

**МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РОССИЙСКОЙ
ФЕДЕРАЦИИ**

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Этап выполнения проекта №3

По дисциплине «Анализ и проектирование на UML»

Моделирование поведения

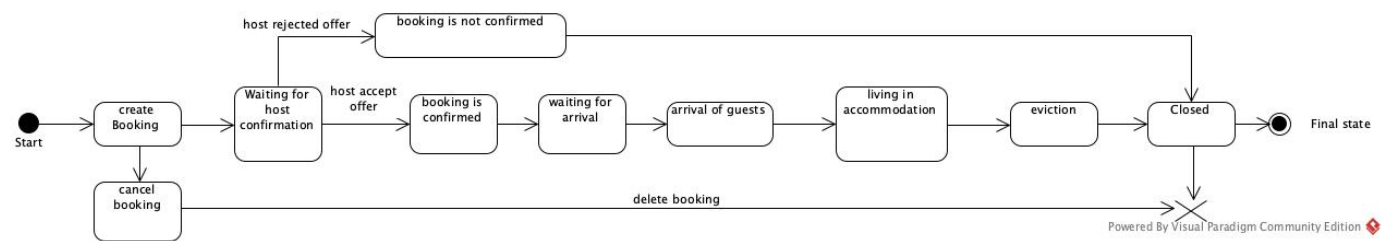
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САНКТ-ПЕТЕРБУРГ

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Содержание отчёта

Диаграммы состояний:



Ниже 2 диаграммы последовательности

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sequenceDiagram
    participant Tenant
    participant Website
    participant System
    participant BaseAccommodations
    participant AccountingSystem as Accounting System
    participant HostAccount

    alt [user is registered == true]
        Tenant->>Website: 1: search places to stay by parameters
        Website->>System: 1.1: search accommodations
        System->>BaseAccommodations: 1.1.1: search available accommodations
        BaseAccommodations->>BaseAccommodations: 1.1.1.1: search
        BaseAccommodations->>System: 1.1.1.2: available items
        System->>Website: 1.2: display items
        Website->>Tenant: 1.3: show search result

        Tenant->>Website: 2: browse accommodations
        Website->>System: 2.1: get information of accommodation
        System->>BaseAccommodations: 2.1.1: pack information
        BaseAccommodations->>System: 2.1.1.1: display information
        System->>Website: 2.1.1.1.1: show profile of accommodation
        Website->>Tenant: 2.1.1.1.1: show profile of accommodation

        Tenant->>Website: 3: make booking
        Website->>System: 3.1: check to have user logged
        System->>System: 3.1.1: cheking
        System->>Website: 3.1.2: result of checking
        Website->>System: 3.2: booking request
        System->>Booking: 3.2.1: create booking
        System->>Booking: 3.2.2: info selected dates
        System->>Booking: 3.2.3: info number of guests
        System->>Booking: 3.2.4: info profile tenant
        System->>Booking: 3.2.5: item accommodation
        Booking->>BaseAccommodations: 3.2.5.1: get price for night
        BaseAccommodations->>BaseAccommodations: 3.2.5.1.1: search accommodations
        BaseAccommodations->>BaseAccommodations: 3.2.5.1.2: price
        BaseAccommodations->>BaseAccommodations: 3.2.5.2: calculate total price
        BaseAccommodations->>System: 3.2.5.3: total price
        System->>Website: 3.3: display form to payment
        Website->>Tenant: 3.4: confirm and payment form

        Tenant->>Website: 4: enter card information
        Website->>System: 4.1: card info
        System->>System: 4.1.1: make a request to bank
        System->>System: 5.1.1: send code to bank
        System->>System: 5.1.2: get response from bank
        System->>Website: 5.1: code
        Website->>Tenant: 4.1.3: confirm bank operation
        Tenant->>Website: 5: enter code

        alt [payment = successful]
            System->>AccountingSystem: 5.1.3: send message about payment
            AccountingSystem->>AccountingSystem: 5.1.3.1: update info
            AccountingSystem->>HostAccount: 5.1.5.1: send info reserve accommodation
            HostAccount->>HostAccount: 5.1.5.2: accept booking
            HostAccount->>System: 5.1.6: reservation made
            System->>System: 5.1.8: change status reserved accommodation item for some date
            System->>System: 5.1.10: send payment info of host
            System->>AccountingSystem: 5.1.10.1: send money to host bank account
            AccountingSystem->>HostAccount: 5.1.10.2: message about sending money to his bank account
            HostAccount->>HostAccount: 5.1.10.2.1: reject booking
            HostAccount->>System: 5.1.8.1: change dates in item
            System->>System: 6.2: send payment info of tenant
            System->>AccountingSystem: 6.2.1: send money to tenant bank account
            AccountingSystem->>System: 6.2.2: message about sending money to his bank account
            System->>System: 6.3: reject booking

            alt [host accept booking]
                System->>Website: 5.1.7: send message booking approved
                Website->>Tenant: 5.1.9: send email about booking
            else [accommodation is reserved]
                System->>Website: 6.1: send message booking not approved
                Website->>Tenant: 6.1.1: accommodation is not reserved
            end
        end

        alt [payment failed]
            System->>Website: 6.4: payment failed
            Website->>Tenant: 6.4.1: show window with no successful payment
        end

        alt [make register]
            Tenant->>Website: 7: make register
            Website->>System: 7.1: send info
            System->>System: 7.1.1: check for correct
            System->>Website: 7.1.2: send account confirmation link
            Website->>Tenant: 7.2: send account confirmation link
        end
    end

```

UML sequence diagram illustrating the booking process involving the following participants: Tenant, Website, System, BaseAccommodations, Accounting System, and HostAccount.

The process is divided into several main sections, some of which are conditional (alt):

- Search Phase:**
 - Tenant sends "1: search places to stay by parameters" to Website.
 - Website sends "1.1: search accommodations" to System.
 - System sends "1.1.1: search available accommodations" to BaseAccommodations.
 - BaseAccommodations performs self-call "1.1.1.1: search" and returns "1.1.1.2: available items" to System.
 - System returns "1.2: display items" to Website.
 - Website returns "1.3: show search result" to Tenant.
- Browse Phase:**
 - Tenant sends "2: browse accommodations" to Website.
 - Website sends "2.1: get information of accommodation" to System.
 - System sends "2.1.1: pack information" to BaseAccommodations.
 - BaseAccommodations returns "2.1.1.1: display information" to System.
 - System returns "2.1.1.1.1: show profile of accommodation" to Website.
 - Website returns "2.1.1.1.1: show profile of accommodation" to Tenant.
- Booking Phase:**
 - Tenant sends "3: make booking" to Website.
 - Website sends "3.1: check to have user logged" to System.
 - System performs self-call "3.1.1: cheking" and returns "3.1.2: result of checking" to Website.
 - Website sends "3.2: booking request" to System.
 - System sends "3.2.1: create booking" to Booking object.
 - System sends "3.2.2: info selected dates", "3.2.3: info number of guests", "3.2.4: info profile tenant", and "3.2.5: item accommodation" to Booking object.
 - Booking object sends "3.2.5.1: get price for night" to BaseAccommodations.
 - BaseAccommodations performs self-calls "3.2.5.1.1: search accommodations" and "3.2.5.1.2: price", then returns "3.2.5.2: calculate total price" to Booking object.
 - Booking object returns "3.2.5.3: total price" to System.
 - System sends "3.3: display form to payment" to Website.
 - Website sends "3.4: confirm and payment form" to Tenant.
- Payment Phase:**
 - Tenant sends "4: enter card information" to Website.
 - Website sends "4.1: card info" to System.
 - System performs self-calls "4.1.1: make a request to bank", "5.1.1: send code to bank", and "5.1.2: get response from bank".
 - System sends "5.1: code" to Website.
 - Website sends "4.1.3: confirm bank operation" to Tenant.
 - Tenant sends "5: enter code" to Website.
- Confirmation and Payment Processing (Conditional):**
 - Alt [payment = successful]:**
 - System sends "5.1.3: send message about payment" to Accounting System.
 - Accounting System performs self-call "5.1.3.1: update info" and sends "5.1.5.1: send info reserve accommodation" to HostAccount.
 - HostAccount performs self-call "5.1.5.2: accept booking" and returns "5.1.6: reservation made" to System.
 - System sends "5.1.8: change status reserved accommodation item for some date" to BaseAccommodations.
 - System sends "5.1.10: send payment info of host" to Accounting System.
 - Accounting System performs self-call "5.1.10.1: send money to host bank account" and sends "5.1.10.2: message about sending money to his bank account" to HostAccount.
 - HostAccount performs self-call "5.1.10.2.1: reject booking" and returns "5.1.8.1: change dates in item" to System.
 - System sends "6.2: send payment info of tenant" to Accounting System.
 - Accounting System performs self-call "6.2.1: send money to tenant bank account" and returns "6.2.2: message about sending money to his bank account" to System.
 - System performs self-call "6.3: reject booking".
 - Alt [host accept booking]:**
 - System sends "5.1.7: send message booking approved" to Website.
 - Website sends "5.1.9: send email about booking" to Tenant.
 - Alt [accommodation is reserved]:**
 - System sends "6.1: send message booking not approved" to Website.
 - Website sends "6.1.1: accommodation is not reserved" to Tenant.
- Payment Failure:**
 - System sends "6.4: payment failed" to Website.
 - Website sends "6.4.1: show window with no successful payment" to Tenant.
- Registration Phase:**
 - Tenant sends "7: make register" to Website.
 - Website sends "7.1: send info" to System.
 - System performs self-call "7.1.1: check for correct" and returns "7.1.2: send account confirmation link" to Website.
 - Website sends "7.2: send account confirmation link" to Tenant.

