OOADJ Project Report

Topic: AirBnB

Team Members:

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Synopsis:

This is a property booking application, where the user can list his properties and book other properties. It provides a variety of services like property management and search filtering based on user needs. It also allows for proper management of user and host profiles and provides a mechanism for feedback and review system. The user must create account and verify his email before they start using the application. The backend is exposed as an API to the frontend.

Tech Stack:

- Backend – Java (SpringBoot)
- Frontend – Python(Streamlit)
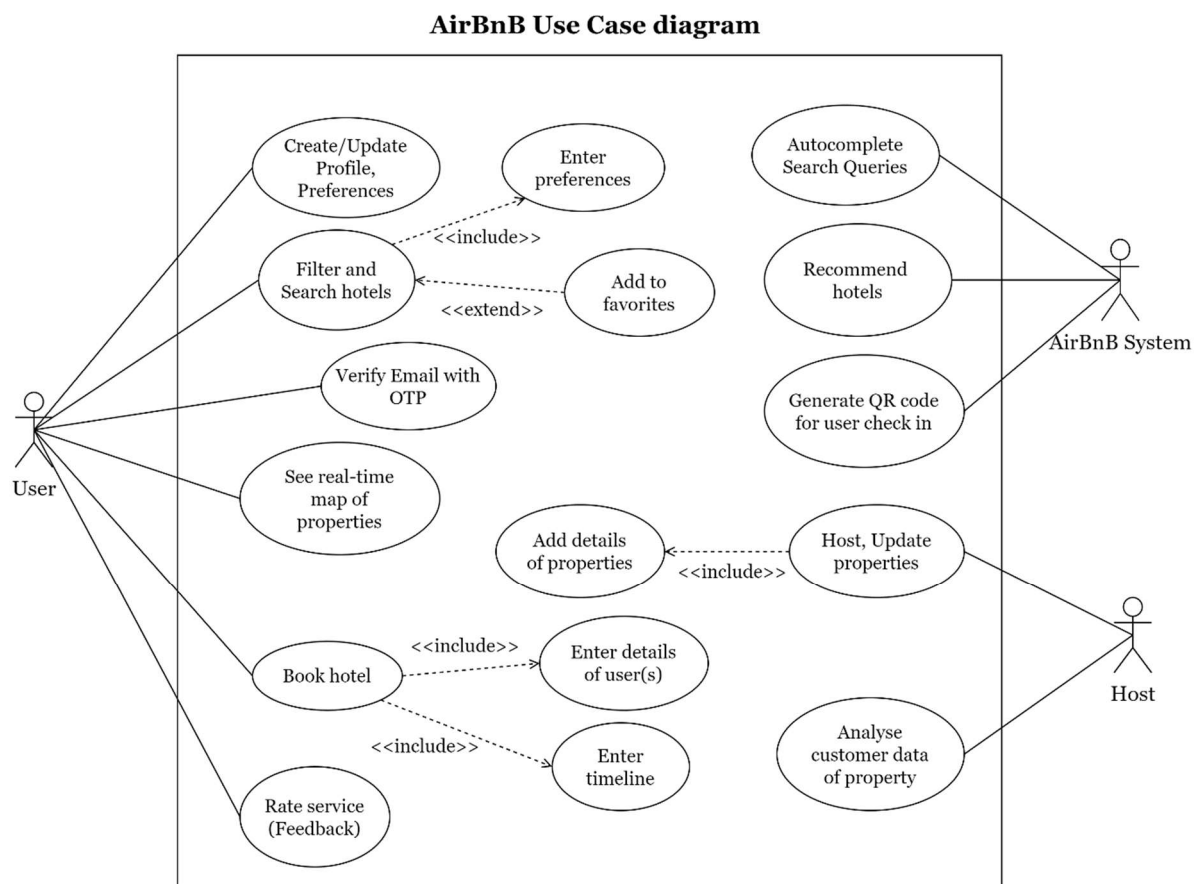- Database – MySQL
- API testing – Postman

Design Patterns Used:

- Builder pattern
- Adapter pattern
- Façade Pattern
- Bridge Pattern

Design Principles Used:

