

Software Engineering

Spring '18

Project Presentation

github.com/darkcoderrises/Movie-Recommender



Movie Ticket Reservation and Recommendation System

Team 7

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Outline

Problem

- ☐ Statement
- ☐ Assumptions
- ☐ Stakeholders

Requirements

- ☐ Functional
- ☐ Non-functional

Architecture

- ☐ Overview
- ☐ Database Model
- ☐ State Transition

Services

- ☐ Booking
- ☐ Search
- ☐ Notifications
- ☐ Recommender

Tech Stack

Demo



Problem

How tough can booking get?

Huge waste of time and effort while standing in long queue for getting ticket for a movie.

What to watch?

And still ending up watching a movie which does not suit your choices leading to wastage of both time and money.



Assumptions

Basic

- ☐ Working Internet connection.
- ☐ User must login to book tickets.
- ☐ Minimum delay between two consecutive bookings by a user is 2-3 days

Trusted Third Party

- ☐ Payment system.
- ☐ Conversion of seats to physical seats with no concurrency issues.



Stakeholders

Direct

- ☐ Movie viewers
- ☐ Theatre owners
- ☐ Staff Administrators

Indirect

- ☐ Production Houses
- ☐ Movie Crew
- ☐ Payment Systems

Requirements





Functional Requirements

User

- ☐ Browse shows
- ☐ Register on the site
- ☐ Book seat(s)
- ☐ View movie metadata
- ☐ View own booking history
- ☐ Search and find
 - Theatres
 - Movies
 - Shows
- ☐ Recommendations
 - History based.
 - Popularity based.
 - Preferences based



Functional Requirements

Staff members

Must be able to
Add/Delete/Edit details
related to :

- ☐ Movies
- ☐ Shows
- ☐ Theater

Theater Owners

Must be able to
Add/Delete/Edit details
related to:

- ☐ Movies
- ☐ Shows

Corresponding to their
theater.



Functional Requirements

Should Have

Ability for user to

- ☐ Edit/Update his profile
- ☐ View Recommended movies
- ☐ Provide reviews about the movies he/she saw.



Functional Requirements

Could Have

Provide user with

- Notifications

Won't have

Social Sharing

The data about users choices can be collected from other websites like twitter etc. but due to time constraint this feature is not being provided.

