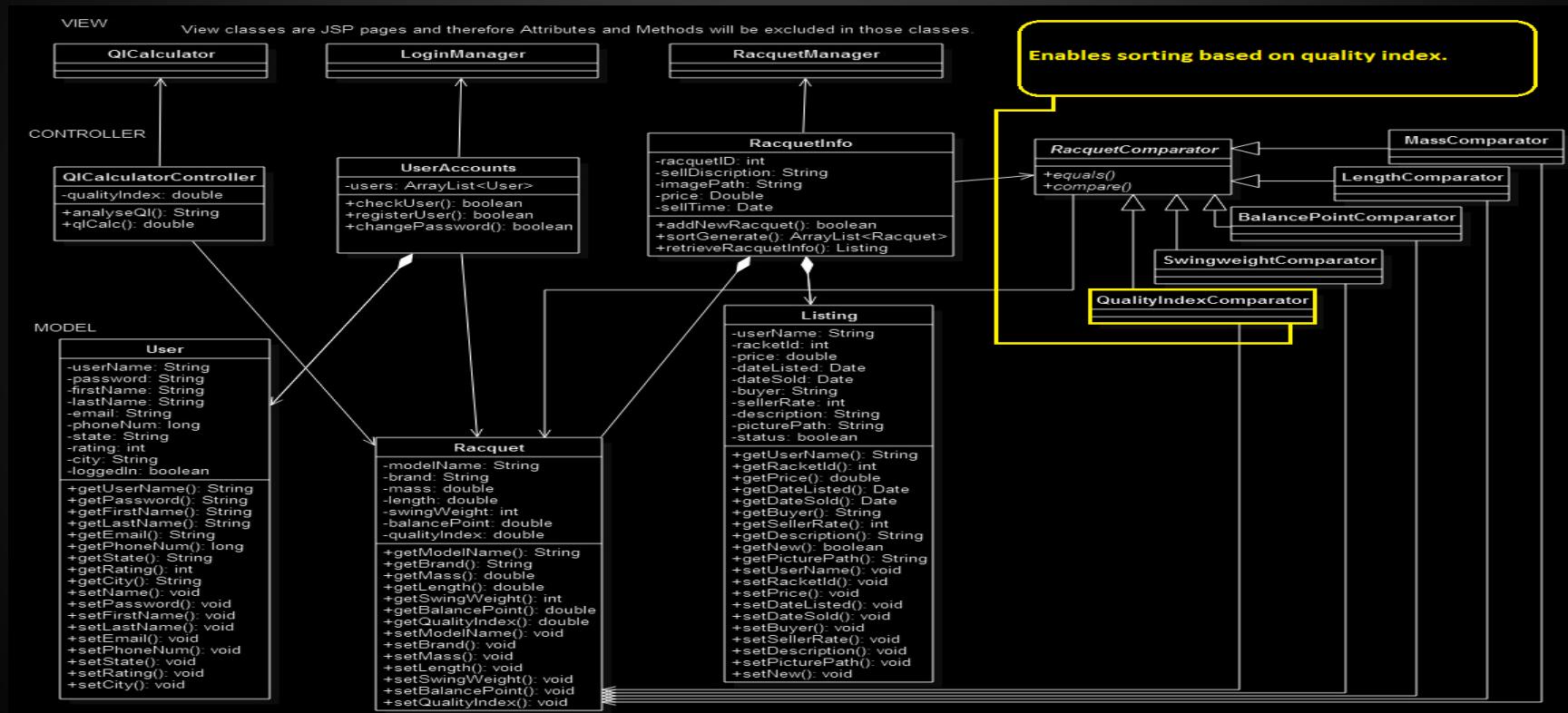
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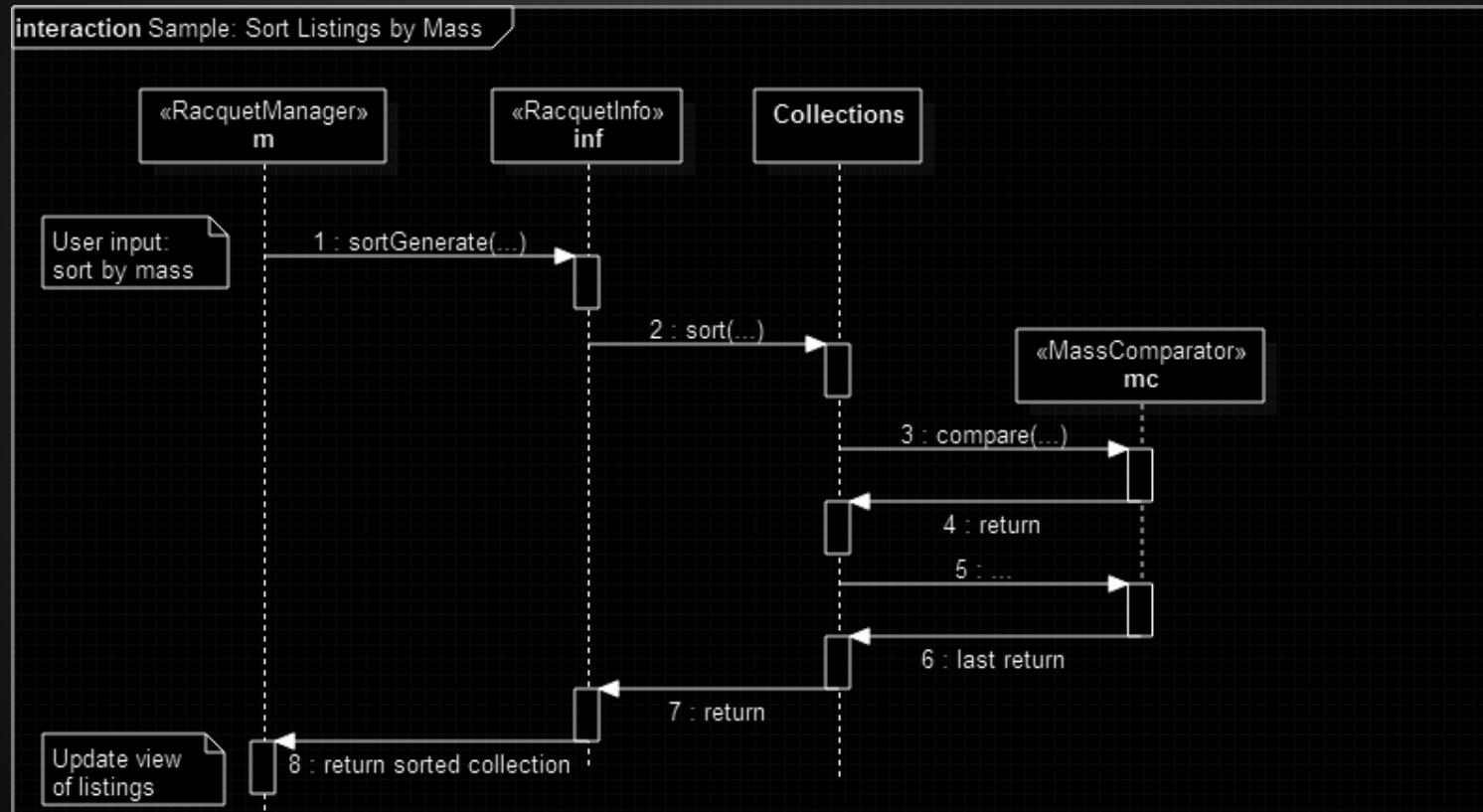
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# Sample Sequence Diagram: Sorting Listings By Mass