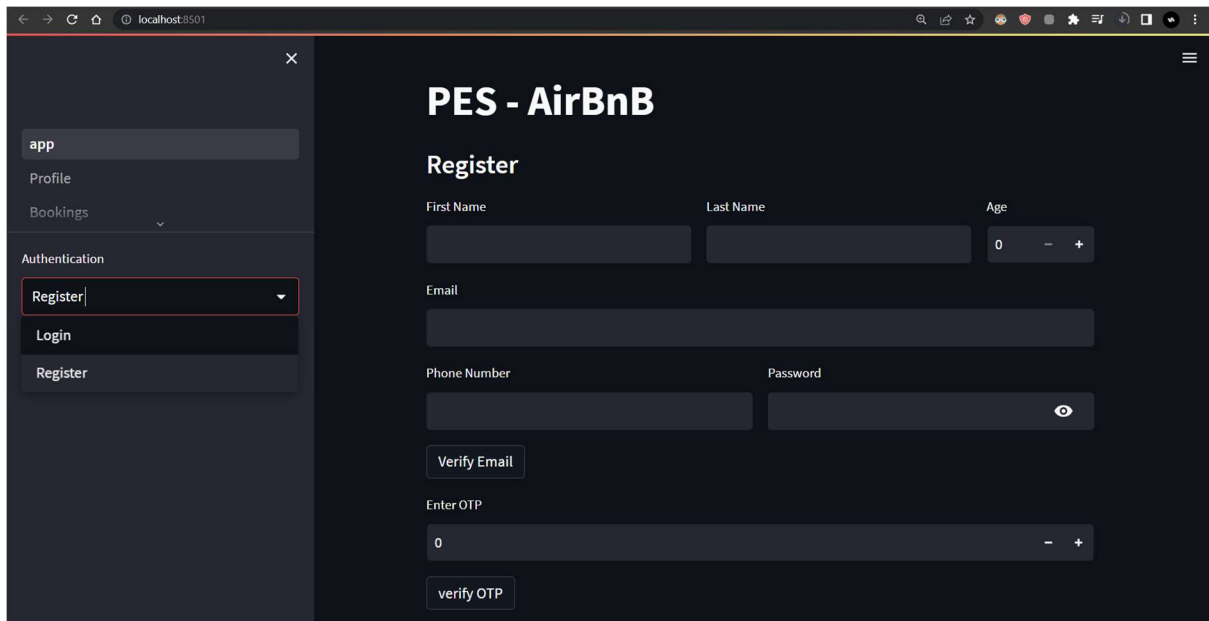- Single Responsibility Principle
- DRY
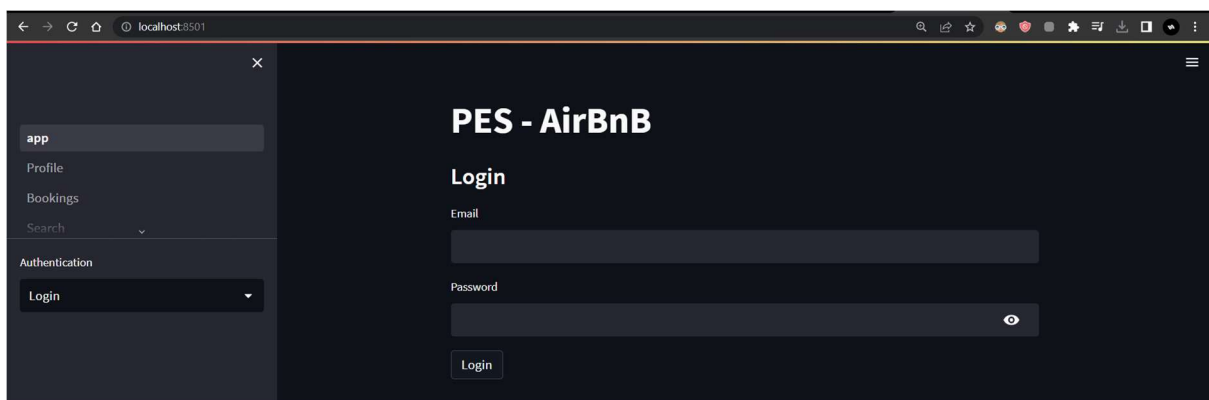- Open/Closed Principle

Use Case Diagram:

AirBnB Use Case diagram
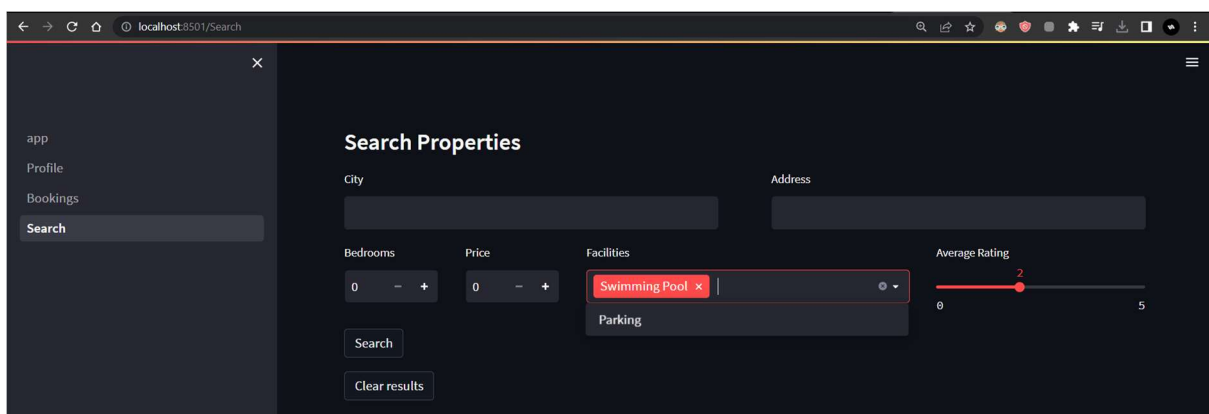
Class Diagram:

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UML class diagram (PlantUML style).

pes.ooad.airbnb.converter.BookingConverter
- + bookingAddToBooking(bookingAdd : pes.ooad.airbnb.model.booking.BookingAdd) : pes.ooad.airbnb.model.booking.Booking
- + bookingToBookingDisplay(booking : pes.ooad.airbnb.model.booking.Booking) : pes.ooad.airbnb.model.booking.BookingDisplay
- + bookingsToBookingDisplays(bookings : java.util.List) : java.util.List

pes.ooad.airbnb.converter.PropertyConverter
- + propertyToPropertyDisplay(property : pes.ooad.airbnb.model.property.Property) : pes.ooad.airbnb.model.property.PropertyDisplay
- + propertyAddToProperty(propertyAdd : pes.ooad.airbnb.model.property.PropertyAdd) : pes.ooad.airbnb.model.property.Property
- + propertiesToPropertyDisplays(properties : java.util.List) : java.util.List

pes.ooad.airbnb.converter.ReviewConverter
- + reviewAddToReview(reviewAdd : pes.ooad.airbnb.model.review.ReviewAdd) : pes.ooad.airbnb.model.review.Review
- + reviewToReviewDisplay(review : pes.ooad.airbnb.model.review.Review) : pes.ooad.airbnb.model.review.ReviewDisplay
- + reviewsToReviewDisplays(reviews : java.util.List) : java.util.List

pes.ooad.airbnb.converter.UserConverter
- + userOTPtoUser(userOTP : pes.ooad.airbnb.model.user.UserOTP) : pes.ooad.airbnb.model.user.User
- + userToUserProfile(user : pes.ooad.airbnb.model.user.User) : pes.ooad.airbnb.model.user.UserProfile

pes.ooad.airbnb.mailsender.VerifyMail
- - mailSender : org.springframework.mail.javamail.JavaMailSender
- + VerifyMail(mailSender : org.springframework.mail.javamail.JavaMailSender)
- + sendEmail(toEmail : String, toFirstName : String, toLastName : String)

org.springframework.mail.javamail.JavaMailSender

«interface» JpaRepository

pes.ooad.airbnb.model.booking.BookingAdd
- - propertyId : Integer
- - checkinDate : java.time.LocalDate
- - checkoutDate : java.time.LocalDate
- - numOfGuests : Integer
- - price : Integer

pes.ooad.airbnb.model.booking.BookingDisplay
- - propertyId : Integer
- - propertyName : String
- - city : String
- - address : String
- - hostName : String
- - hostPhone : String
- - checkinDate : java.time.LocalDate
- - checkoutDate : java.time.LocalDate
- - numOfGuests : Integer
- - totalPrice : Integer