Non-functional

1 Performance

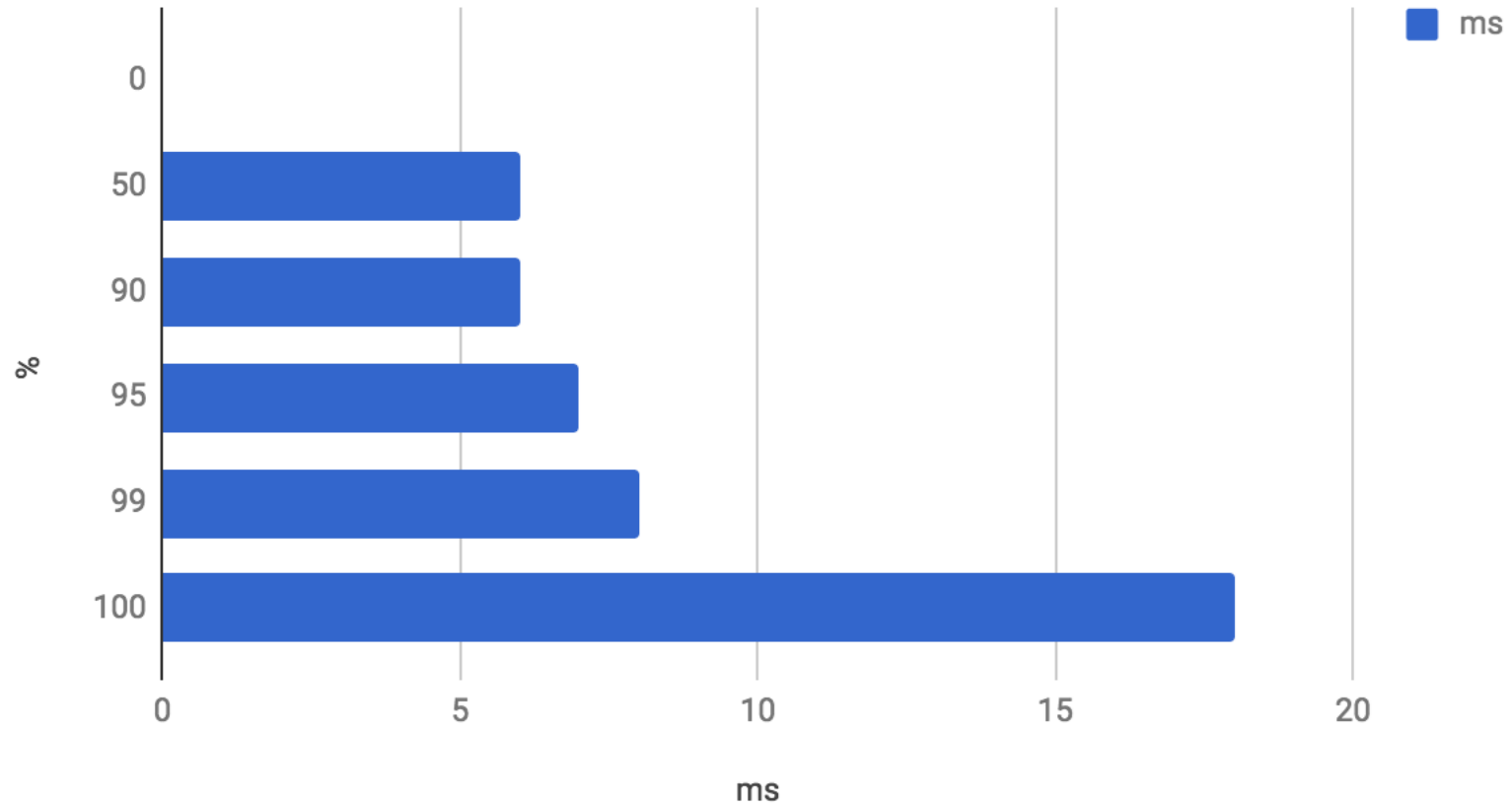
Should handle 10 TPS
currently, Capability can be
increased

2 Availability

Total Requests: 800
Requests per second: 160
Mean latency: 6.2 ms

Quad-Core i5 Processor, 1.7MHZ
8 GB Memory
Linux Mint 18

ms vs. % requests





Non-functional

3

Security

- ☐ Salted and hashed password system.
- ☐ Strong password criteria.
- ☐ CSRF tokens
- ☐ HTTPS requests only

4

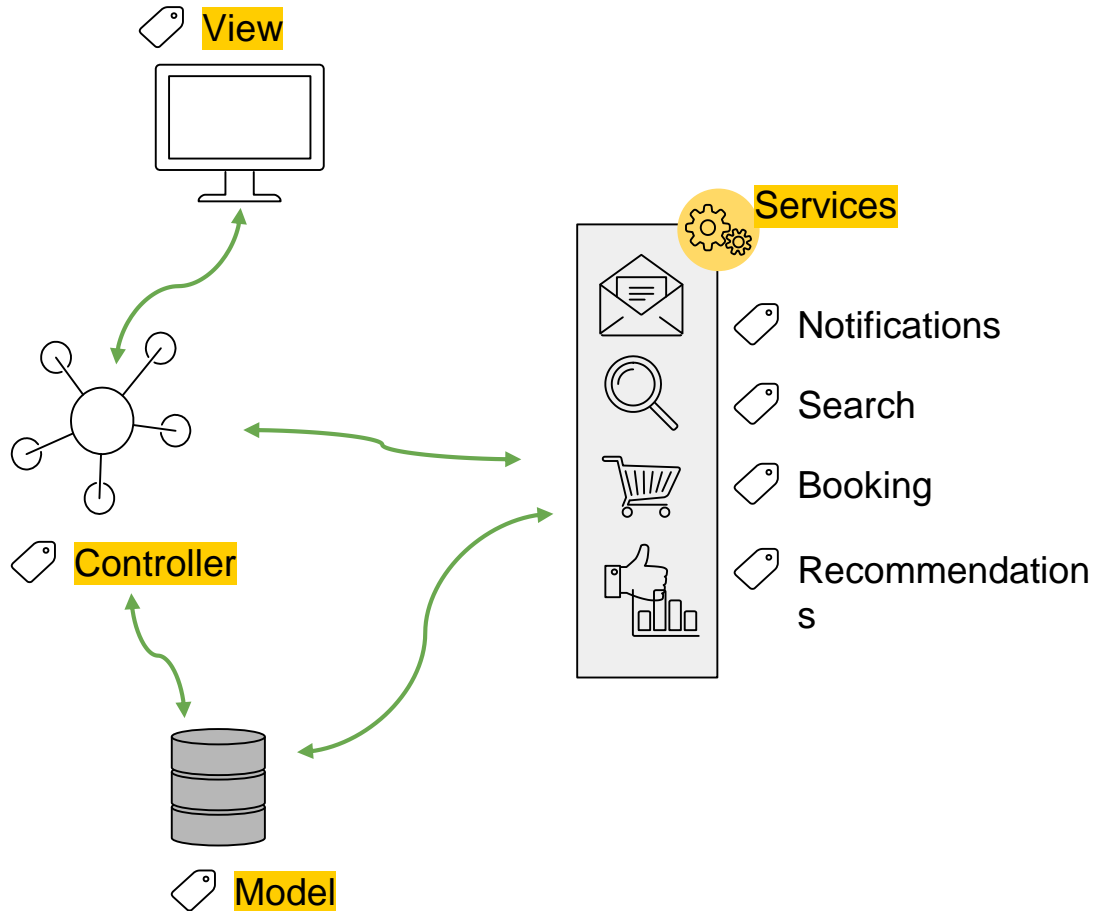
Maintainability

- ☐ Well structured and documented code.
- ☐ Management commands to help maintainers.
- ☐ Adhering to PEP8 standards.

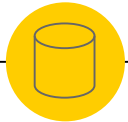
Architecture

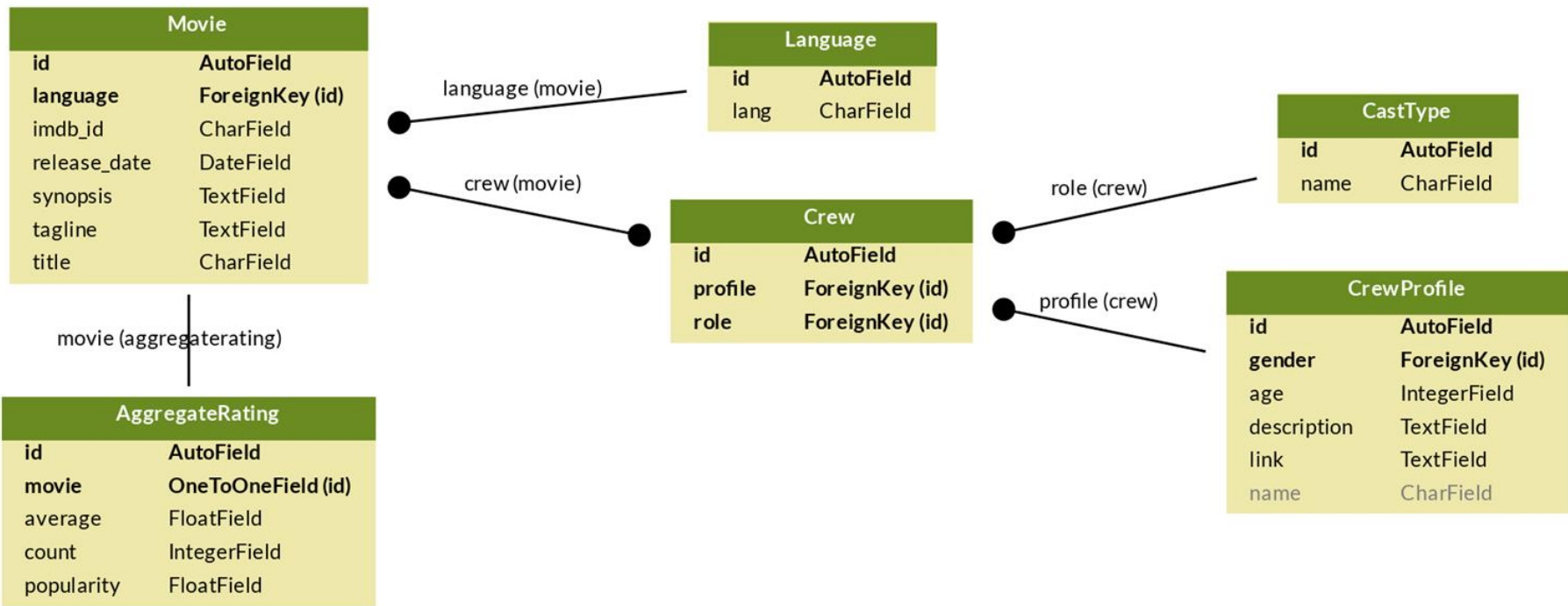
MVC Architecture

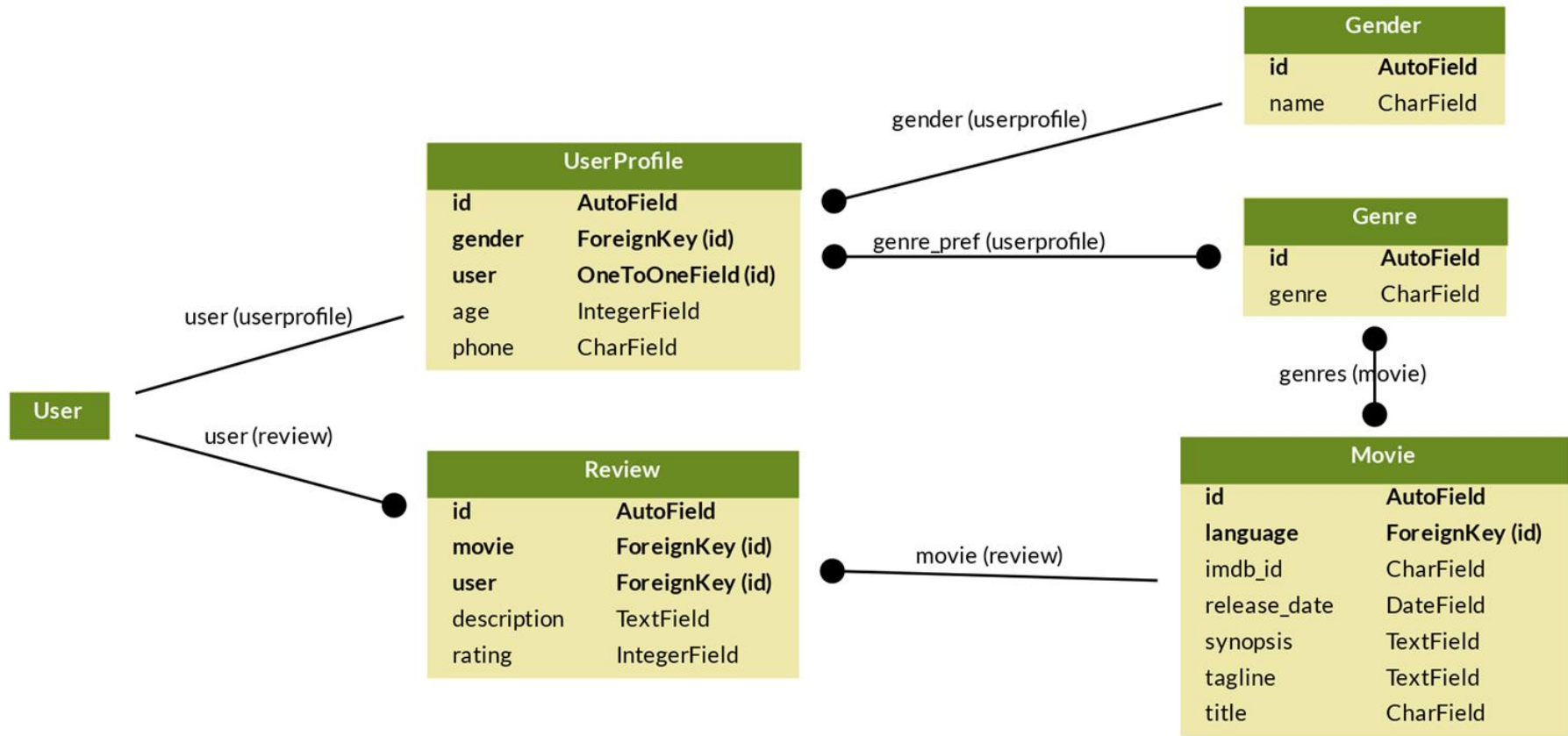
Services integrated between control and model.

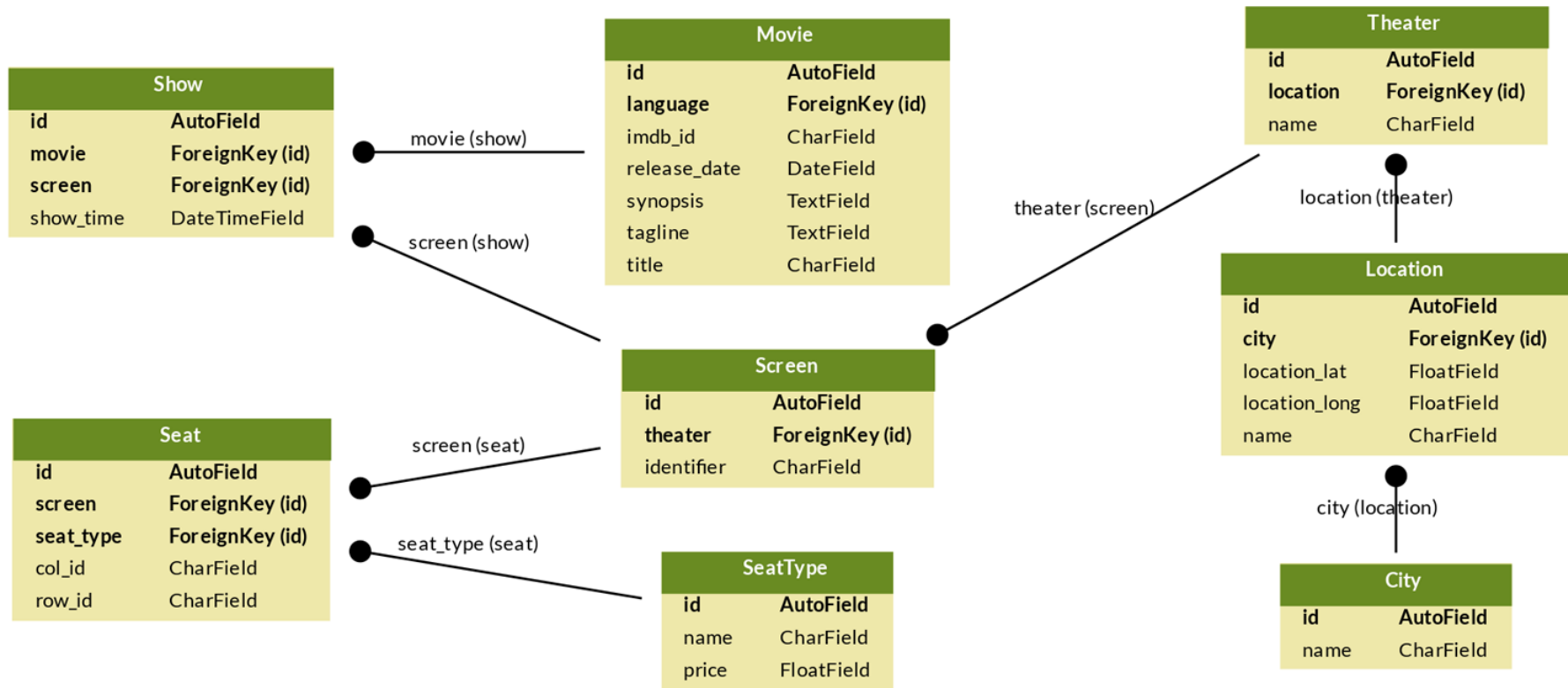


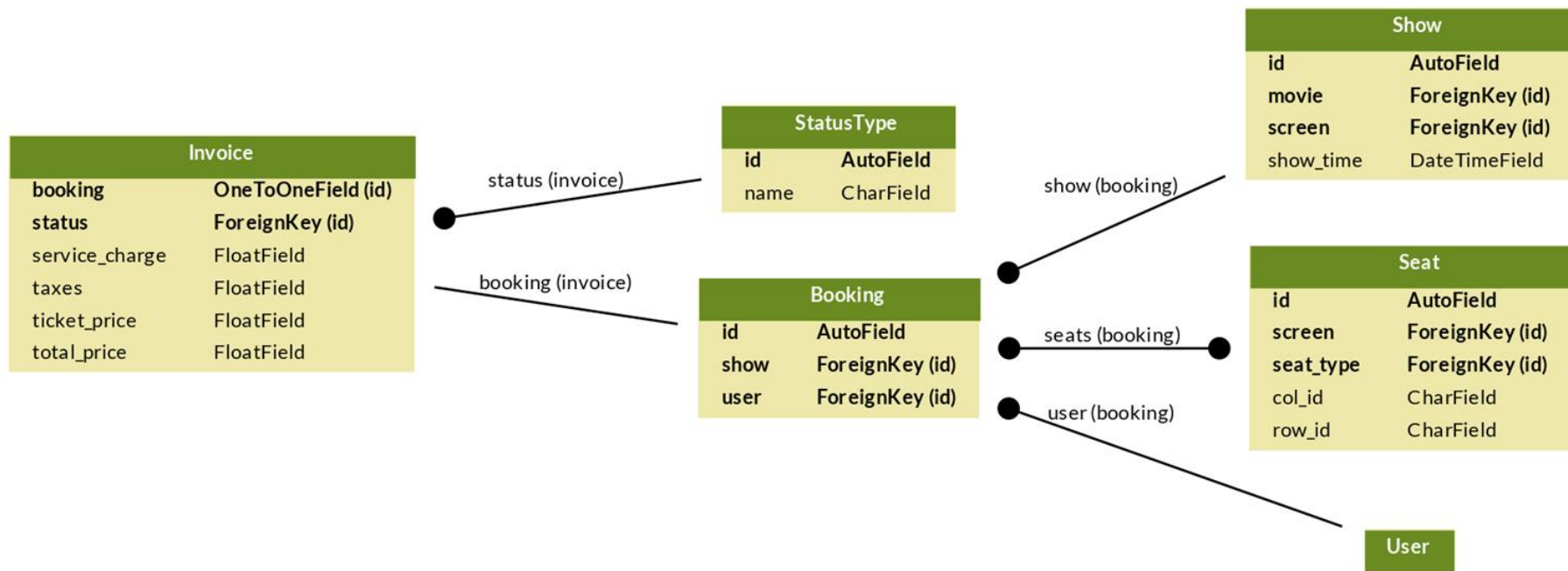
Database Schema



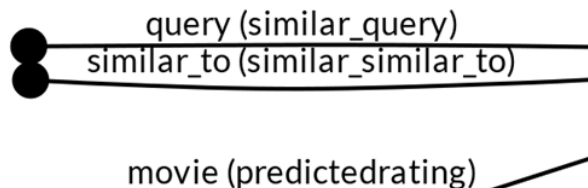






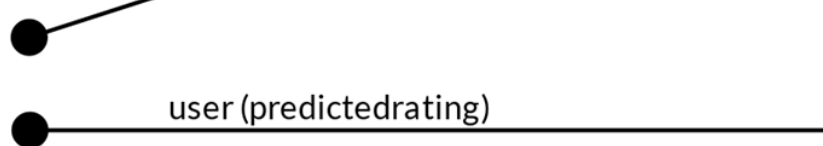


Similar	
id	AutoField
query	ForeignKey (id)
similar_to	ForeignKey (id)
rank	FloatField



Movie	
id	AutoField
language	ForeignKey (id)
imdb_id	CharField
release_date	DateField
synopsis	TextField
tagline	TextField
title	CharField

PredictedRating	
id	AutoField
movie	ForeignKey (id)
user	ForeignKey (id)
rating	FloatField



User





Notifications

Notifier
+ mail(user,subject,body) : void



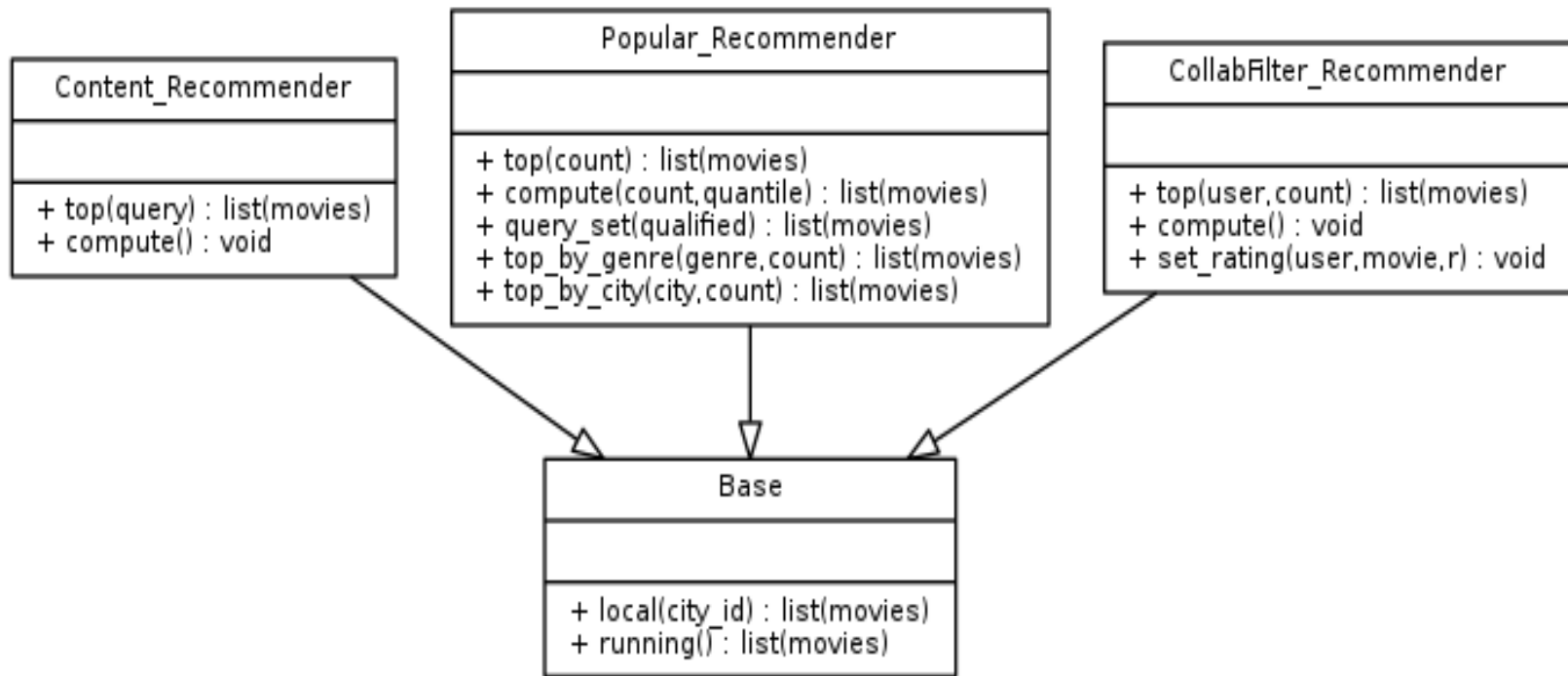
Booking

Booking
+ select (booking_id,seat_id,user_id) : void + deselect (booking_id,seat_id,user_id) : void + retrieve (show) : List(Seats) + start_booking (user,show) : Object(Booking) + invoice_success (booking) : void + invoice_failure (booking) : void + cancel (booking) : void



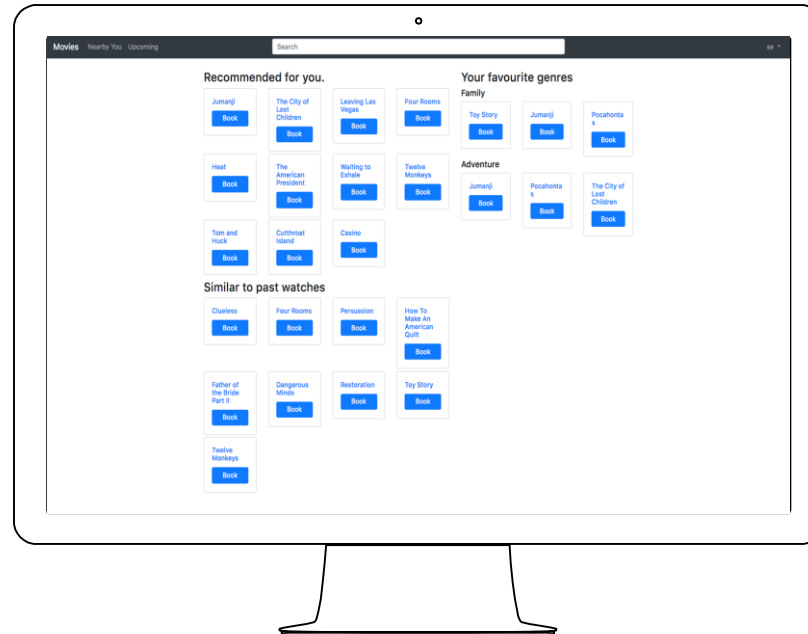


Recommendations

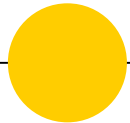




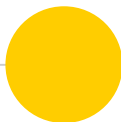
Demo



Tech Stack



django

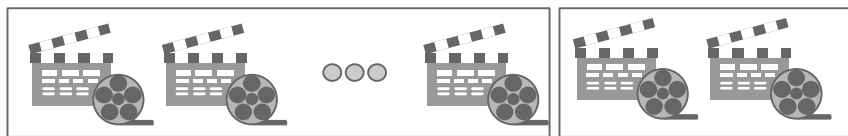


Thank you!





Appendix



User ○



2.5

3.5

5.0

?

?



3.0

4.0

5.0

2.5

?



1.0

5.0

4.5

1.0

5.0



2.5

3.0

4.0

?

3.5



4.0

2.0

3.0

5.0

?

Others ○