# Database Tables

userInfo

username	password	first name	last name	email	phoneNumber	city	state	rating
ironman	WARMACHINEROX	Tony	Stark	info@stark.com	(null)	(null)	(null)	(null)
shub	1234abcd	Shubha	Ranganathan	shub@email.com	(null)	(null)	(null)	(null)
jayp	dreamteam	Jay	Patel	jay@hostname.com	415-666-8877	santa clara	california	(null)
etam	789456123	Eric	Tam	etam@ghoo.com	(null)	(null)	(null)	(null)
jsu	abcd1234	Jeffrey	Su	su@life.com	(null)	(null)	(null)	(null)
srkanth	dreamteam	Srikanth	Narahari	sri@sjsu.com	415-999-8877	san jose	california	5

Primary key (PK)

racquetInfo

racquetID	modelName	brand	mass	length	swingweight	balance point	qualityIndex
1	iDapt Force 98	dunlop	0.31751	69.85	317	33.12	1.098699184
2	Juice 100S	wilson	0.31751	68.58	320	33.02	1.081836344
3	109	asics	0.292	69.22	313	34	1.078440895

Primary key (PK)

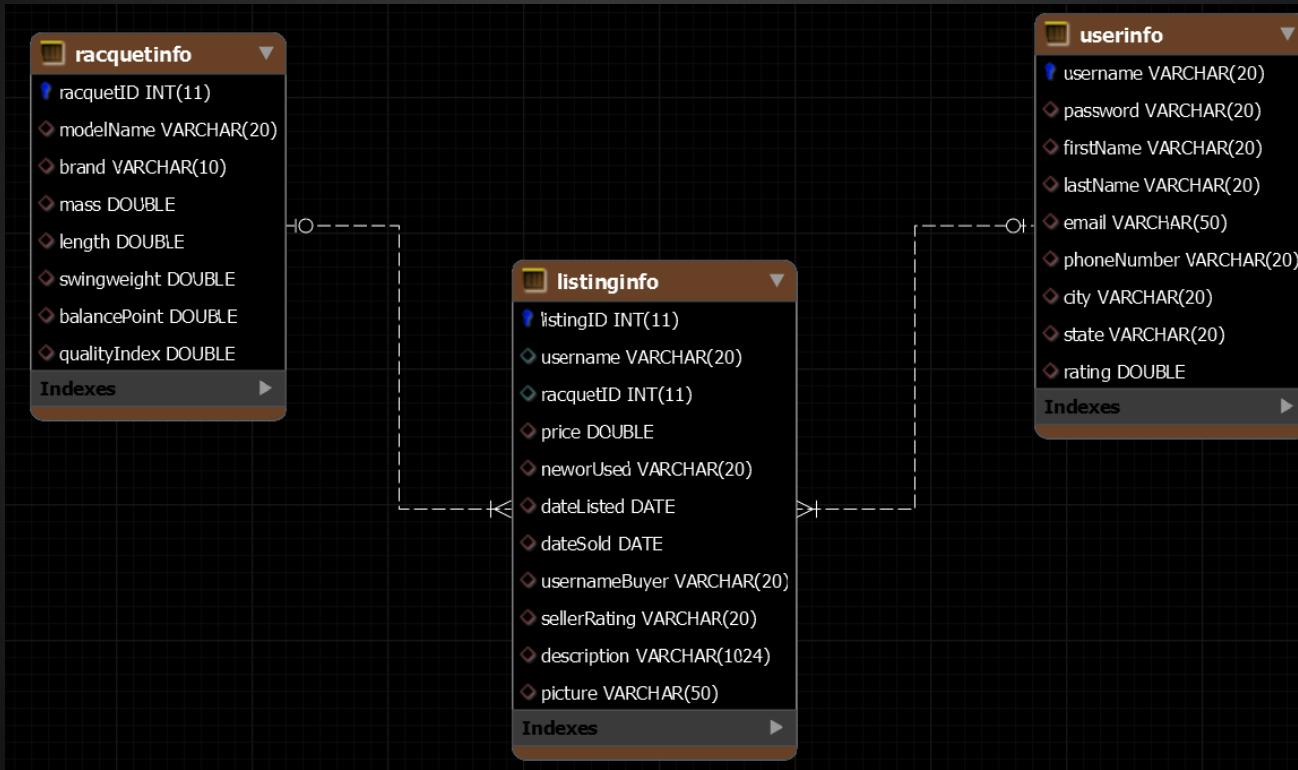
listingInfo

listingID	username	racquetID	price	newOrUsed	dateListed	dateSold	usernameBuyer	sellerRating	description	picture
1	srkanth	2	1000	new	10/5/2014	(null)	(null)	(null)	buy this brand new racquet, free shipping	./images/srkanth/wilsonj.jpg
2	srkanth	3	500	used	10/4/2014	(null)	(null)	(null)	buy this brand new racquet, free shipping	./images/srkanth/asics109.jpg
3	jayp	1	100	new	10/1/2014	(null)	(null)	(null)	Cheapest racquet in the market!!!	./images/jayp/dunlopif98.jpg

Primary key (PK)

Foreign key (FK)

# ER Diagram



# Questions?