java.time.LocalDate

jakarta.persistence.EntityManager

«interface» ReviewRepository

pes.ooad.airbnb.service.ReviewService
- - reviewConverter : pes.ooad.airbnb.converter.ReviewConverter
- - propertyRepository : pes.ooad.airbnb.repository.PropertyRepository
- - userRepository : pes.ooad.airbnb.repository.UserRepository
- - reviewRepository : pes.ooad.airbnb.repository.ReviewRepository
- + addReview(reviewAdd : pes.ooad.airbnb.model.review.ReviewAdd)

«interface» UserRepository
- + findByEmail(email : String) : java.util.Optional
- + findByPhone(phone : String) : java.util.Optional

pes.ooad.airbnb.controller.GuestController
- - userService : pes.ooad.airbnb.service.UserService
- - propertyService : pes.ooad.airbnb.service.PropertyService
- + searchProperty(RequestParam : @) : org.springframework.http.ResponseEntity
- + favProperty(RequestBody : @) : org.springframework.http.ResponseEntity
- + unFavProperty(RequestBody : @) : org.springframework.http.ResponseEntity

pes.ooad.airbnb.service.PropertyService
- - entityManager : jakarta.persistence.EntityManager
- - propertyRepository : pes.ooad.airbnb.repository.PropertyRepository
- - userRepository : pes.ooad.airbnb.repository.UserRepository
- + getProperties() : java.util.List
- + addProperty(propertyAdd : pes.ooad.airbnb.model.property.PropertyAdd)
- + deleteProperty(propertyId : Integer)
- + updateProperty(parameters : pes.ooad.airbnb.model.property.Parameters)
- + searchProperties(city : String, address : String, bedrooms : Integer, price : Integer, swimmingPool : Boolean, parking : Boolean, averageRating : Double) : java.util.List

pes.ooad.airbnb.controller.AuthenticationController
- - userService : pes.ooad.airbnb.service.UserService
- - propertyService : pes.ooad.airbnb.service.PropertyService
- - verifyMail : pes.ooad.airbnb.mailsender.VerifyMail
- + loginUser(RequestParam : @) : org.springframework.http.ResponseEntity
- + logoutUser() : org.springframework.http.ResponseEntity
- + addNewUser(RequestBody : @) : org.springframework.http.ResponseEntity
- + verifyNewUser(RequestBody : @) : org.springframework.http.ResponseEntity

«interface» PropertyRepository
- + findPropertyByCity(city : String) : pes.ooad.airbnb.model.property.Property

pes.ooad.airbnb.model.review.ReviewAdd
- - rating : Integer
- - comment : String
- - propertyId : Integer

pes.ooad.airbnb.controller.UserController
- - userService : pes.ooad.airbnb.service.UserService
- - propertyService : pes.ooad.airbnb.service.PropertyService
- - reviewService : pes.ooad.airbnb.service.ReviewService
- - bookingService : pes.ooad.airbnb.service.BookingService
- + getUserDetails() : org.springframework.http.ResponseEntity
- + updateProfile(RequestBody : @) : org.springframework.http.ResponseEntity
- + addProperty(RequestBody : @) : org.springframework.http.ResponseEntity
- + getProperties() : org.springframework.http.ResponseEntity
- + deleteProperty(RequestBody : @) : org.springframework.http.ResponseEntity
- + updateProperty(RequestBody : @) : org.springframework.http.ResponseEntity
- + addBooking(RequestBody : @) : org.springframework.http.ResponseEntity
- + getUserBookings() : org.springframework.http.ResponseEntity
- + addReview(RequestBody : @) : org.springframework.http.ResponseEntity

pes.ooad.airbnb.service.BookingService
- - bookingRepository : pes.ooad.airbnb.repository.BookingRepository
- - userRepository : pes.ooad.airbnb.repository.UserRepository
- - propertyRepository : pes.ooad.airbnb.repository.PropertyRepository
- - propertyService : pes.ooad.airbnb.service.PropertyService
- + getBookings() : java.util.List
- + calculateTotalPrice(pricePerNight : Integer, checkinDate : java.time.LocalDate, checkoutDate : java.time.LocalDate) : Integer
- + addBooking(bookingAdd : pes.ooad.airbnb.model.booking.BookingAdd)

pes.ooad.airbnb.model.booking.Booking
- - booking_id : Integer
- - user : pes.ooad.airbnb.model.user.User
- - property : pes.ooad.airbnb.model.property.Property
- - checkinDate : java.time.LocalDate
- - checkoutDate : java.time.LocalDate
- - numOfGuests : Integer
- - totalPrice : Integer

