

ENSF 480 Term Project, Fall 2021

Design Document

Group 14

Lecture Section: L02

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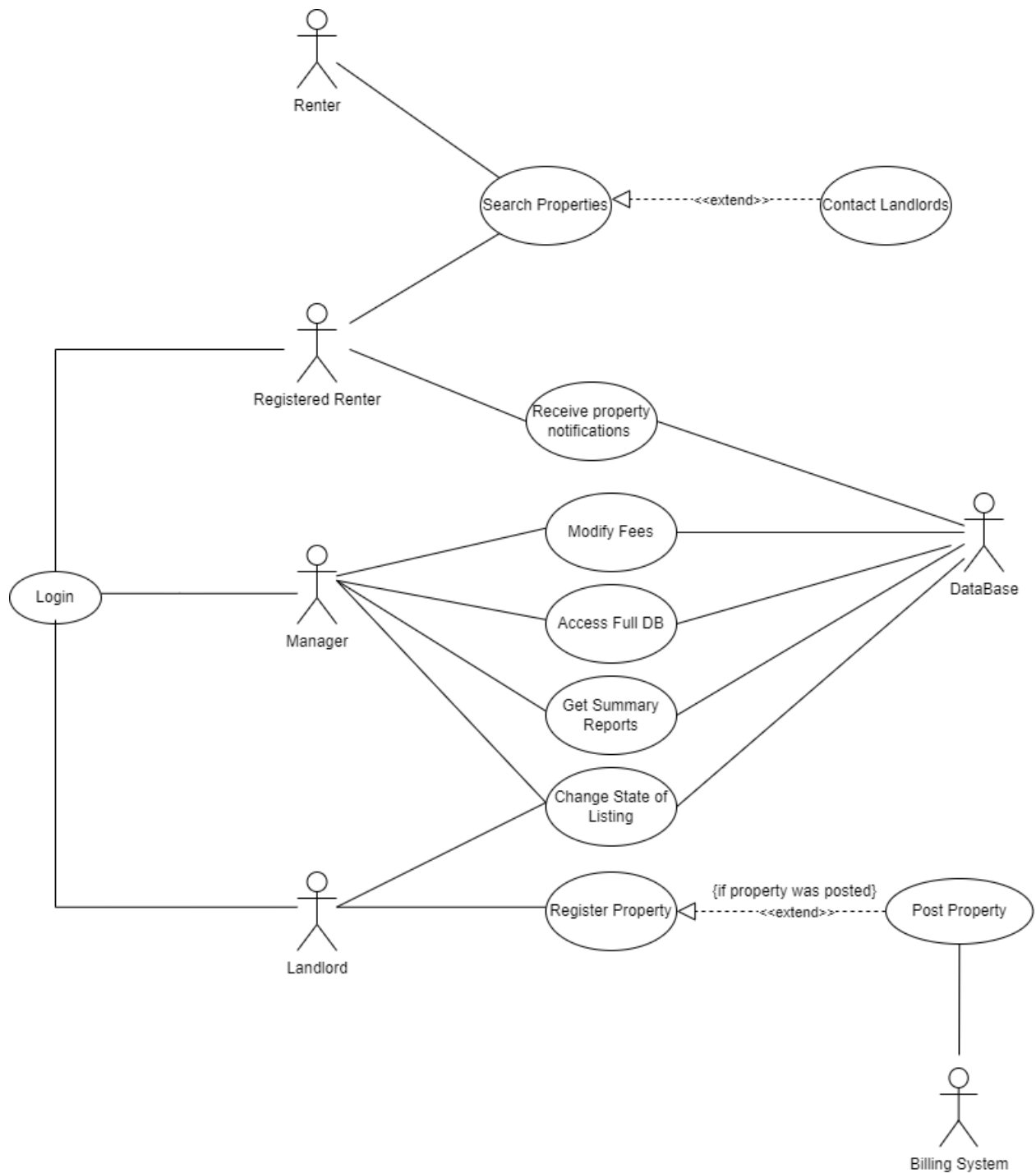
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Table of Contents

Table of Contents	1
Systems Use Case Diagram	2
Sequence Diagrams	3
Login Sequence	3
Landlord Posting Property Sequence	4
Database Access Sequence	5
Preference Setup and Notification Sequence	6
Class Relationship Diagram	7
Detailed Class Specifications	8
.forms	8
.dbcontrol	9
.billcontrol	10
.users	11
.external	12
State Transition Diagrams	13
Manager State Diagram	13
Landlord Publicly Posting Property Listing	14
Signup and Log In Process	15
Preference Notification Process	16
System Activities Diagram	17
Package Diagram	18
Deployment Diagram	19

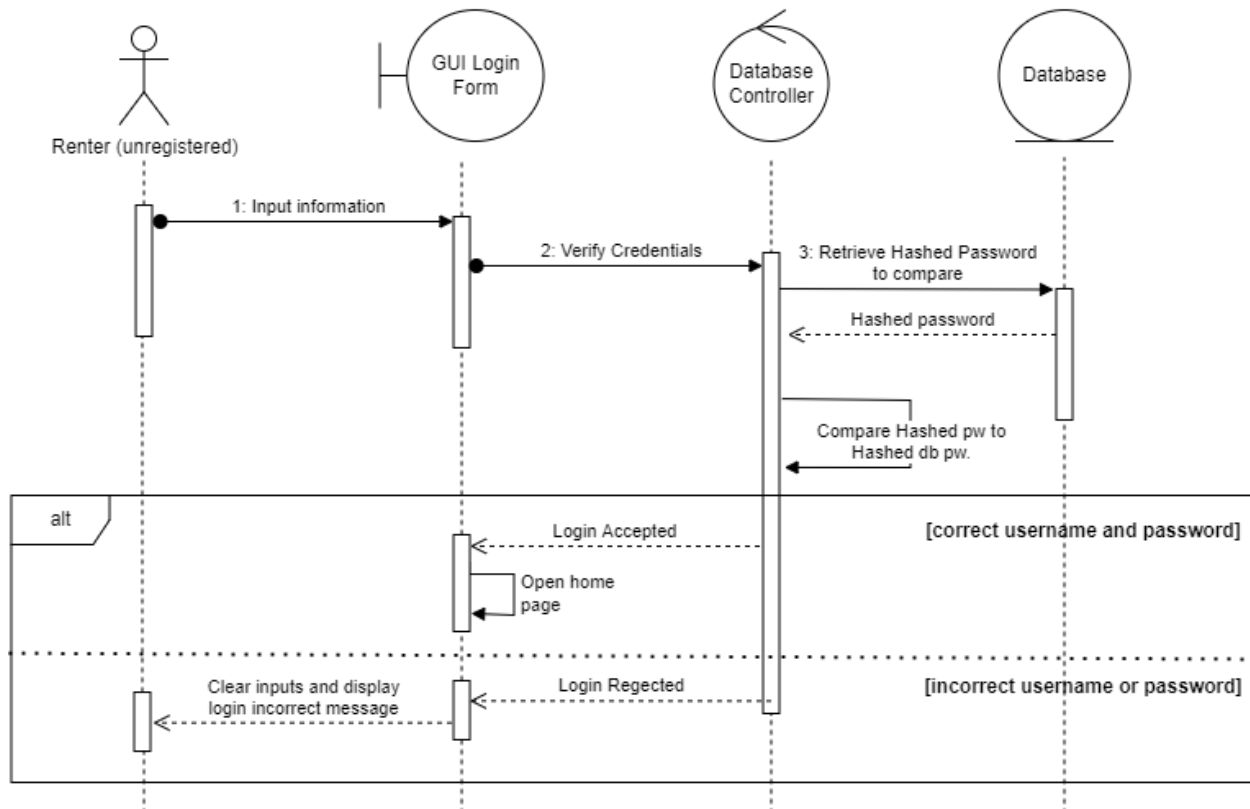
Systems Use Case Diagram



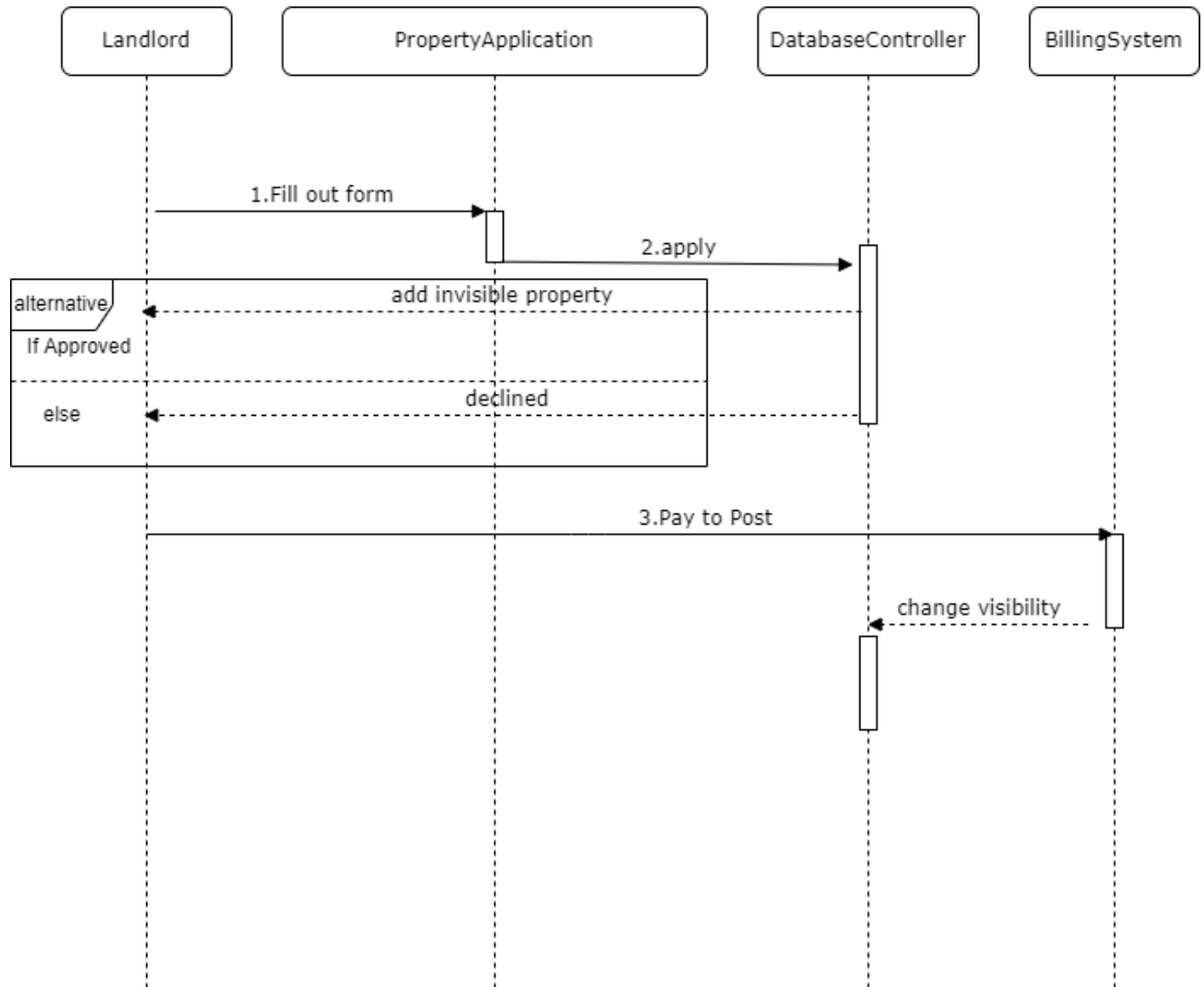
Sequence Diagrams

Login Sequence

Login Sequence Diagram

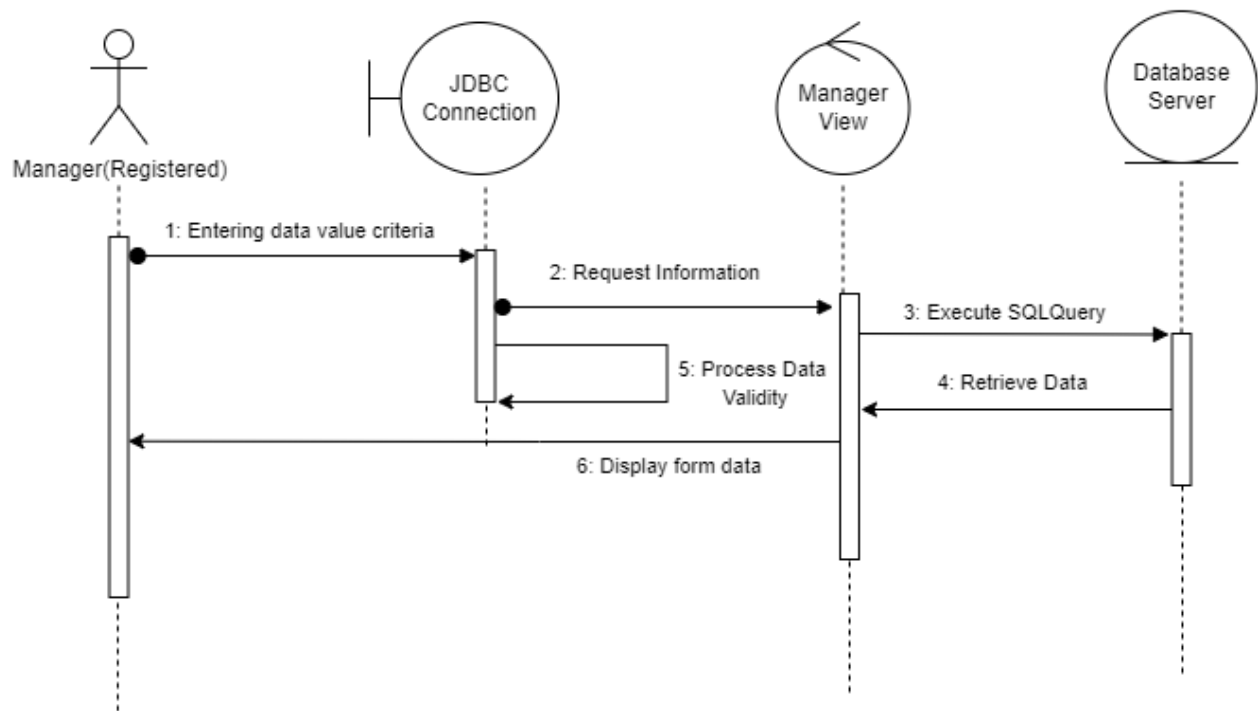


Landlord Posting Property Sequence

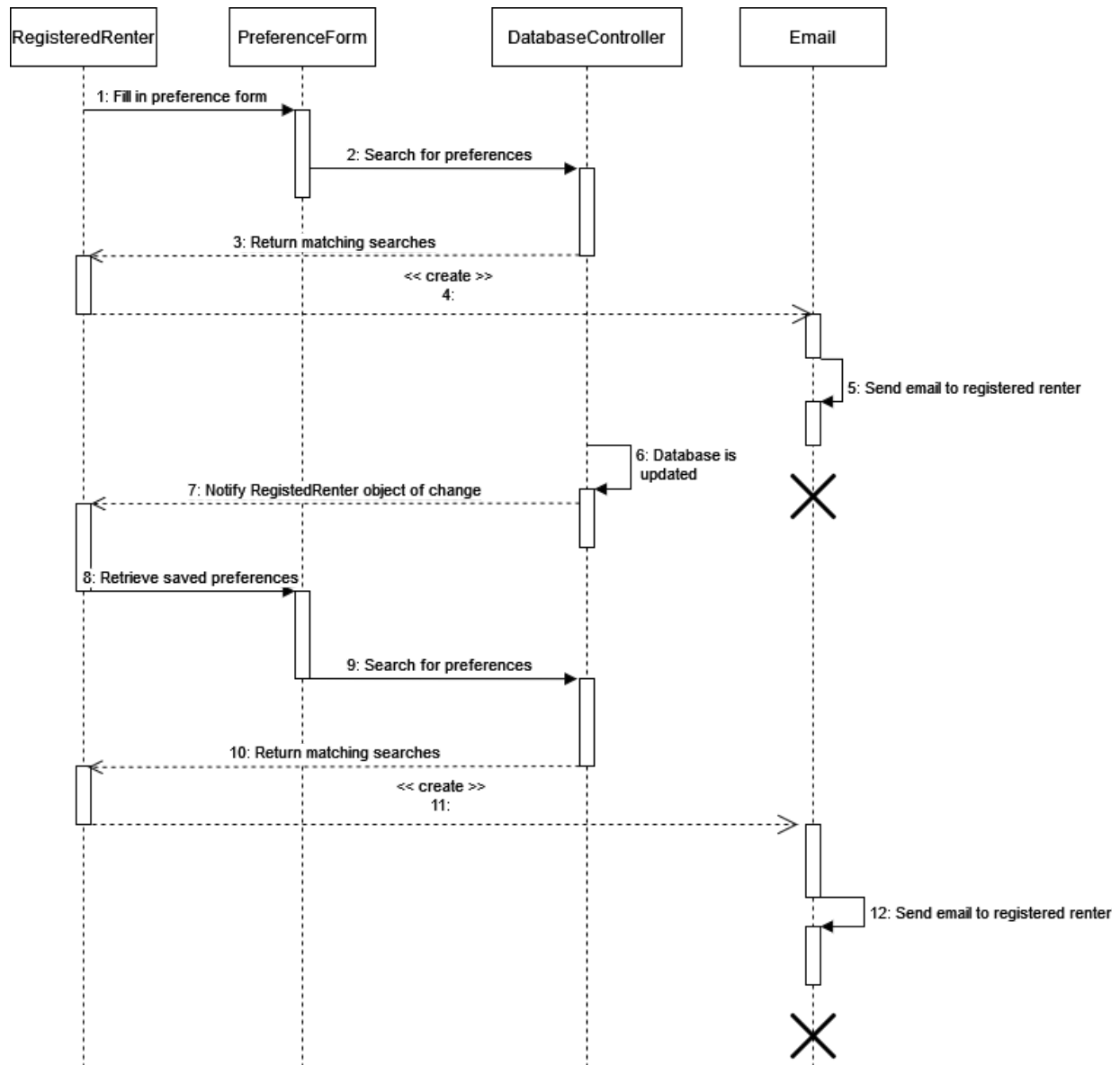


Database Access Sequence

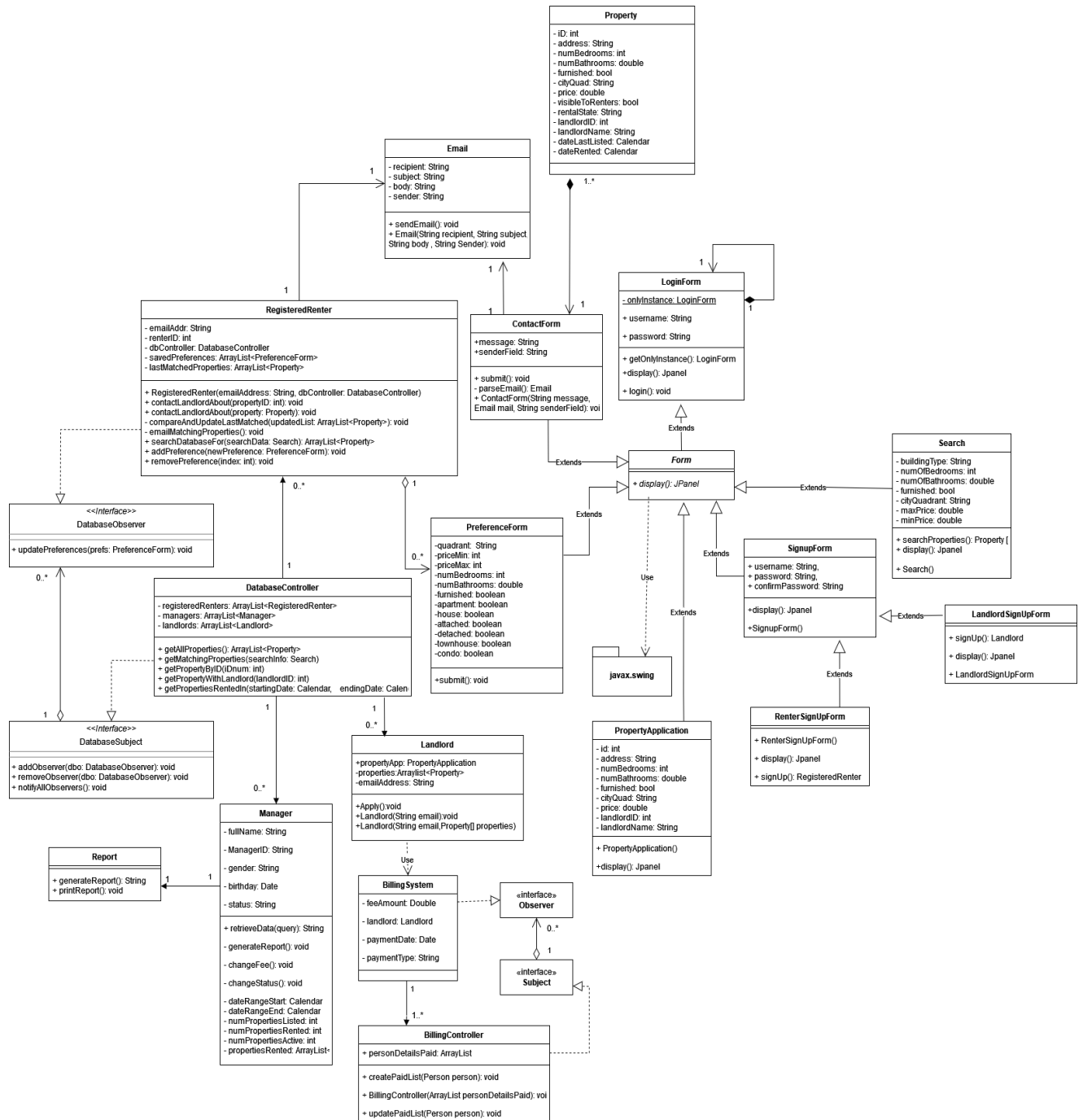
Database Access Sequence Diagram



Preference Setup and Notification Sequence



Class Relationship Diagram



Detailed Class Specifications

.forms

ContactForm
+message: String +senderField: String
+submit(): void +parseEmail(): Email +ContactForm(String message, Email mail, String senderField): void

PreferenceForm
-quadrant: String -priceMin: int -priceMax: int -numBedrooms: int -numBathrooms: double -furnished: boolean -apartment: boolean -house: boolean -attached: boolean -detached: boolean -townhouse: boolean -condo: boolean
+submit(): void +PreferenceForm(String quadrant, int priceMin, int priceMax, int numBedrooms, double numBathroom, boolean furnished, boolean apartment, boolean house, boolean attached, boolean detached, boolean townhouse, boolean condo):void +getPriceMin: int +getPriceMax: int +getNumBedrooms: int +getNumBathrooms: int +getFurnished: boolean +getApartment: boolean +getHouse: boolean +getAttached: boolean +getDetached: boolean +getTownhouse: boolean +getCondo: boolean

Form
+ display(): Jpanel

LoginForm
- <u>onlyInstance: LoginForm</u>
+ username: String + password: String
+ getOnlyInstance(): LoginForm - LoginForm() + display(): Jpanel + login(): void + getUsername(): String + setPassword(String): void + setUsername(String): void + getPassword(): String

PropertyApplication
- id: int - address: String - numBedrooms: int - numBathrooms: double - furnished: bool - cityQuad: String - price: double - landlordID: int - landlordName: String
+ PropertyApplication() + display(): Jpanel + setID(int): void + getID(): int + setAddress(String): void + getAddress(): String + setNumBedrooms(int): void + getNumBedrooms(): int + getNumBathrooms(): int + setNumBathrooms(int): void + setFurnished(boolean): void + getFurnished(): boolean + setCityQuad(String): void + getCityQuad(): String + setPrice(double): void + getLandlordID(): int + getPrice(): double + setLandlordID(int): void + setLandlordName(String): void + getLandlordName(): String

Search
- buildingType: String - numOfBedrooms: int - numOfBathrooms: double - furnished: bool - cityQuadrant: String - maxPrice: double - minPrice: double
+ searchProperties(): Property [] + display(): Jpanel + setNumBedrooms(int): void + getCityQuad(): String + setCityQuad(String): void + getFurnished(): boolean + setFurnished(boolean): void + setNumBathrooms(int): void + getNumBathrooms(): int + getNumBedrooms(): int + Search() + setBuildingType(String): void + getBuildingType(): String + getMaxPrice(): double + setMaxPrice(double): void + getMinPrice(): double + setMinPrice(double): void

RenterSignUpForm
+ display(): Jpanel + RenterSignUpForm() + signUp(): RegisteredRenter

LandlordSignUpForm
+ signUp(): Landlord + display(): Jpanel + LandlordSignUpForm

SignupForm
+ username: String, + password: String, + confirmPassword: String
+ display(): Jpanel + SignupForm() + getUsername(): String + getPassword(): String + setUsername(String): void + setPassword(String): void + setConfirmPassword(String): void + getConfirmPassword(): String

.dbcontrol

Report
<ul style="list-style-type: none"> - dateRangeStart: Calendar - dateRangeEnd: Calendar - numPropertiesListed: int - numPropertiesRented: int - numPropertiesActive: int - propertiesRented: ArrayList<Property>
<ul style="list-style-type: none"> + Report(startDate: Calendar, endDate: Calendar) + generateReport(): String+ printReport(): void + getDateRangeStart(): Calendar + getDateRangeEnd(): Calendar + getNumPropertiesListed(): int + getNumPropertiesRented: int + getNumPropertiesActive(): int + getPropertiesRented(): ArrayList<Property> + setDateRangeStart(startDate: Calendar) + setDateRangeEnd(endDate: Calendar) + setNumPropertiesListed(numListed: int) + setNumPropertiesRented(numRented: int) + setNumPropertiesActive(numActive: int) + addRentedProperty(property: Property) + removeRentedProperty(property: Property) + removeRentedProperty(index: int)

<<Interface>> DatabaseSubject
<ul style="list-style-type: none"> + addObserver(dbo: DatabaseObserver): void + removeObserver(dbo: DatabaseObserver): void + notifyAllObservers(): void

<<Interface>> DatabaseObserver
<ul style="list-style-type: none"> + updatePreferences(prefs: PreferenceForm): void

DatabaseController
<ul style="list-style-type: none"> - registeredRenters: ArrayList<RegisteredRenter>
<ul style="list-style-type: none"> + DatabaseController() + getAllProperties(): ArrayList<Property>+ getMatchingP + getPropertyByID(idnum: int) + getPropertyWithLandlord(landlordID: int) + getPropertiesRentedIn(startingDate: Calendar, endingDate: Calendar) + getRegisteredRenters(): ArrayList<RegisteredUsers> + addRegisteredRenter(renter: RegisteredRenter) + removeRenter(renter: RegisteredRenter)

.billcontrol

BillingSystem
<ul style="list-style-type: none">- feeAmount: Double- landlord: Landlord- paymentDate: Date- paymentType: String
<ul style="list-style-type: none">+ getPaymentType(): String+ getFeeAmount(): Double+ getPaymentDate(): Date+ getFeeAmount(): Double+ BillingSystem(Double feeAmount, Landlord landlord, Date paymentDate, String paymentType): void+ setPaymentDate(): void+ setFeeAmount(): void+ setPaymentType(): void

BillingController
<ul style="list-style-type: none">+ personDetailsPaid: ArrayList
<ul style="list-style-type: none">+ createPaidList(Person person): void+ getPersonDetailsPaid(): ArrayList+ BillingController(ArrayList personDetailsPaid): void+ updatePaidList(Person person): void+ setPersonDetailsPaid(): void

.users

Landlord
+propertyApp: PropertyApplication -properties: ArrayList<Property> -emailAddress: String
+Apply():void +Landlord(String email):void +Landlord(String email,Property[] properties) +getProperties():void

Manager
- fullName: String - ManagerID: String - gender: String - birthday: Date - status: String
+ retrieveData(query): String - generateReport(): void - changeFee(): void - changeStatus(): void + getFullName(): String + setFullName(): void + getManagerID(): String + setManagerID(): void + getManagerBirthday(): String + setManagerBirthday(): void + setStatus(): void + getStatus(): String + Manager(String fullName, String ManagerID, String gender, Date birthday, String status): void

RegisteredRenter
- emailAddr: String - renterID: int - dbController: DatabaseController - savedPreferences: ArrayList<PreferenceForm> - lastMatchedProperties: ArrayList<Property>
+ RegisteredRenter(emailAddress: String, dbController: DatabaseController) + getAllPreferences(): ArrayList<PreferenceForm> + getPreferenceAt(index: int): PreferenceForm + getEmailAddress(): String + getRenterID(): int + getDBController(): DatabaseController + getLastMatchedProperties(): ArrayList<Properties> + setEmailAddress(emailAddr: String) + setRenterID(id: int) + setdbController(dbController: DatabaseController) + setLastMatchedProperties(properties: ArrayList<Property>) + contactLandlordAbout(propertyID: int): void + contactLandlordAbout(property: Property): void - compareAndUpdateLastMatched(updatedList: ArrayList<Property>): void - emailMatchingProperties(): void + searchDatabaseFor(searchData: Search): ArrayList<Property> + addPreference(newPreference: PreferenceForm): void + removePreference(index: int): void

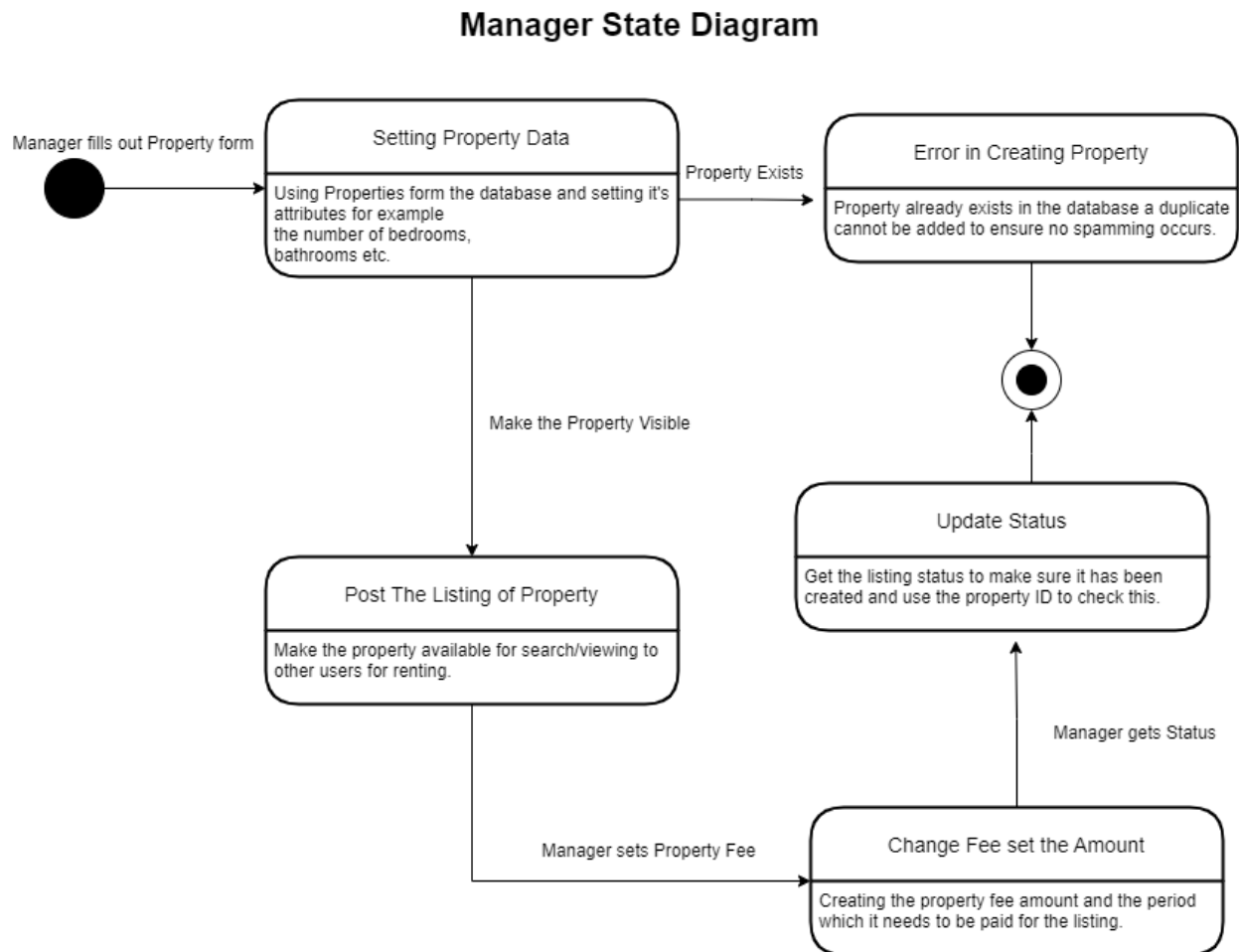
.external

Email
- recipient: String - subject: String - body: String - sender: String
+ sendEmail(): void + setRecient(): String + setSubject(): String + setBody(): String + setSender():String + getRecient(): String + getSubject(): String + getBody(): String + getSender():String + Email(String recipient, String subject, String body , String Sender): void

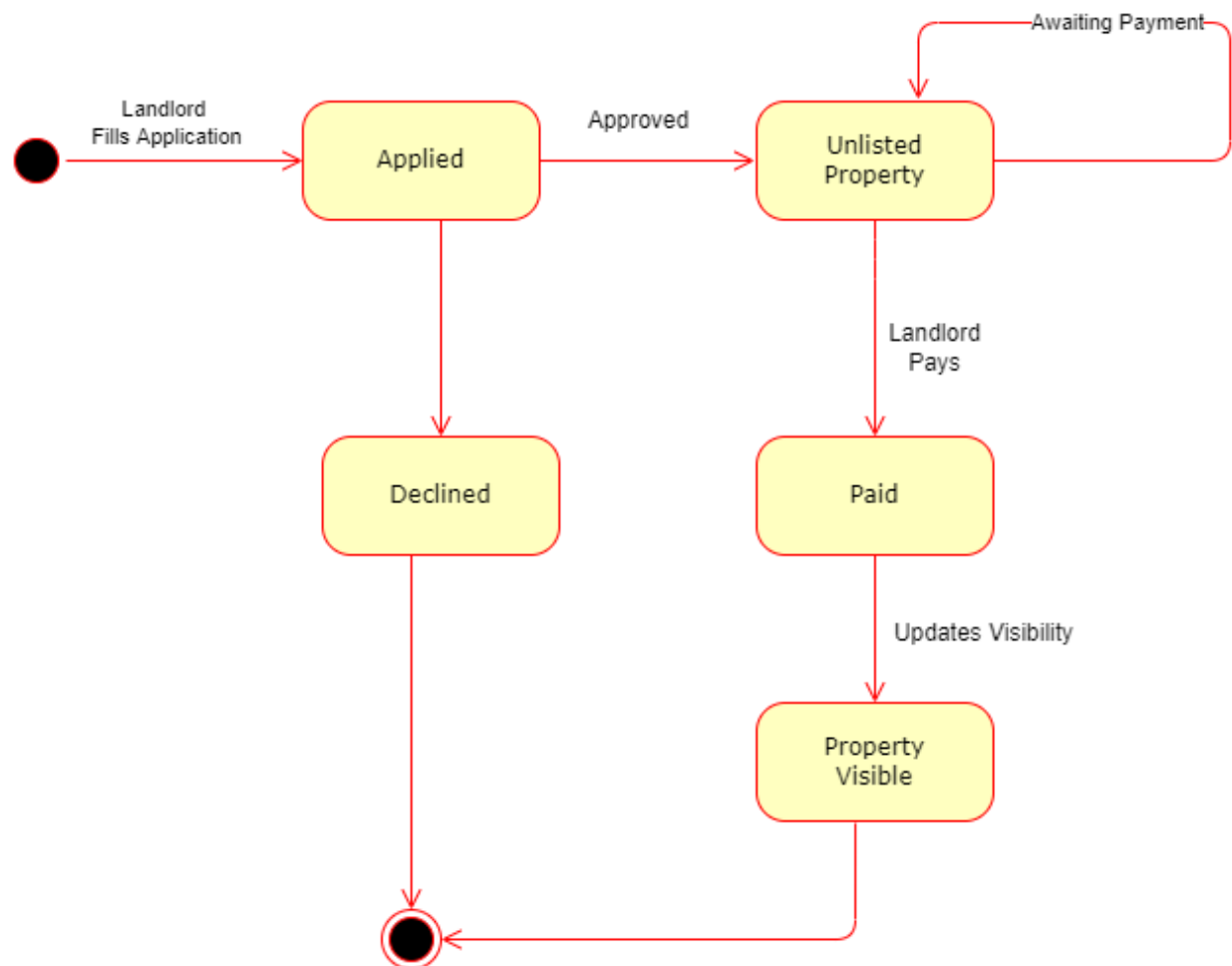
Property
- iD: int - address: String - numBedrooms: int - numBathrooms: double - furnished: bool - cityQuad: String - price: double - visibleToRenters: bool - rentalState: String - landlordID: int - landlordName: String - dateLastListed: Calendar - dateRented: Calendar
+ Property(iD: int, address: String, numBedrooms: int, nunBathrooms: int, furnished: boolean, cityQuad: String, price: double, visibleToRenters: boolean, rentalState: String, landlordID: int, landlordName: String) + getID(): int+ getAddress(): String + getBedrooms(): int + getBathrooms(): double + getFurnished(): bool + getCityQuad: String + getPrice(): int + getVisibleToRenters(): bool + getRentalState(): String + getLandlordID(): int + getLandlordName(): String + getDateLastListed(): Calendar + getDateRented(): Calendar + setAddress(addr: String) + setBedrooms(numBedrooms: int) + setBathrooms(numBathrooms: double) + setFurnished(isFurnished: bool) + setPrice(price: int) + setVisibleToRenters(isVisible: bool) + setRentalState(rentalState: String) + setLandlordID(landlordID: int) + setLandlordName(name: String) + setDateLastListed(date: Calendar) + setDateRented(date: Calendar)

State Transition Diagrams

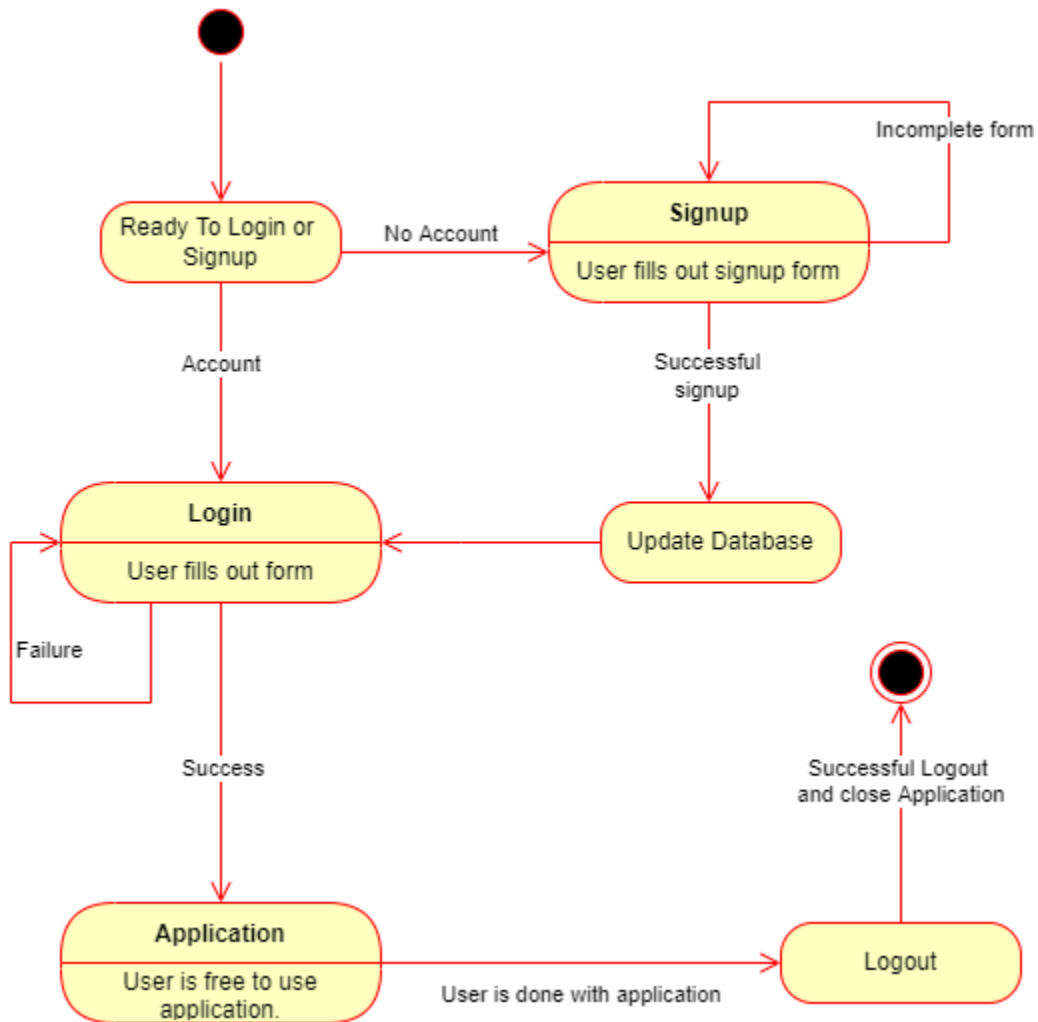
Manager State Diagram



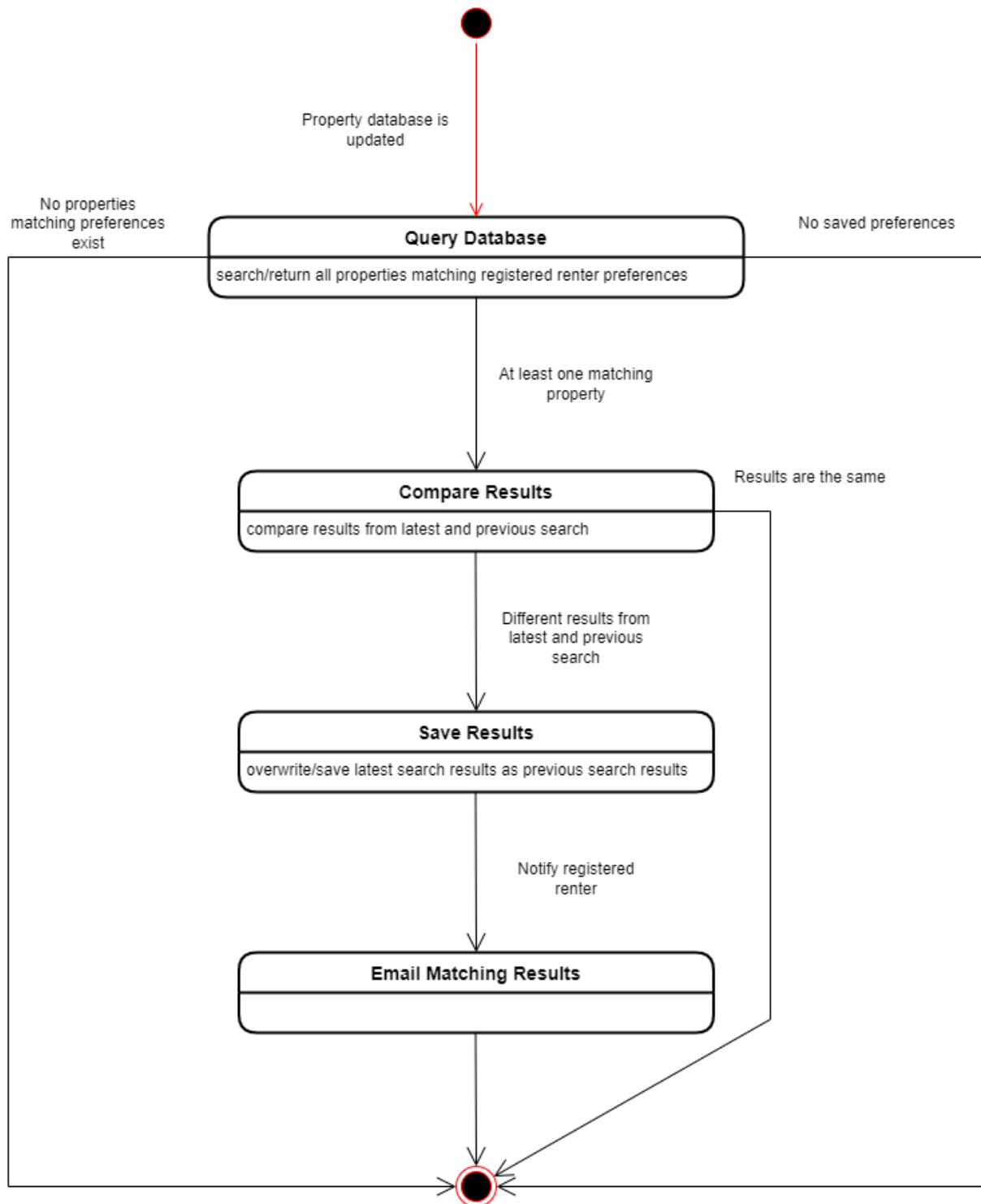
Landlord Publicly Posting Property Listing



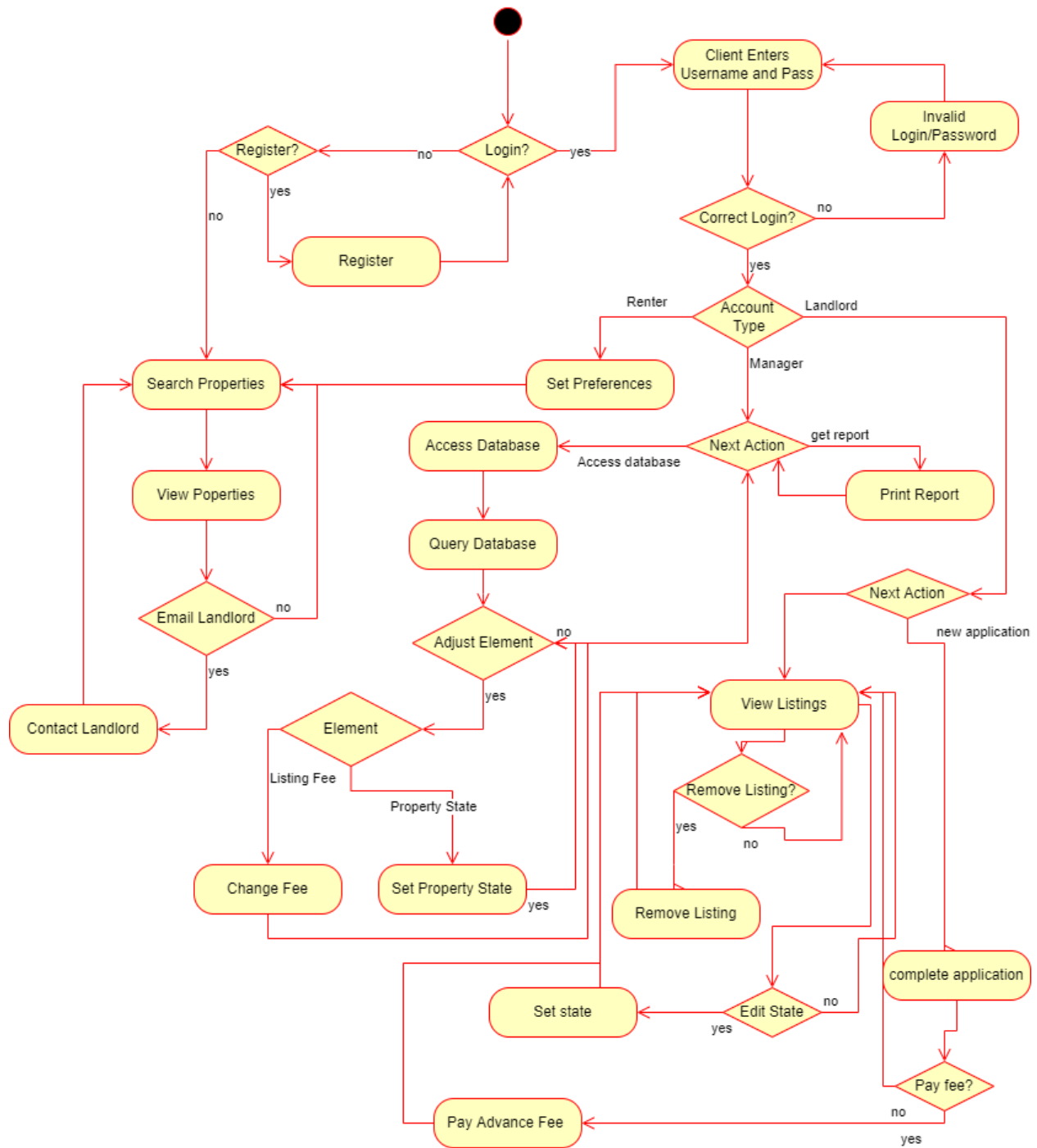
Signup and Log In Process



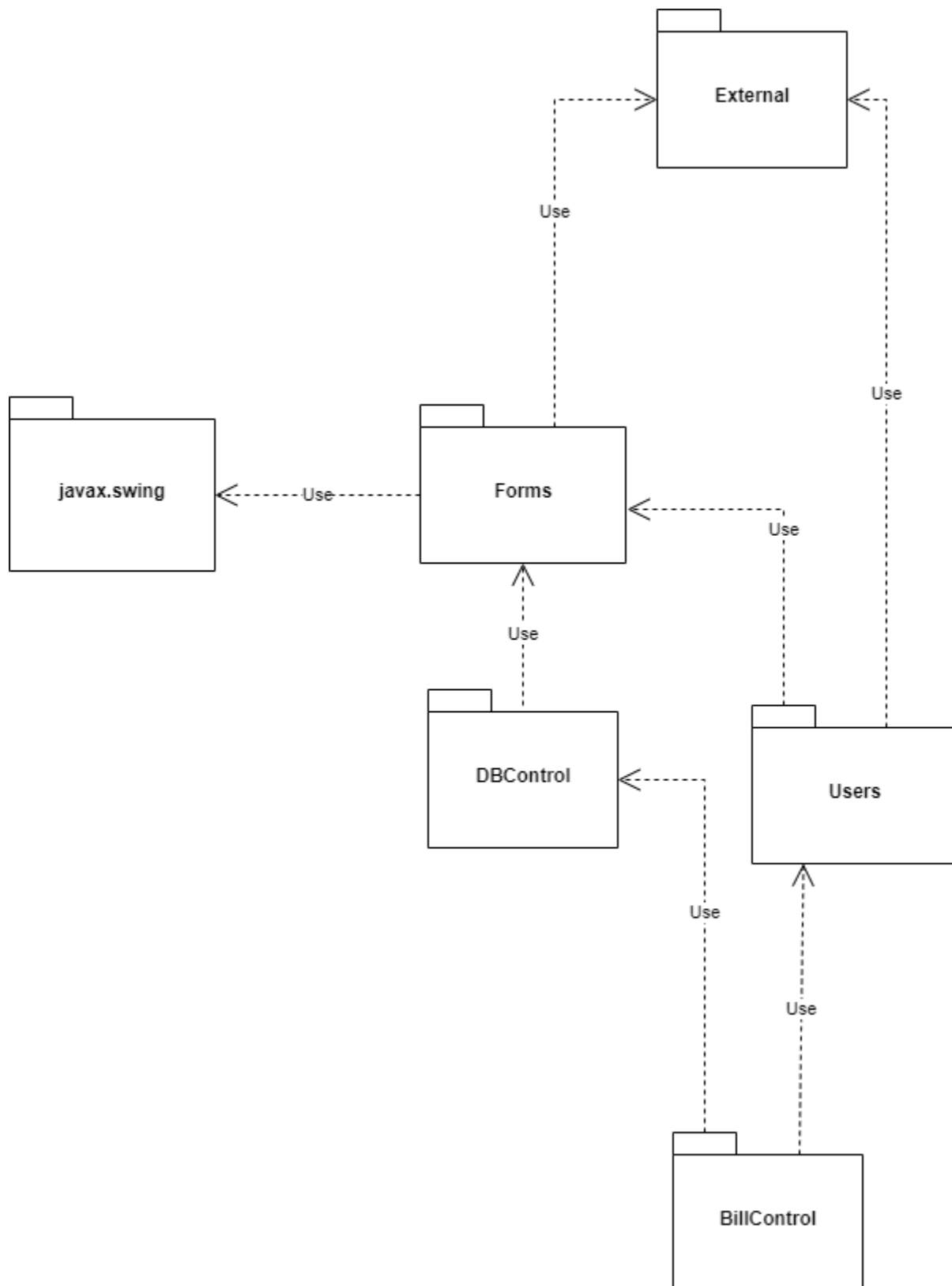
Preference Notification Process



System Activities Diagram



Package Diagram



Deployment Diagram