«interface» BookingRepository
- + findAllByUser(user : pes.ooad.airbnb.model.user.User) : java.util.List
- + findByProperty(property : pes.ooad.airbnb.model.property.Property) : java.util.List

pes.ooad.airbnb.model.user.UserProfile
- - firstname : String
- - lastname : String
- - age : Integer
- - phone : String
- - email : String
- - password : String

pes.ooad.airbnb.model.user.LoginCredentials
- - loginEmail : String
- - loginPassword : String

pes.ooad.airbnb.model.property.Parameters
- - property_id : Integer
- - propertyName : String
- - price : Integer

pes.ooad.airbnb.service.UserService
- - userRepository : pes.ooad.airbnb.repository.UserRepository
- - propertyRepository : pes.ooad.airbnb.repository.PropertyRepository
- + verifyLogin(email : String, password : String) : boolean
- + checkUser(registerEmail : String, registerPhone : String) : boolean
- + addUserToDB(user : pes.ooad.airbnb.model.user.User)
- + updateUser(user : pes.ooad.airbnb.model.user.User)
- + findById(userId : Integer) : pes.ooad.airbnb.model.user.User
- + addPropertyToFav(property_id : Integer)
- + removePropertyFav(property_id : Integer)

pes.ooad.airbnb.model.user.UserOTP
- - user_id : Integer
- - firstname : String
- - lastname : String
- - age : Integer
- - phone : String
- - email : String
- - password : String
- - inputOTP : Integer

pes.ooad.airbnb.util.OTPGenerator
- + generateOTP() : Integer

pes.ooad.airbnb.principal.CurrentUser
- + user_id : Integer
- + otp : Integer

pes.ooad.airbnb.model.property.PropertyDisplay
- - property_id : Integer
- - propertyName : String
- - city : String
- - address : String
- - bedrooms : Integer
- - area : Integer
- - swimmingPool : Boolean
- - parking : Boolean
- - price : Integer
- - Longitude : Double
- - Latitude : Double
- - hostName : String
- - hostPhone : String
- - hostEmail : String
- - averageRating : Double
- - reviewDisplay : java.util.List

pes.ooad.airbnb.util.Helpers
- + convertToJson(ob : Object) : String

org.springframework.http.ResponseEntity

pes.ooad.airbnb.model.review.ReviewDisplay
- + name : String
- ~ rating : Integer
- ~ comment : String

pes.ooad.airbnb.model.review.ReviewParameters
- - userId : Integer
- - propertyId : Integer
- - rating : Integer
- - comment : String

pes.ooad.airbnb.model.review.Review
- - review_id : Integer
- - comment : Integer
- - rating : Integer
- - property : pes.ooad.airbnb.model.property.Property
- - user : pes.ooad.airbnb.model.user.User

pes.ooad.airbnb.model.user.User
- - user_id : Integer
- - firstname : String
- - lastname : String
- - age : Integer
- - phone : String
- - email : String
- - password : String
- - properties : java.util.List
- - favoriteProperties : java.util.Set

pes.ooad.airbnb.model.property.PropertyAdd
- - propertyName : String
- - city : String
- - address : String
- - Longitude : Double
- - Latitude : Double
- - bedrooms : Integer
- - area : Integer
- - swimmingPool : Boolean
- - parking : Boolean
- - price : Integer

pes.ooad.airbnb.model.property.Property
- - property_id : Integer
- - propertyName : String
- - city : String
- - address : String
- - bedrooms : Integer
- - swimmingPool : Boolean
- - area : Integer
- - price : Integer
- - parking : Boolean
- - Longitude : Double
- - Latitude : Double
- - numOfReviews : Integer
- - averageRating : Double
- - host : pes.ooad.airbnb.model.user.User

Frontend Screenshots:

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Frontend Screenshots: