

**VISOKA ŠKOLA STRUKOVNIH STUDIJA ZA INFORMACIONE TEHNOLOGIJE**



**ITS** INFORMATION  
TECHNOLOGY  
SCHOOL

VISOKA ŠKOLA STRUKOVNIH STUDIJA ZA IT

POWERED BY  COMTRADE | **LINKgroup**

Projekat

## **Projektovanje i razvoj Java Web aplikacije za rezervaciju hotelskih soba**

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## 1. VERBALNI MODEL

Korisnici aplikacije su klijenti, administratori i menadžeri hotela.

Klijentski deo aplikacije obezbeđuje klijentima mogućnost registracije, logovanja, menjanje svojih korisničkih podataka, brisanje svog naloga, pretraživanja hotela, pretraživanja hotelskih soba i rezervacije hotelskih soba u nekom od njih, kao i otkazivanje rezervacija. Pri svakoj rezervaciji klijenti dobijaju određeni broj poena koje kasnije mogu iskoristiti za nove rezervacije.

Administratori imaju mogućnost logovanja, kreiranja, izmene i brisanja hotela, hotelskih soba i tipova hotelskih soba.

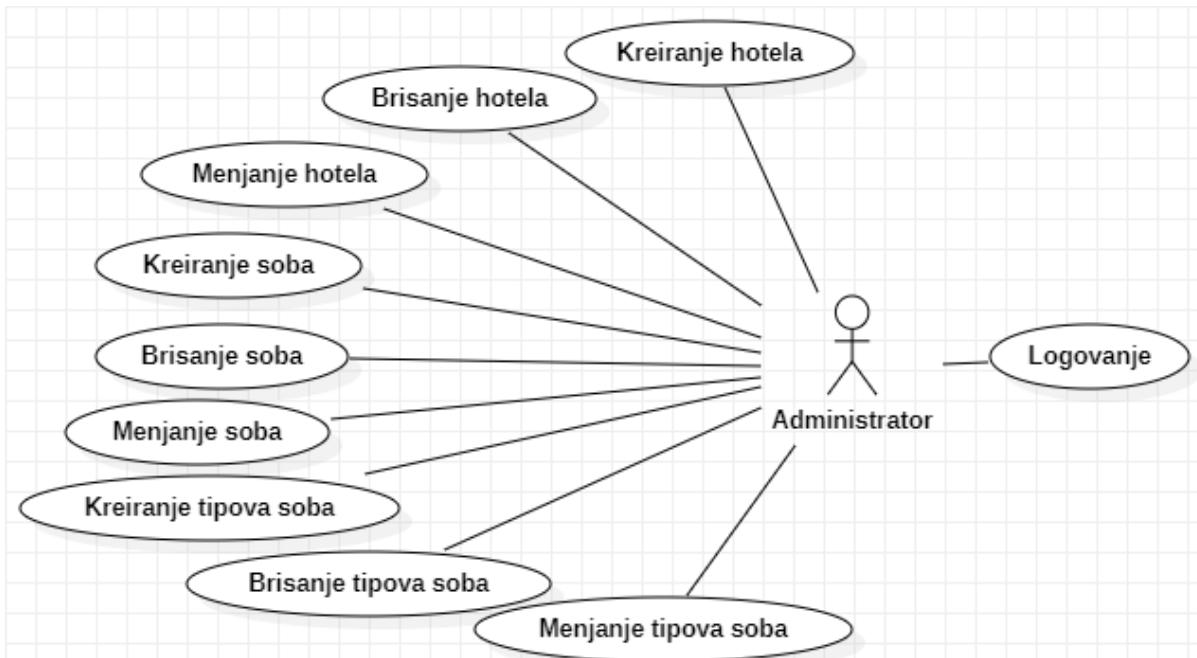
Menadžeri hotela imaju slične mogućnosti, ali na nivou jednog hotela, tj. logovanje, izmenu hotela, kreiranje hotelskih soba, izmenu i brisanje hotelskih soba, kreiranje, izmenu i brisanje tipa hotelskih soba.

## 2. SLUČAJEVI KORIŠĆENJA

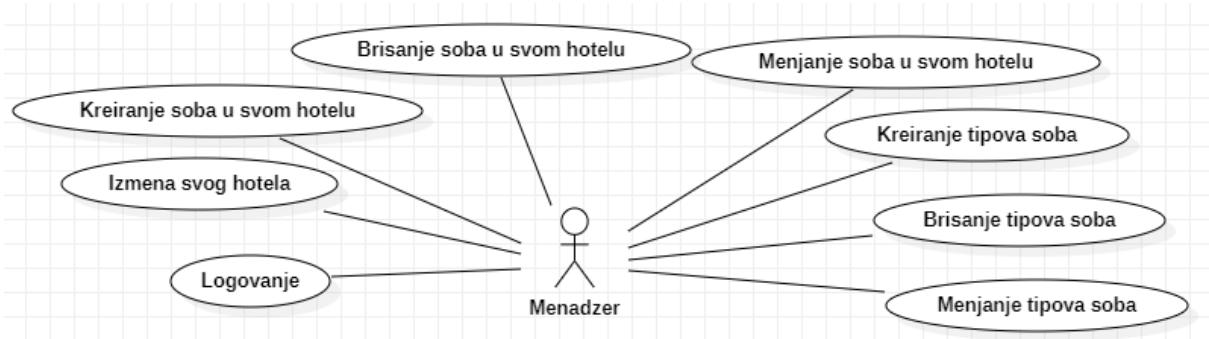
Na osnovu verbalnog modela uočeni su sledeći slučajevi korišćenja:

- Administrator:

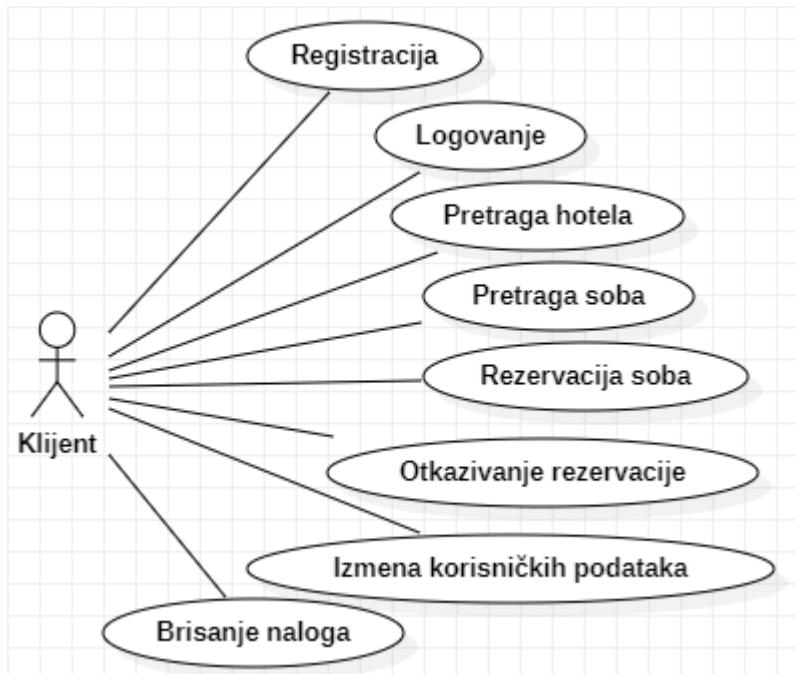
1. Logovanje
2. Kreiranje, brisanje i menjanje hotela
3. Kreiranje, brisanje i menjanje soba
4. Kreiranje, brisanje i menjanje tipova soba



- Menadžer:
  1. Logovanje
  2. Izmena svog hotela
  3. Kreiranje, brisanje i menjanje soba u svom hotelu
  4. Kreiranje, brisanje i menjanje tipova soba



- Klijent:
  1. Registracija
  2. Logovanje
  3. Menjanje detalja svog profila
  4. Pretraga hotela i soba
  5. Pravljenje rezervacije
  6. Otkazivanje rezervacije
  7. Brisanje profila



### **3. OPIS SLUČAJEVA KORIŠĆENJA, SISTEMSKI DIJAGRAMI SEKVENCI ZA SK I PROJEKTOVANJE KORISNIČKOG INTERFEJSA**

#### **3.1. SVI KORISNICI**

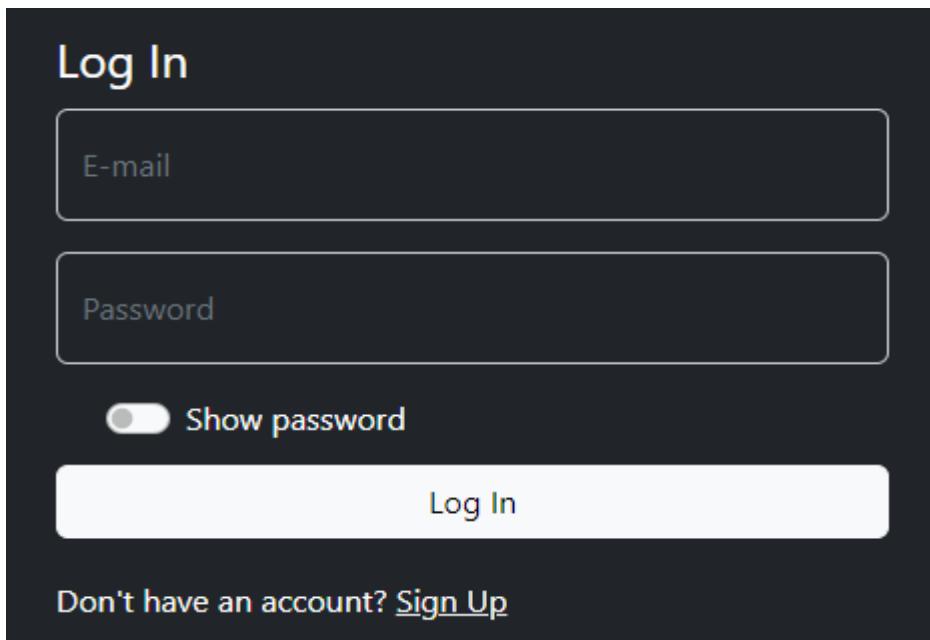
##### **SK1: ULOGOVANJE U APLIKACIJU**

**Naziv:** Ulogovanje u aplikaciju

**Aktori:** Klijent, Menadžer, Administrator

**Učesnici:** Klijent, Menadžer, Administrator, Sistem

**Preduslov:** Otvorena je forma za ulogovanje



The image shows a dark-themed login interface. At the top center is the text "Log In". Below it are two input fields: the top one is labeled "E-mail" and the bottom one is labeled "Password". To the left of the "Password" field is a toggle switch with the text "Show password" next to it. Below these fields is a large, light-colored "Log In" button with blue text. At the bottom of the form, there is a link "Don't have an account? [Sign Up](#)".

##### **Osnovni scenario:**

1. Korisnik unosi email i šifru i klikće na dugme "Log In" (APUSO)

# Log In

E-mail  
vladan9820@its.edu.rs

Password  
\*\*\*\*\*

Show password

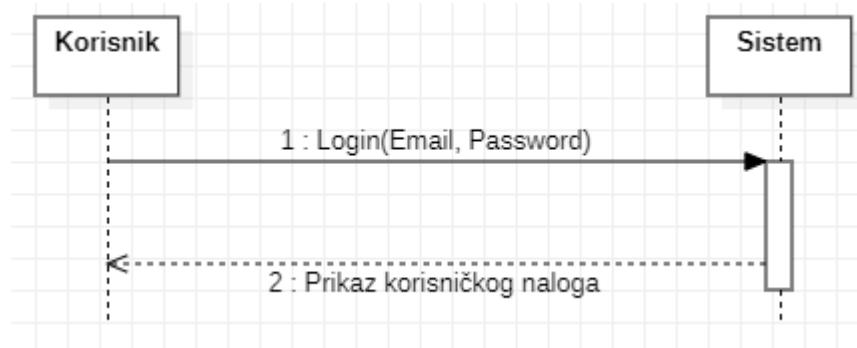
**Log In**

Don't have an account? [Sign Up](#)

2. Sistem validira unete podatke (SO)
3. Sistem prikazuje nalog korisnika koji se ulogovao (IA)

Kontinental Hotels Rooms Room Types Log Out

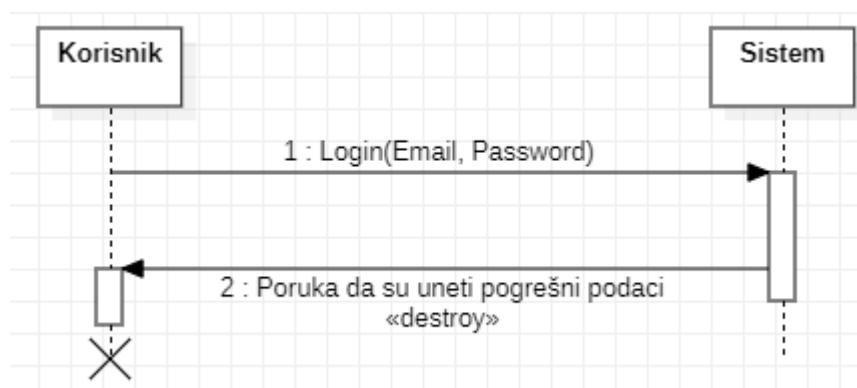
Full Name:	Vladan Tešić	E-mail:	vladan9820@its.edu.rs	<a href="#">Show All Hotels</a>
Phone number:	0694202344	Hired:	Friday 15. April, 2016	<a href="#">Show All Rooms</a>
Country:	Serbia	City:	Belgrade	<a href="#">Show All Room Types</a>
Address:	Španskih boraca 34	Birthday:	Sunday 2. September, 2001	



**Alternativni scenario:**

2.1. Korisnik je uneo pogrešne podatke i sistem ga obaveštava o tome

The screenshot shows a dark-themed mobile application interface titled "Log In". It features two input fields: one for "E-mail" containing "vladan9820@its.edu.rs" with a red exclamation mark icon, and another for "Password" containing "....." with a red exclamation mark icon. Below each field is a red error message: "Email or password are incorrect!". A "Show password" toggle switch is present. At the bottom is a large blue "Log In" button. At the very bottom, there is a link "Don't have an account? [Sign Up](#)".



**Uvedene su sistemske operacije:**

1. Login>Email, Password)

**3.2. KLIJENT****SK2: REGISTRACIJA KLIJENTA****Naziv:** Registracija Klijenta**Aktori:** Klijent**Učesnici:** Klijent, Sistem**Preduslovi:** Otvorena je forma za registraciju

Create an Account

First Name	Last Name
Country: Please Select One	City
Address	Phone Number
E-mail	Password

Date of Birth:

Show password

Already have an account? [Log In](#)

**Osnovni scenario:**

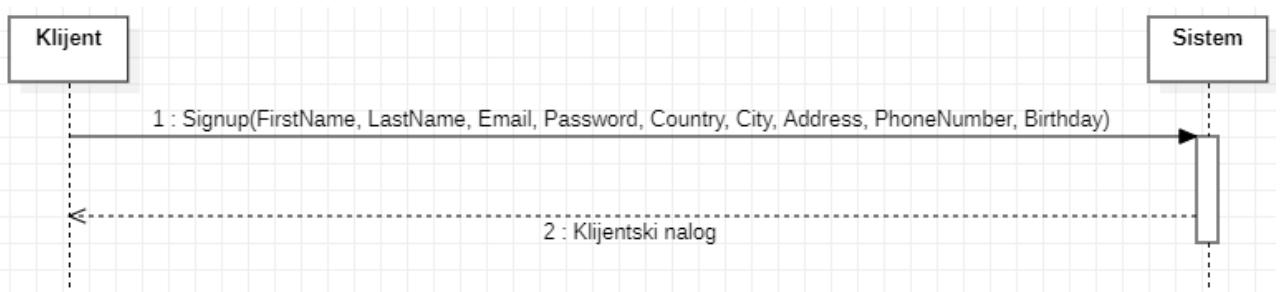
1. Klijent popunjava formu za registraciju i klikće dugme "Sign Up" (APUSO)

## Create an Account

First Name Ana	Last Name Anic
Country: Switzerland	City Geneva
Address Address 64	Phone Number 1236547890
E-mail ana@gmail.com	Password .....
Date of Birth: 18-Nov-1992 <input type="button" value=""/>	
<input type="button" value="Sign Up"/> <span style="float: right;">Already have an account? <a href="#">Log In</a></span>	

2. Sistem obradjuje unete podatke (SO)
3. Sistem klijentu prikazuje stranicu njegovog profila (IA)

Kontinental  Browse Hotels  Your Reservations  Log Out

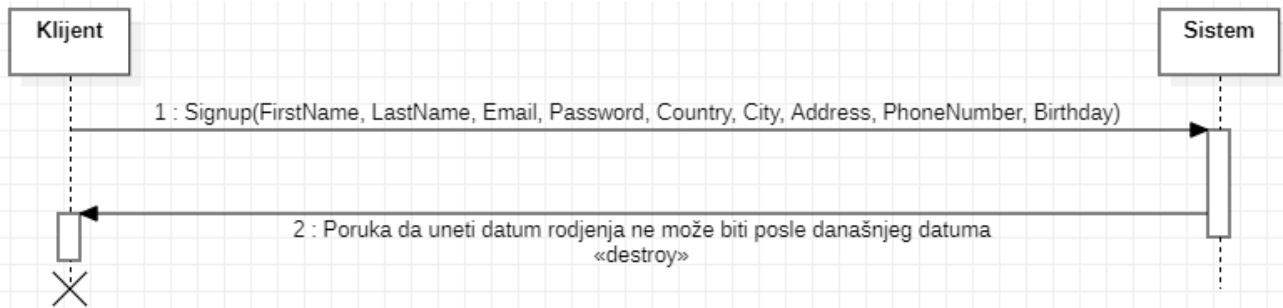


### Alternativni scenario:

- 2.1. Klijent je za svoj datum rodjenja uneo datum koji je posle današnjeg dana i sistem ga obaveštava o tome (IA)

## Create an Account

First Name Ana	Last Name Anić
Country: Switzerland	City Geneva
Address Address 64	Phone Number 1236547890
E-mail ana@gmail.com	Password .....
Date of Birth: 23-Jun-2023 <input type="button" value="Calendar"/> <input type="button" value="Help"/>	
<span style="color: red;">Birthday can't be after the current date!</span>	
<input type="button" value="Sign Up"/> <span style="float: right;">Already have an account? <a href="#">Log In</a></span>	



2.2. Klijent je uneo email koji je već registrovan u sistemu i dobija poruku o tome (IA)

### Create an Account

First Name  
Ana

Last Name  
Anic

Country:  
Switzerland

City  
Geneva

Address  
Address 64

Phone Number  
1236547890

E-mail  
marko@gmail.com

>Password  
.....

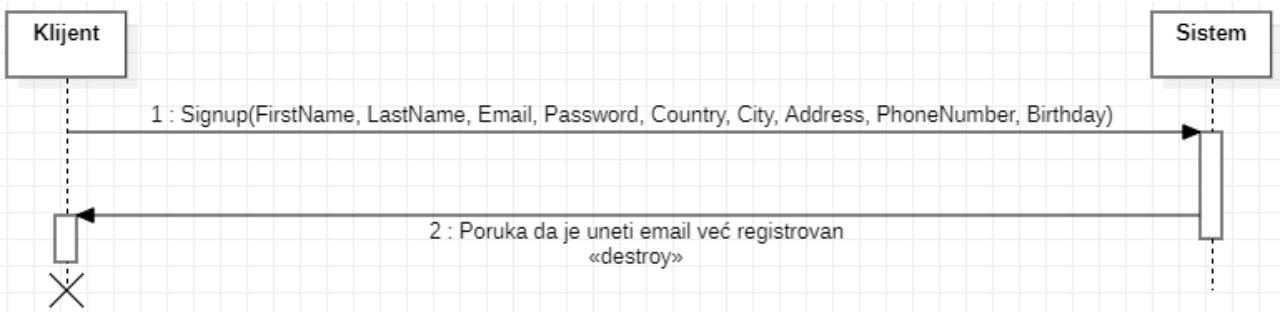
Email has already been registered !

Date of Birth:  
18-Nov-1992

Show password

[Sign Up](#)

Already have an account? [Log In](#)



#### Uvedene su sistemske operacije:

1. Signup(FirstName, LastName, Email, Password, Country, City, Address, PhoneNumber, Birthday)

#### SK3: IZMENA DETALJA KLIJENTSKOG NALOGA

**Naziv:** Izmena detalja klijentskog naloga

**Aktori:** Klijent

**Učesnici:** Klijent, Sistem

**Preduslovi:** Klijent je ulogovan, pokrenuta je forma za izmenu detalja profila

## Edit Account Details

First Name:

Last Name:

Country:

City:

Address:

Phone Number:

Email:

Password:

Show password

Date of Birth:



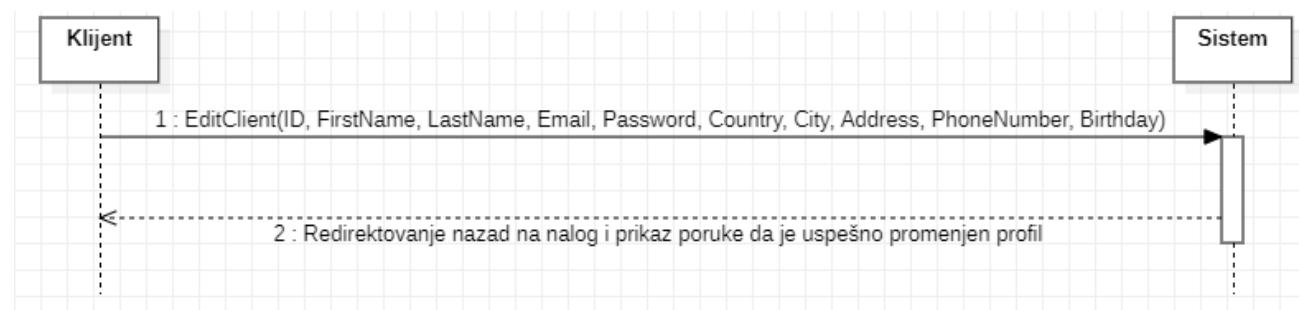
[Edit Account](#)

### Osnovni scenario:

1. Forma je već popunjena sa detaljima koje je klijent uneo pri registraciji, polja "Country" i "Password" ako se ostave prazna znači da se neće menjati. Ostala polja klijent popunjava kako poželi i klikće dugme "Edit Account" (APUSO)
2. Sistem obradjuje unete podatke (SO)
3. Sistem vraća klijenta na njegov nalog i prikazuje mu poruku da je izmena profila uspešno odradjena (IA)

Your account details have been updated!

Full Name:	Ana Anic	Number of Points:	0	<a href="#">Edit Account Details</a>
E-mail:	ana@gmail.com	Phone number:	1236547890	<a href="#">Browse Hotels</a>
Country:	Switzerland	City:	Geneva	<a href="#">Your Reservations</a>
Address:	Address 64	Birthday:	Wednesday 18. November, 199	<a href="#">Delete Account</a>



### Alternativni scenario:

- 2.1. Klijent je uneo email nekog drugog korisnika i obavešten je o tome (IA)

## Edit Account Details

First Name:

Last Name:

Country:

City:

Address:

Phone Number:

Email:

Password:

Email you put in has already been registered!

Date of Birth:



Show password

[Edit Account](#)

Klijent

Sistem

1 : EditClient(ID, FirstName, LastName, Email, Password, Country, City, Address, PhoneNumber, Birthday)

2 : Poruka da je uneti email već registrovan  
«destroy»

### Uvedene su sistemske operacije:

1. EditClient(ID, FirstName, LastName, Email, Password, Country, City, Address, PhoneNumber, Birthday)

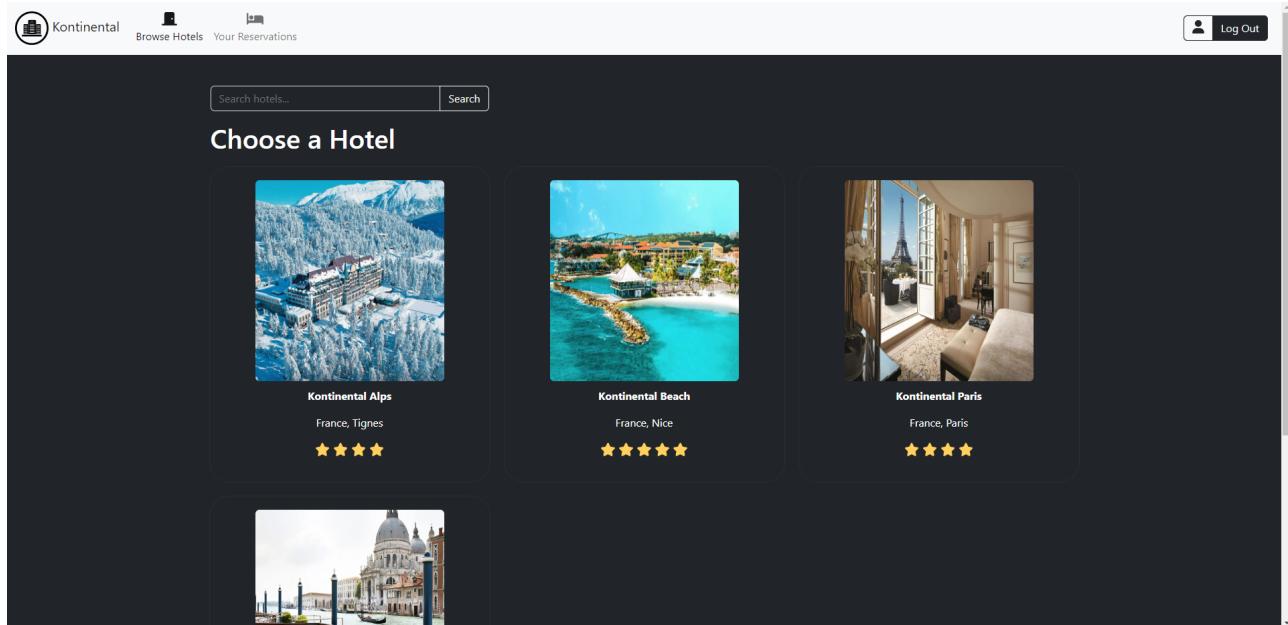
### SK4: PRETRAGA HOTELA

**Naziv:** Pretraga hotela pri rezervaciji sobe

**Aktori:** Klijent

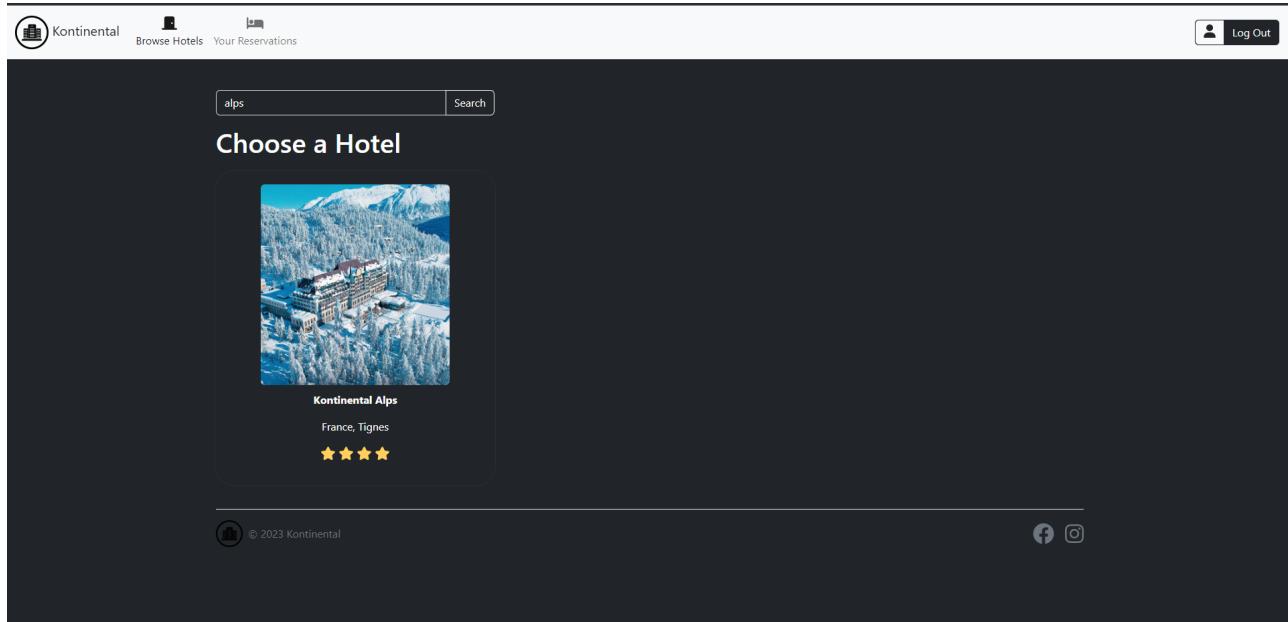
**Učesnici:** Klijent, Sistem

**Preduslovi:** Klijent je ulogovan, prešao je na stranicu za pretragu hotela



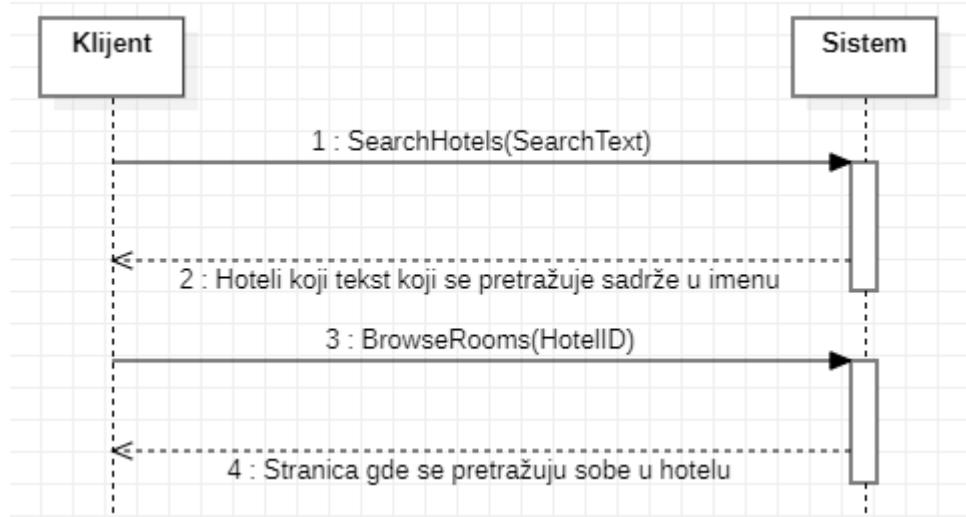
#### Osnovni scenario:

1. Pri pokretanju stranice svi hoteli su već izlistani, za dalju pretragu klijent može da napiše nešto u polju za pretragu i da klikne na "Search" (APUSO)
2. Sistem obraduje uneti tekst (SO)
3. Sistem prikazuje hotele koji u svom nazivu sadrže tekst koji se pretraživao (IA)



4. Klijent klikće na hotel u kom želi da rezerviše sobu (APSO)
5. Sistem prebacuje korisnika na stranicu gde bira sobu u izabranom hotelu (IA)

The screenshot shows a web page for 'Kontinental' with a navigation bar at the top. The bar includes the 'Kontinental' logo, a 'Browse Hotels' link, a 'Your Reservations' link, and a 'Log Out' button. Below the navigation is a search form with fields for 'Reserve From:' and 'Reserve Until:', each with a date input field ('dd--yyyy') and a calendar icon. A 'Show Available Rooms' button is located below these fields. At the bottom of the page, there's a footer with the text '© 2023 Kontinental' and social media links for Facebook and Instagram.



### **Uvedene su sistemske operacije:**

1. SearchHotels(SearchText)
2. BrowseRooms(HotelID)

## SK5: PRETRAGA SOBA

**Naziv:** Pretraga soba u hotelu pri rezervaciji

**Aktori:** Klijent

**Učesnici:** Klijent, Sistem

**Preduslovi:** Klijent je ulogovan, prešao je na stranicu za pretragu hotela i izabrao je hotel u kom želi da rezerviše sobu

The screenshot shows the Kontinental hotel booking website. At the top, there is a navigation bar with the Kontinental logo, 'Browse Hotels', 'Your Reservations', and a 'Log Out' button. Below the navigation bar, there is a search form with 'Reserve From:' and 'Reserve Until:' fields, each containing a date input field and a calendar icon. A 'Show Available Rooms' button is located below these fields. At the bottom of the search form, there is a copyright notice '© 2023 Kontinental' and social media links for Facebook and Instagram.

### Osnovni scenario:

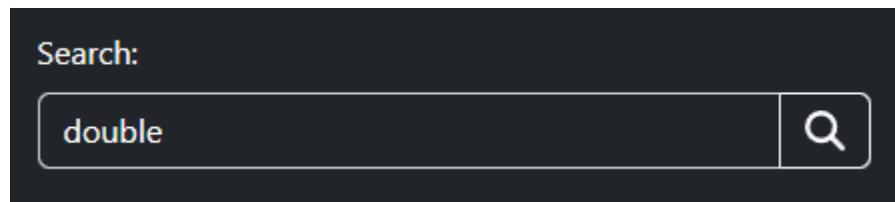
1. Klijent bira datume kada želi da mu soba bude rezervisana i klikće na "Show Available Rooms" (APUSO)

This screenshot shows the search results page after selecting the dates from step 1. It displays two date inputs: 'Reserve From:' (26-Jun-2023) and 'Reserve Until:' (02-Jul-2023). Below these is a large 'Show Available Rooms' button.

2. Sistem obradjuje datume (SO)
3. Sistem prikazuje klijentu sobe koje su dostupne izmedju izabranih datuma (IA)

This screenshot shows the search results page with various filters applied. On the left, there are three main filter sections: 'Bed type' (with options for Single, Double, Single + Double, Queen, and King), 'Number of Beds' (with options for 1, 2, 3, and 4), and 'Kitchen' (with an option for None). To the right, there are six boxes representing different room types with their descriptions and prices per night: 1x Single Bed | No Kitchen | Shower (€80.00), 1x Double Bed | Semi-furnished Kitchen | Bath (€90.00), 2x Single Beds | Fully-furnished Kitchen | Shower (€100.00), 1x Single/Double Combo | Semi-furnished Kitchen | Shower (€110.00), 2x Double Beds | Fully-furnished Kitchen | Bath (€120.00), 1x Queen Size Bed | Fully-furnished Kitchen | Bath (€140.00), 1x King Size Bed | Fully-furnished Kitchen | Bath (€160.00), and 2x King Size Beds | Fully-furnished Kitchen | Bath (€300.00). At the top right of the page, there is a search bar with 'Search rooms...' and a magnifying glass icon.

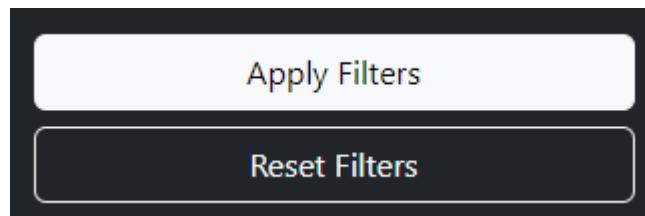
4. Klijent ima opciju da pretražuje sobe po nazivu, i u tom slučaju popunjava polje za pretragu i klikće na dugme "Search" (APUSO)



5. Sistem obradjuje uneti tekst (SO)  
6. Sistem prikazuje klijentu sve sobe koje u svom nazivu sadrže uneti tekst (IA)

A screenshot of a hotel booking website. At the top, there is a header with the logo "Kontinental", "Browse Hotels", "Your Reservations", and a "Log Out" button. Below the header, there are date selection fields ("Reserve From: 26-Jun-2023" and "Reserve Until: 02-Jul-2023") and a search bar containing "double" with a magnifying glass icon. A "Show Available Rooms" button is located below the date fields. The main area is titled "Filters:" and contains three filter cards: 1x Double Bed | Semi-furnished Kitchen | Bath (Price per Night: €90.00), 1x Single/Double Combo | Semi-furnished Kitchen | Shower (Price per Night: €110.00), and 2x Double Beds | Fully-furnished Kitchen | Bath (Price per Night: €120.00). There are also sections for "Bed type" (Single, Double, Single + Double, Queen, King), "Number of Beds" (1, 2, 3, 4), and "Kitchen" (None).

7. Klijent takođe ima opciju pretrage preko filtera. Klijent bira koje god želi od ponudjenih filtera i klikće na "Apply Filters" dugme (APUSO)



# Filters:

## Bed type

- Single
  - Double
  - Single + Double
  - Queen
  - King
- 

## Number of Beds

- 1
  - 2
  - 3
  - 4
- 

## Kitchen

- None
  - Semi-furnished
  - Fully-furnished
- 

## Bathroom

- Shower
- Bath

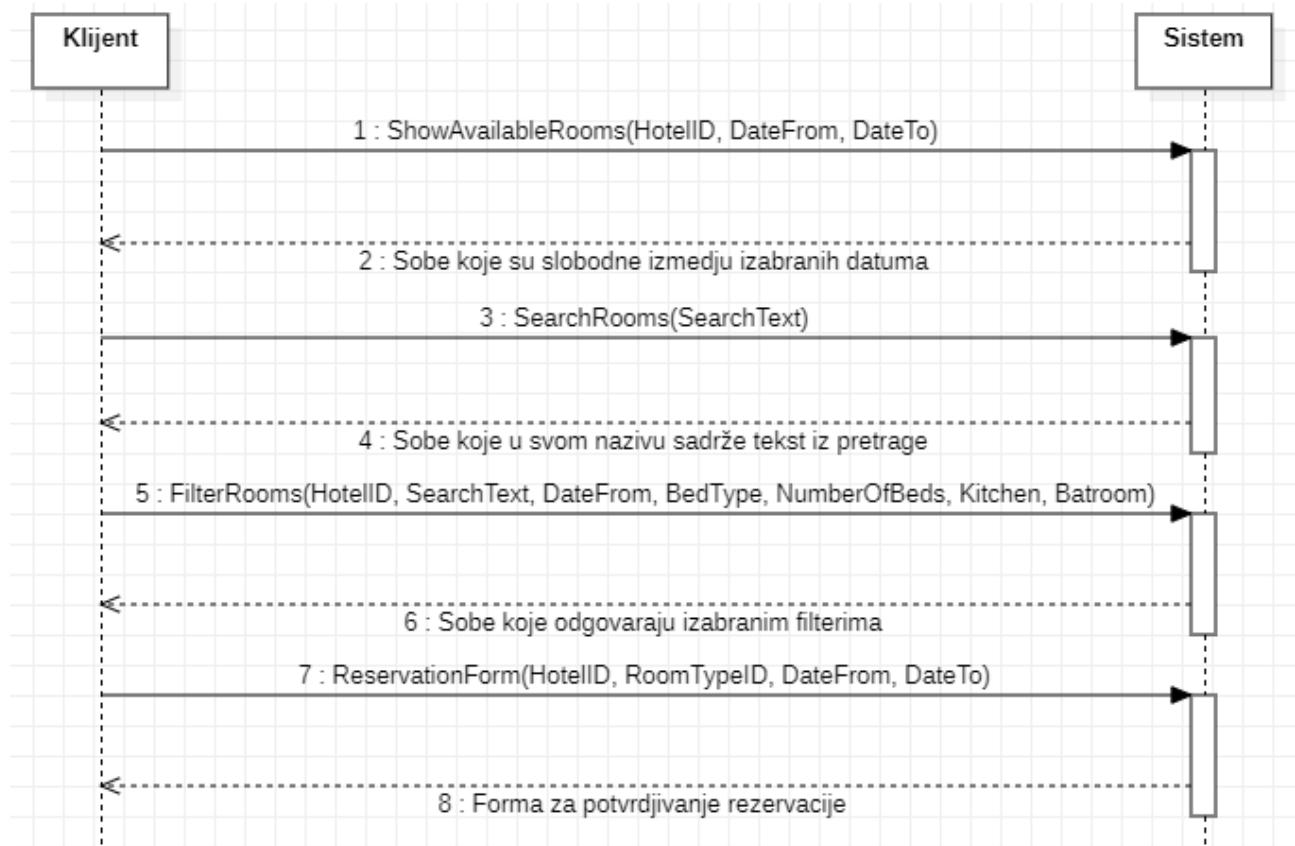
8. Sistem obradjuje izabrane filtere (SO)
9. Sistem prikazuje klijentu sve sobe koje ispunjavaju filtere koje je izabrao (IA)

The screenshot shows a hotel booking interface. At the top, there are buttons for 'Kontinental', 'Browse Hotels', and 'Your Reservations'. On the right, there's a 'Log Out' button. Below the header, there are date selection fields ('Reserve From: 26-Jun-2023' and 'Reserve Until: 02-Jul-2023') and a search bar ('Search: Search rooms...'). A large 'Show Available Rooms' button is centered below these. To the left, under 'Filters:', there are sections for 'Bed type' (radio buttons for Single, Double, Single + Double, Queen, King), 'Number of Beds' (radio buttons for 1, 2, 3, 4), and 'Kitchen' (radio button for None). A callout box highlights a specific room configuration: '2x Single Beds | Fully-furnished Kitchen | Shower' with a price of 'Price per Night: €100.00'.

10. Nakon što je našao sobu koju želi da rezerviše klijent klikće na nju (APSO)
11. Sistem obradjuje podatke (SO)
12. Sistem prikazuje formu gde klijent može da završi svoju rezervaciju (IA)

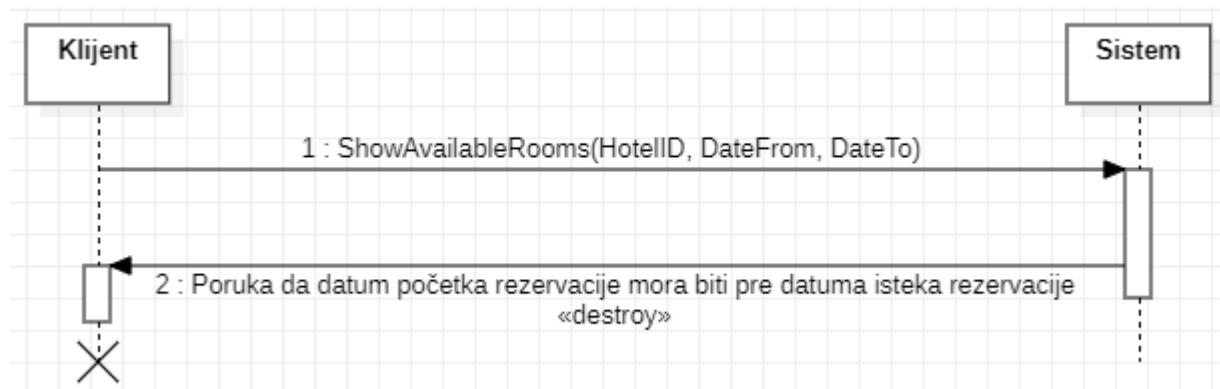
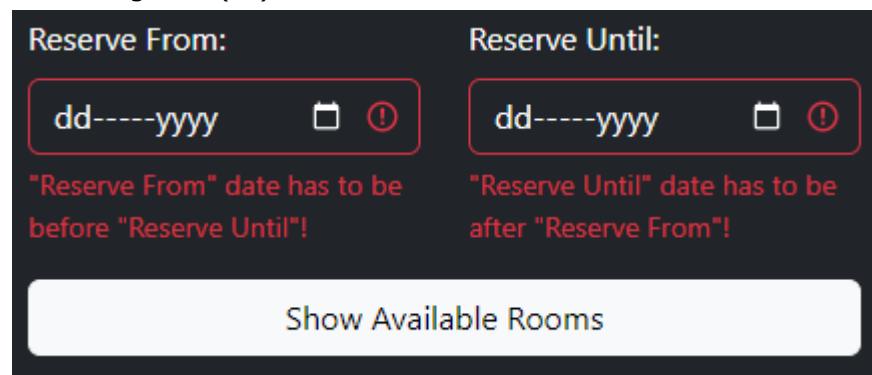
The screenshot shows a 'Finalize Reservation' form. It contains several input fields and controls:

- First Name:** Two separate fields for 'First Name' (containing 'Ana' and 'Anic' respectively).
- E-mail:** Field containing 'ana@gmail.com'.
- Phone Number:** Field containing '1236547890'.
- Reserve From:** Field containing '26-Jun-2023'.
- Reserve Until:** Field containing '02-Jul-2023'.
- Total Price:** Field containing '600.00'.
- Use your points? You have:** A toggle switch set to '0'.
- Reserve:** A large, prominent button at the bottom.



#### Alternativni Scenario:

- 2.1. Klijent je uneo datum početka rezervacije da bude posle kraja rezervacije i sistem ga obaveštava o grešci (IA)



2.2. Klijent je uneo datum početka rezervacije da je pre današnjeg datuma i sistem ga obaveštava o tome (IA)

Reserve From: dd-----yyyy Reserve Until: dd-----yyyy

"Reserve From" date can't be before the current date!

Show Available Rooms



#### Uvedene su sistemske operacije:

1. ShowAvailableRooms(HotelID, DateFrom, DateTo)
2. SearchRooms(SearchText)
3. FilterRooms(HotelID, SearchText, DateFrom, BedType, NumberOfBeds, Kitchen, Bathroom)
4. ReservationForm(HotelID, RoomTypeID, DateFrom, DateTo)

## SK6: REZERVACIJA SOBE

**Naziv:** Rezervacija izabrane sobe

**Aktori:** Klijent

**Učesnici:** Klijent, Sistem

**Preduslovi:** Klijent je ulogovan i izabrao je sobu koju želi da rezerviše

Finalize Reservation

First Name Ana	First Name Anic
E-mail ana@gmail.com	Phone Number 1236547890
Reserve From: 26-Jun-2023	Reserve Until: 02-Jul-2023
Total Price: 600.00	Use your points? You have: 0

Reserve

### Osnovni scenario:

1. Forma kada se prikaže već je popunjena sa klijentskim podacima, datumom rezervacije i cenom rezervacije koja se automatski izračunala. Klijent ima opciju da iskoristi svoje poene, ako ih ima, čekiranjem da želi da ih iskoristi, broj poena je jednak procentu za koliko se smanjuje cena rezervacije. Klijent klikće na dugme "Reserve" (APSO)
2. Sistem procesuje rezervaciju. Ako je klijent izabrao da iskoristi svoje poene oni mu se oduzimaju i cena se smanjuje za određenu količinu. U suprotnom ako ih nije iskoristio dobija 2 dodatna poena. (SO)

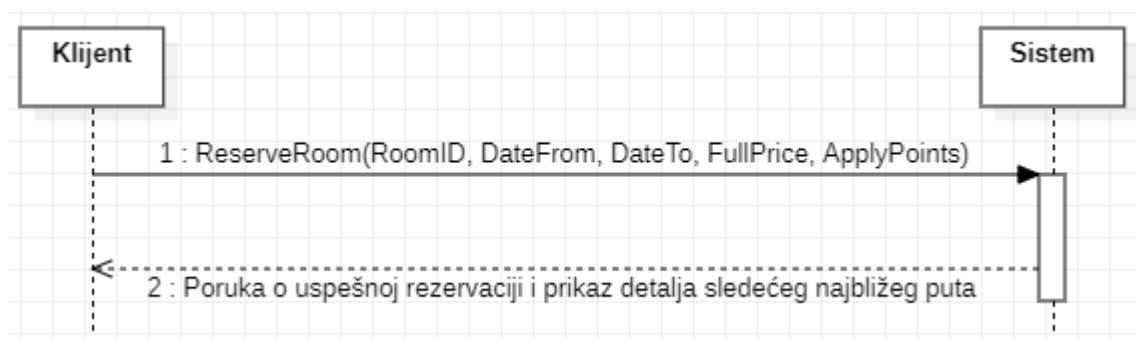
3. Sistem prebacuje klijenta nazad na njegov nalog, ispisuje mu poruku da je rezervacija uspešno zapisana i prikazuje mu detalje njegovog sledećeg najbližeg putovanja (IA)

✓ Your reservation has been completed, you can view the details in "Your Reservations" tab!

Full Name:	<b>Ana Anic</b>	Number of Points:	<b>2</b>	<a href="#" style="border: 1px solid #ccc; padding: 2px 10px; text-decoration: none; color: inherit;">Edit Account Details</a>
E-mail:	<b>ana@gmail.com</b>	Phone number:	<b>1236547890</b>	<a href="#" style="border: 1px solid #ccc; padding: 2px 10px; text-decoration: none; color: inherit;">Browse Hotels</a>
Country:	<b>Switzerland</b>	City:	<b>Geneva</b>	<a href="#" style="border: 1px solid #ccc; padding: 2px 10px; text-decoration: none; color: inherit;">Your Reservations</a>
Address:	<b>Address 64</b>	Birthday:	<b>Wednesday 18. November, 199</b>	<a href="#" style="border: 2px solid red; padding: 2px 10px; text-decoration: none; color: inherit;">Delete Account</a>

**Your Upcoming Trip:**

Country:	<b>France</b>	City:	<b>Tignes</b>
Hotel:	<b>Kontinental Alps</b>	Room:	<b>201</b>
From:	<b>Monday 26. June, 2023</b>	To:	<b>Sunday 2. July, 2023</b>



#### Uvedene su sistemske operacije:

1. ReserveRoom(RoomID, DateFrom, DateTo, FullPrice, ApplyPoints)

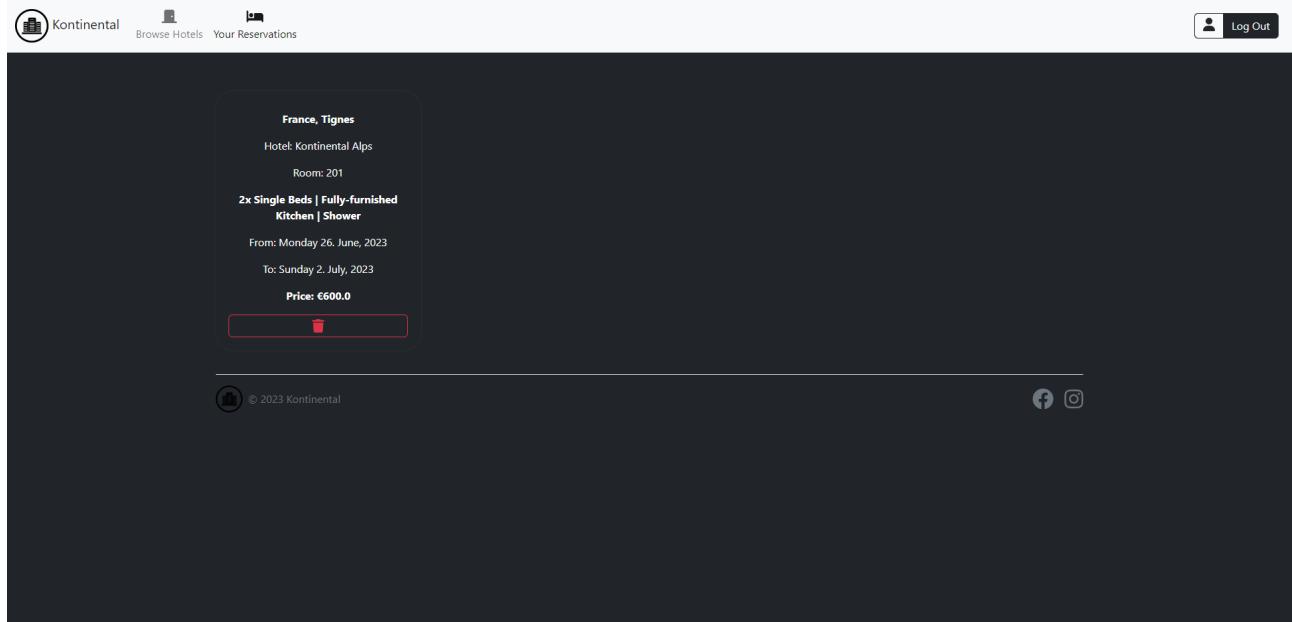
## SK7: OTKAZIVANJE REZERVACIJE

**Naziv:** Otkazivanje rezervacije

**Aktori:** Klijent

**Učesnici:** Klijent, Sistem

**Preduslovi:** Klijent je ulogovan i otišao je na stranicu gde mu se prikazuju sve njegove rezervacije



### Osnovni scenario:

1. Klijent bira rezervaciju koju želi da obriše i klikće dugme na dnu rezervacije (APSO)
2. Sistem briše rezervaciju (SO)
3. Sistem klijentu izbacuje poruku da je rezervacija uspešno obrisana (IA)

✓ Your reservation has been successfully deleted!



### Uvedene su sistemske operacije:

1. DeleteReservation(ReservationID)

## SK8: BRISANJE NALOGA

**Naziv:** Brisanje klijentskog naloga

**Aktori:** Klijent

**Učesnici:** Klijent, Sistem

**Preduslovi:** Klijent je ulogovan i nalazi se na stranici njegovog naloga

Full Name:	Ana Anic	Number of Points:	2	Edit Account Details
E-mail:	ana@gmail.com	Phone number:	1236547890	Browse Hotels
Country:	Switzerland	City:	Geneva	Your Reservations
Address:	Address 64	Birthday:	Wednesday 18. November, 199	Delete Account

### Osnovni scenario:

1. Klijent klikće na dugme "Delete Account" (APSO)
2. Sistem briše klijentski nalog (SO)
3. Klijent je preusmeren na stranicu za registraciju i prikazana mu je poruka o uspešnom brisanju naloga (IA)

Your account has been deleted!

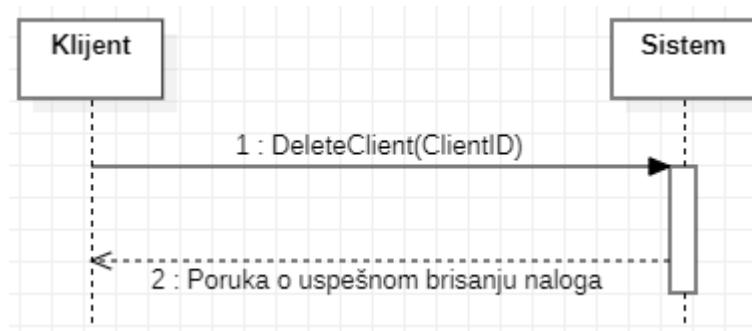
### Create an Account

First Name	Last Name
Country: Please Select One	City
Address	Phone Number
E-mail	Password

Date of Birth:

Show password

Already have an account? [Log In](#)



### Uvedene su sistemske operacije:

2. DeleteClient(ClientID)

### 3.3. ADMINISTRATOR I MENADŽER

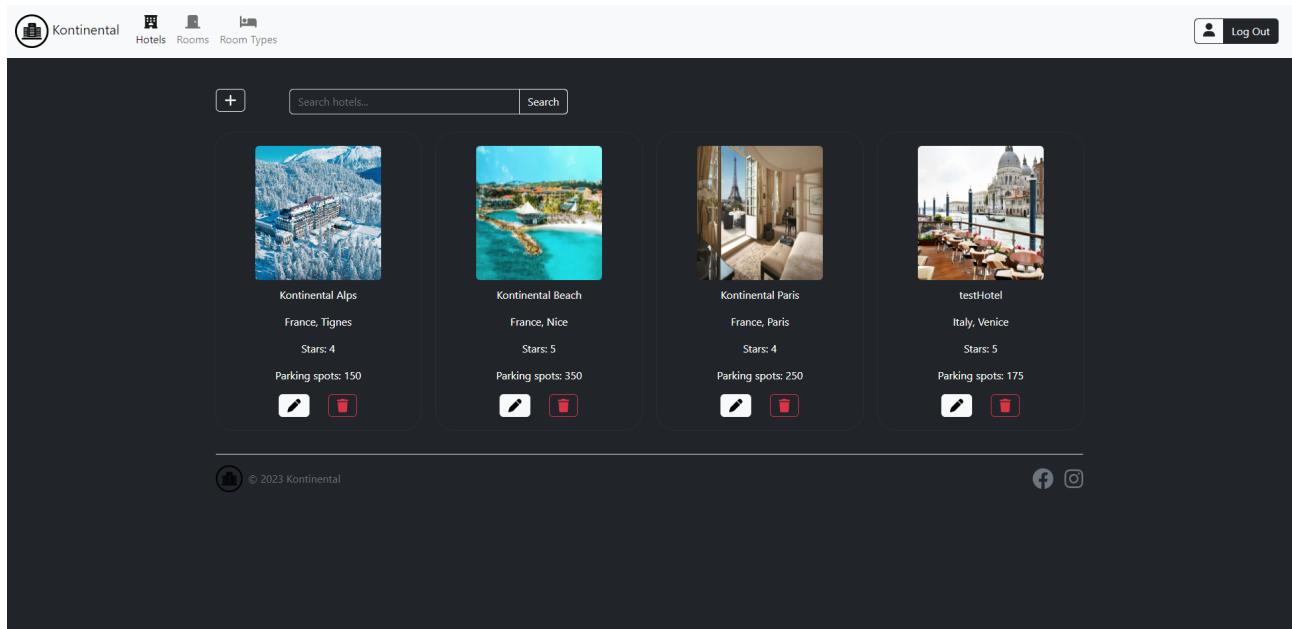
#### SK9: IZMENA HOTELA

**Naziv:** Izmena hotela

**Aktori:** Menadžer, Administrator

**Učesnici:** Menadžer, Administrator, Sistem

**Preudslovi:** Menadžer ili Administrator su ulogovani. Menadžer je upadio formu za izmenu svog hotela. Administrator je prešao na stranicu za prikaz svih hotela.



#### Osnovni scenario:

- Administrator bira hotel koji želi da izmeni i klikće na dugme za izmenu detalja hotela (APSO)
- Sistem generiše formu za izmenu hotela (SO)
- Sistem prikazuje popunjenu formu sa detaljima hotela. Jedina razlika izmedju forme za menadžera i administratora je ta da administrator dodatno može da menja zaduženog menadžera za hotel. (IA)

## Edit Hotel

Hotel Manager:

M1001 - Marko Markovic

Hotel Name  
Kontinental Alps

Country:  
France

City  
Tignes

Number of stars  
4

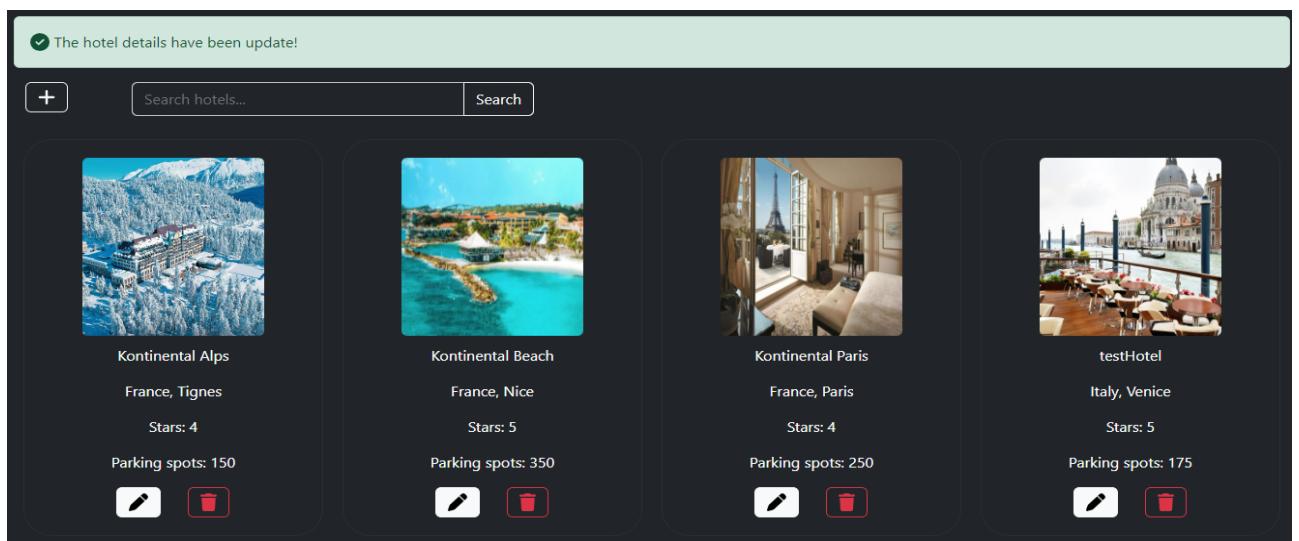
Parking spots  
150

Hotel Picture  
hotelAlps.webp

Hotel Description  
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Curabitur porta lorem eu tempor commodo. Nunc gravida rutrum urna, vel cursus nunc ultricies ut. Ut vehicula id nibh et tincidunt. Nunc ac commodo nunc. Aenean ultrices ex sed ante vehicula, consequat molestie arcu vestibulum.

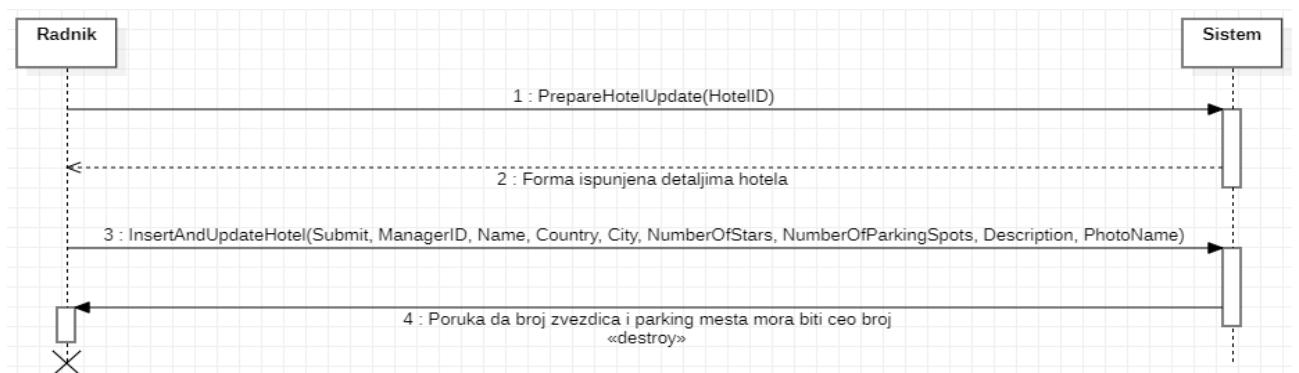
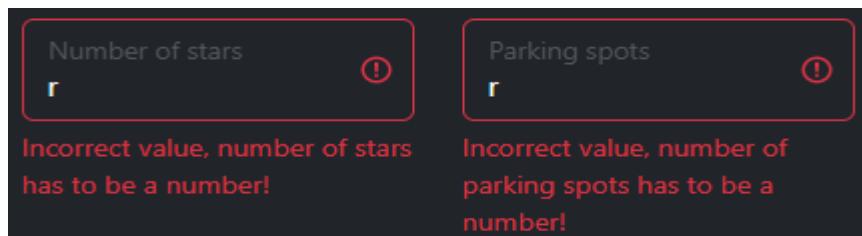
Edit Hotel

4. Nakon što je radnik izmenio u formi šta želi da promeni klikće na dugme "Edit Hotel" (APUSO)
5. Sistem obradjuje podatke (SO)
6. Sistem ispisuje poruku da je uspešno izmenjen hotel (IA)



### Alternativni scenario:

5.1. Radnik za broj zvezdica ili broj parking mesta nije uneo ceo broj i obavešten je o tome (IA)



### Uvedene su sistemske operacije:

1. PrepareHotelUpdate(HotelID)
2. InsertAndUpdateHotel(Submit, ManagerID, Name, Country, City, NumberOfStars, NumberOfParkingSpots, Description, PhotoName)

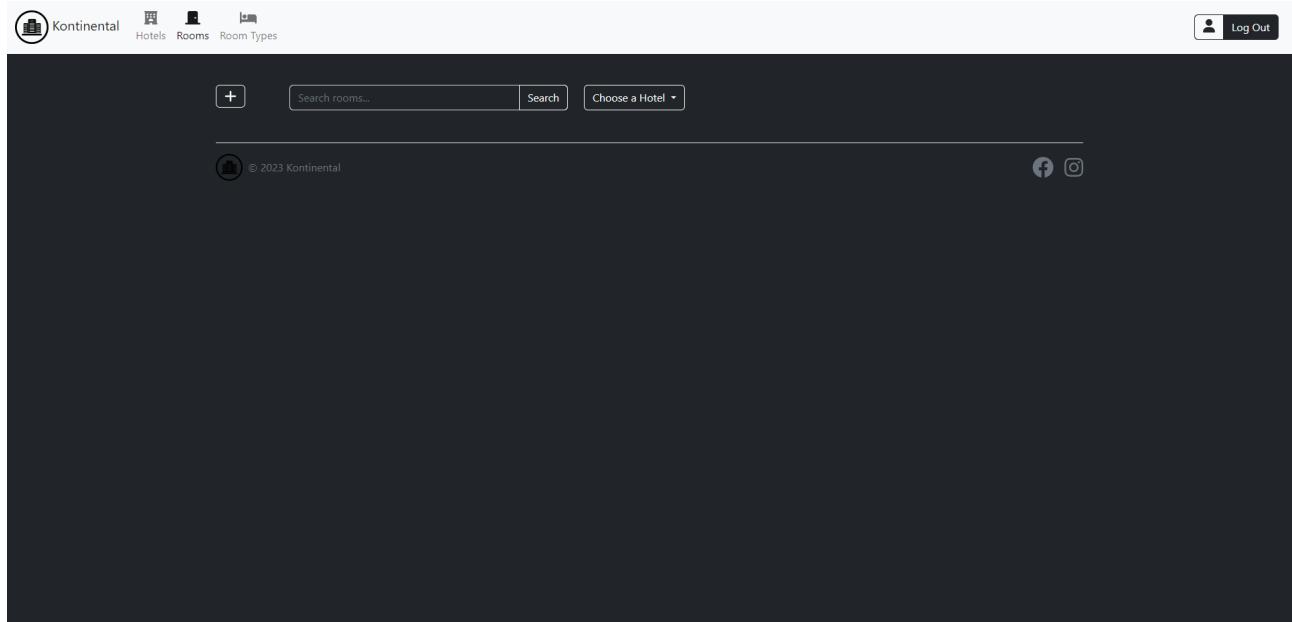
## SK10: DODAVNJE SOBE

**Naziv:** Dodavanje nove sobe u hotel

**Aktori:** Menadžer, Administrator

**Učesnici:** Menadžer, Administrator, Sistem

**Preduslovi:** Radnik je ulogovan i prešao na stranicu za prikaz svih soba.



### Osnovni scenario:

1. Radnik klikće na dugme sa plusom da bi napravio novu formu (APSO)
2. Sistem obradjuje podatke (SO)
3. Sistem prikazuje formu za unos nove sobe. Menadžeru je već unapred izabran njegov hotel i ne može da ga promeni (IA)

### Add New Room

**Hotel**

Select One

**Room Type**

Select One

**Room Number**

**Price per Night**

**Add Room to Hotel**

4. Radnik popunjava formu i klikće na dugme "Add Room to Hotel" (APUSO)

Add New Room

Hotel

testHotel

Room Type

2x King Size Beds | Fully-furnished Kitchen | Bath

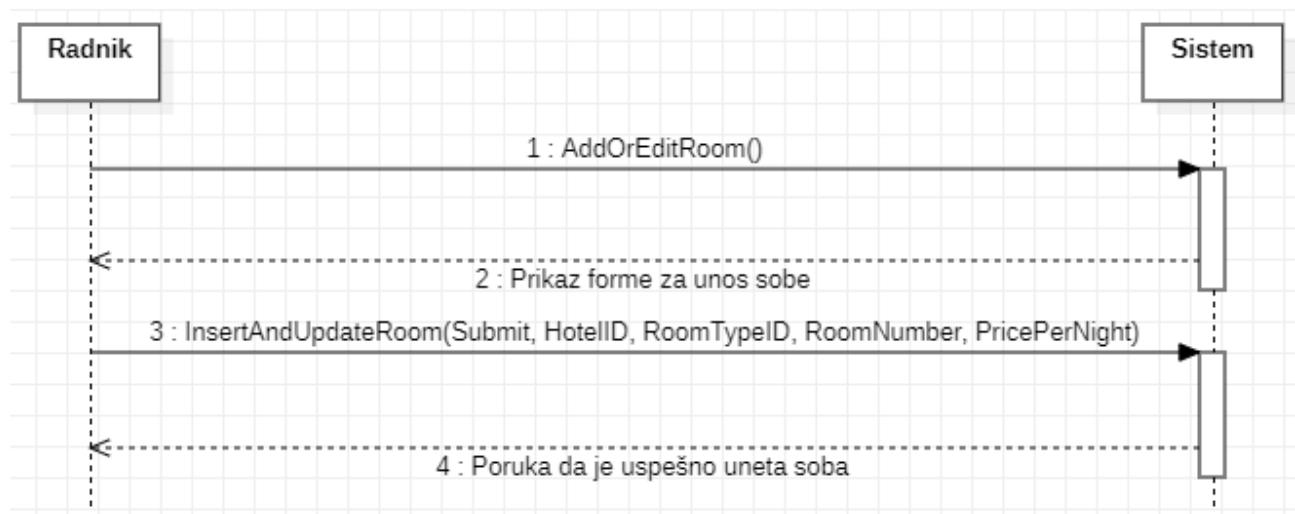
Room Number  
500

Price per Night  
250

Add Room to Hotel

5. Sistem obradjuje podatke (SO)  
6. Sistem prikazuje poruku o uspešnom unosu sobe (IA)

The new room has been added!



#### Alternativni scenario:

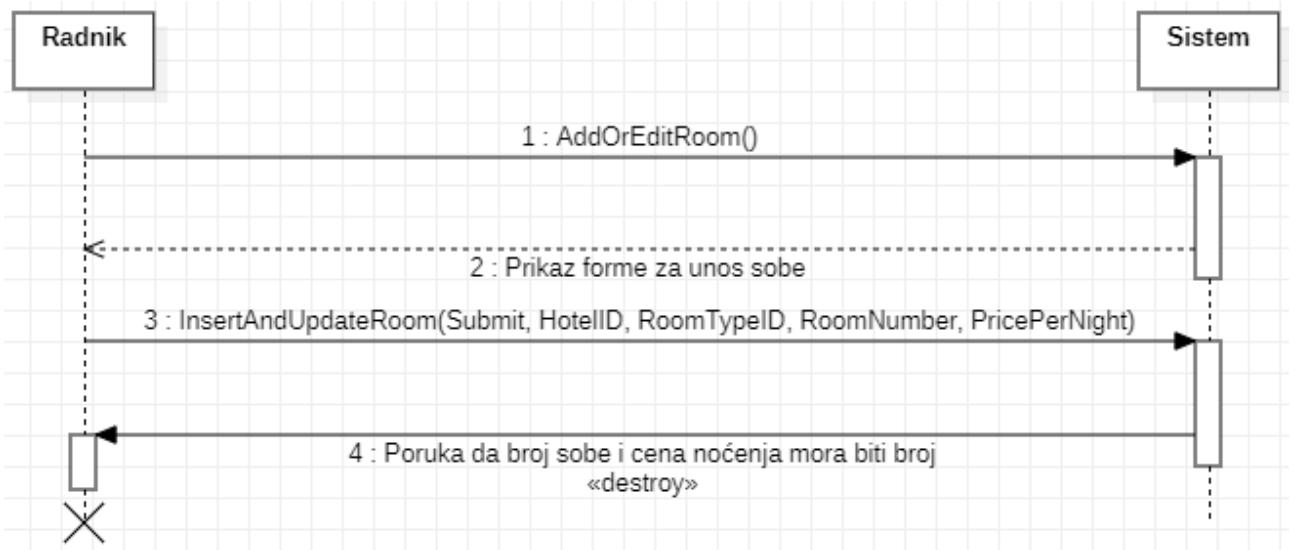
- 5.1. Radnik pri unošenju broja sobe i cene po noći nije uneo brojeve i sistem ga obaveštava o tome (IA)

Room Number  
rrr

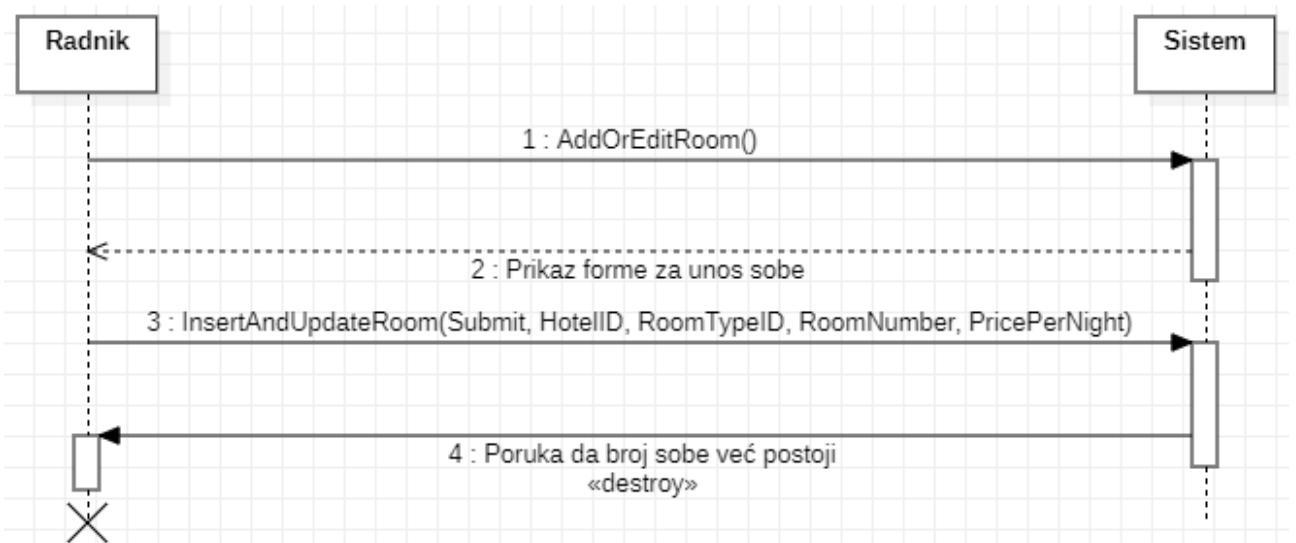
Price per Night  
r

Incorrect value, room number has to be a whole number!

Incorrect value, price per night has to be a real number!



5.2. Radnik je uneo broj sobe koji već postoji u hotelu i sistem vraća grešku (IA)



#### **Uvedene su sistemske forme:**

1. InsertAndUpdateRoom(Submit, HotelID, RoomTypeID, RoomNumber, PricePerNight)

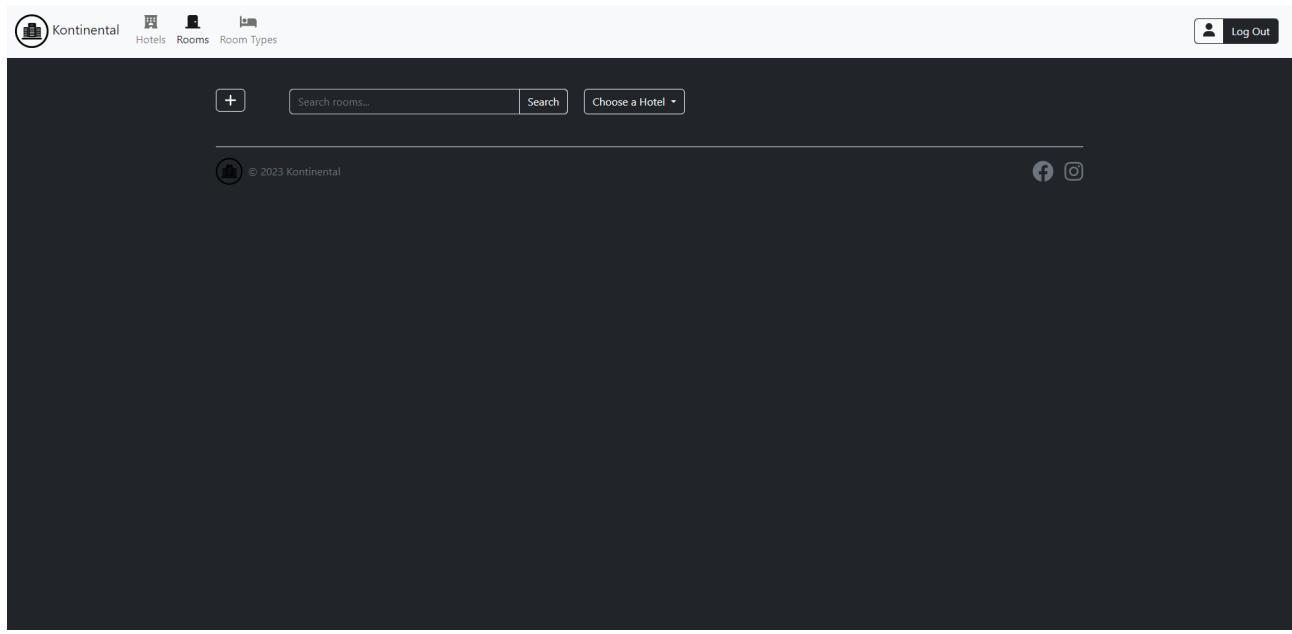
## SK11: IZMENA SOBE

**Naziv:** Izmena sobe u hotelu

**Aktori:** Menadžer, Administrator

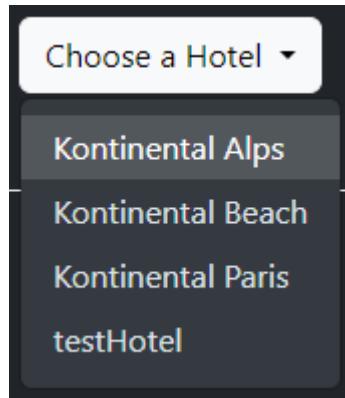
**Učesnici:** Menadžer, Administrator, Sistem

**Preduslovi:** Radnik je ulogovan. Administrator je na stranici za izmenu soba gde bira u kom hotelu će da menja sobe. Menadžer je na stranici izmena soba gde je već automatski izabran njegov hotel.



### Osnovni scenario:

1. Administrator bira u kom hotelu želi da menja sobe (APSO)



2. Sistem obradjuje podatke (SO)
3. Sistem prikazuje sobe koje se nalaze u tom hotelu. Menadžer je automatski doveden na ovaj korak čim je otišao na stranicu za prikaz svih soba u hotelu (IA)

The screenshot shows a dark-themed web application for managing hotel rooms. At the top, there's a navigation bar with the logo 'Kontinental', links for 'Hotels', 'Rooms', and 'Room Types', and a 'Log Out' button. Below the navigation is a search bar with a placeholder 'Search rooms...', a 'Search' button, and a 'Choose a Hotel' dropdown. The main area is titled 'Kontinental Alps' and displays a grid of 12 room cards. Each card contains a room number, a brief description of the room type, its price per night, and two small icons for editing and deleting.

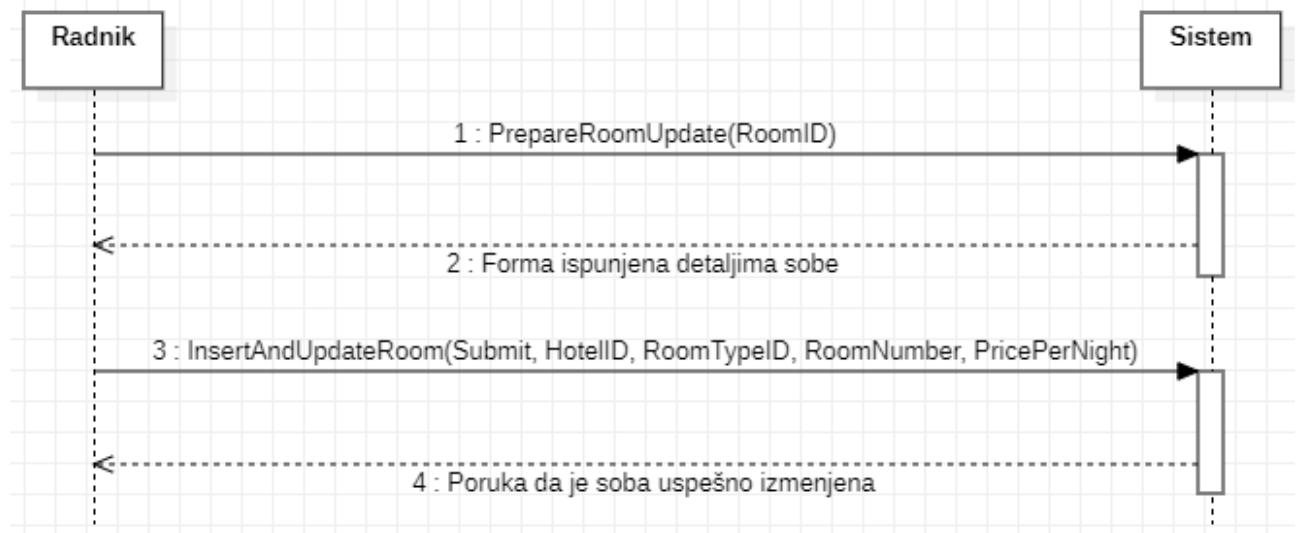
Room Number	Description	Price per Night
101	1x Single Bed   No Kitchen   Shower	€80.00
102	1x Single Bed   No Kitchen   Shower	€80.00
103	1x Single Bed   No Kitchen   Shower	€80.00
104	1x Single Bed   No Kitchen   Shower	€80.00
105	1x Single Bed   No Kitchen   Shower	€80.00
106	1x Double Bed   Semi-furnished Kitchen   Bath	€80.00
107	1x Double Bed   Semi-furnished Kitchen   Bath	€80.00
108	1x Double Bed   Semi-furnished Kitchen   Bath	€80.00
109	1x Double Bed   Semi-furnished Kitchen   Bath	€90.00
110	1x Double Bed   Semi-furnished Kitchen   Bath	€90.00
201	2x Single Beds   Fully-furnished Kitchen   Shower	€100.00
202	2x Single Beds   Fully-furnished Kitchen   Shower	€100.00

4. Radnik bira koju sobu želi da izmeni i klikće na dugme za izmenu (APSO)
5. Sistem generiše popunjenu formu sa detaljima sobe (SO)
6. Sistem prikazuje formu. Menadžer će već u prvom polju imati izabran svoj hotel i ne može da ga promeni. Administrator će imati kao dole prikazano i može da bira bilo koji hotel. (IA)

The screenshot shows a modal dialog titled 'Edit Room'. It has a dark background with light-colored input fields. The first field is labeled 'Hotel' with a dropdown menu showing 'Select One'. The second field is labeled 'Room Type' with a dropdown menu showing '1x Single Bed | No Kitchen | Shower'. The third field is labeled 'Room Number' containing the value '101'. The fourth field is labeled 'Price per Night' containing the value '80.0'. At the bottom of the modal is a large, prominent 'Edit Room' button.

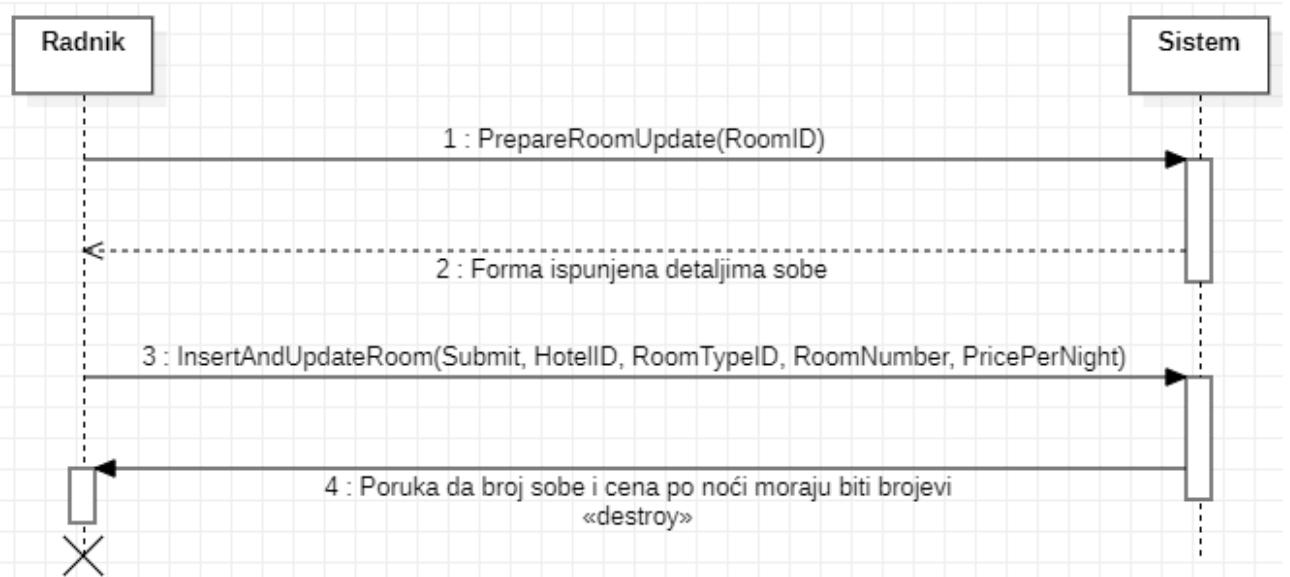
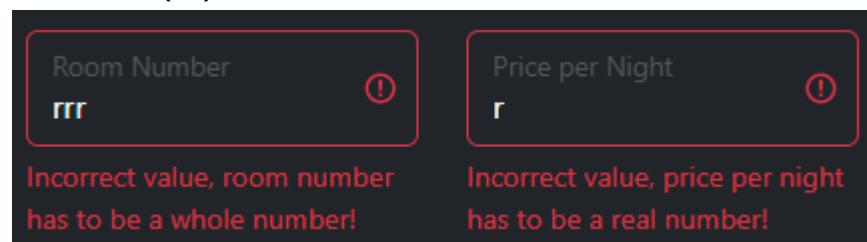
7. Nakon što je radnik promenio podatke u poljima kako želi, klikće na dugme "Edit Room" (APUSO)
8. Sistem obradjuje podatke (SO)
9. Sistem prikazuje poruku da je soba uspešno izmenjena (IA)

The selected room's details have been updated!

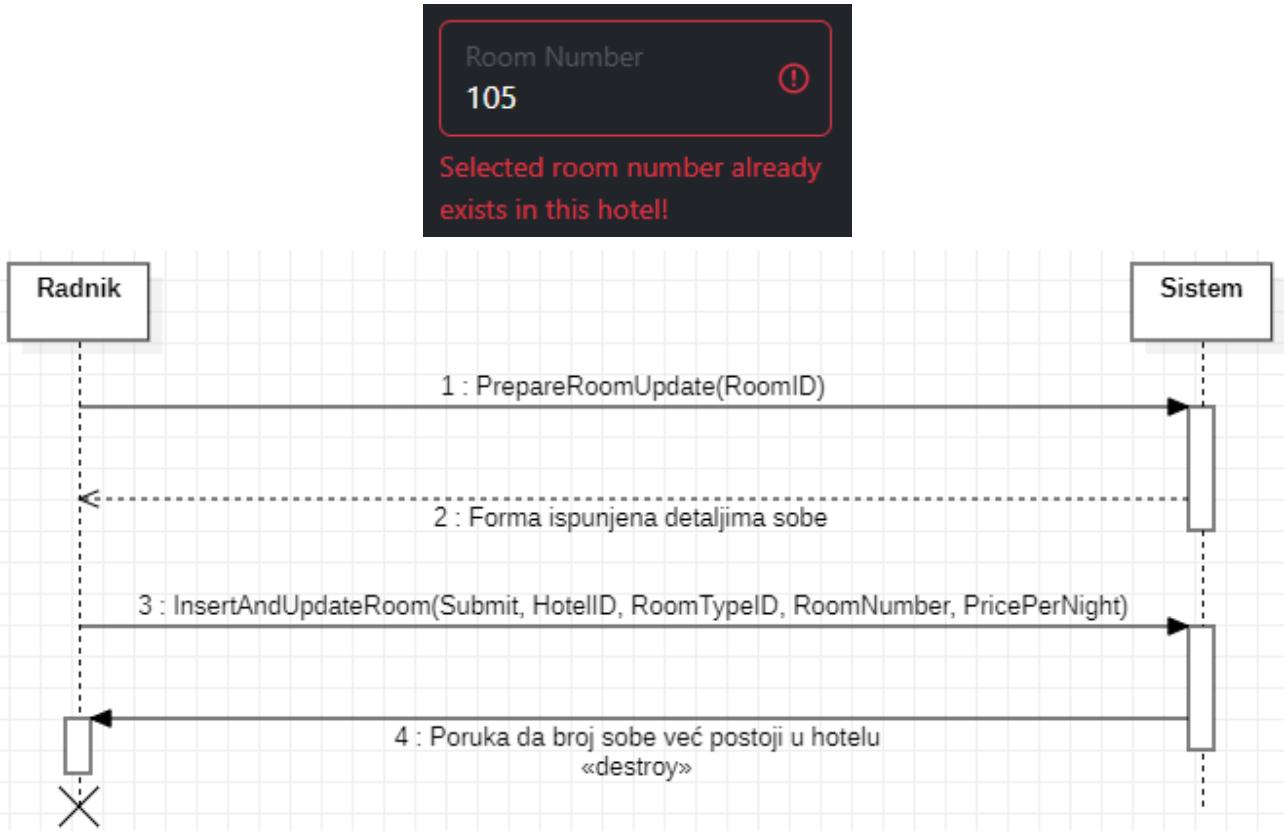


### Alternativni scenario:

- 8.1. Radnik pri unošenju broja sobe i cene po noći nije uneo brojeve i sistem ga obaveštava o tome (IA)



8.2. Radnik je uneo broj sobe koji već postoji u hotelu i sistem vraća grešku (IA)



**Uvedene su sistemske operacije:**

1. PrepareRoomUpdate(RoomID)

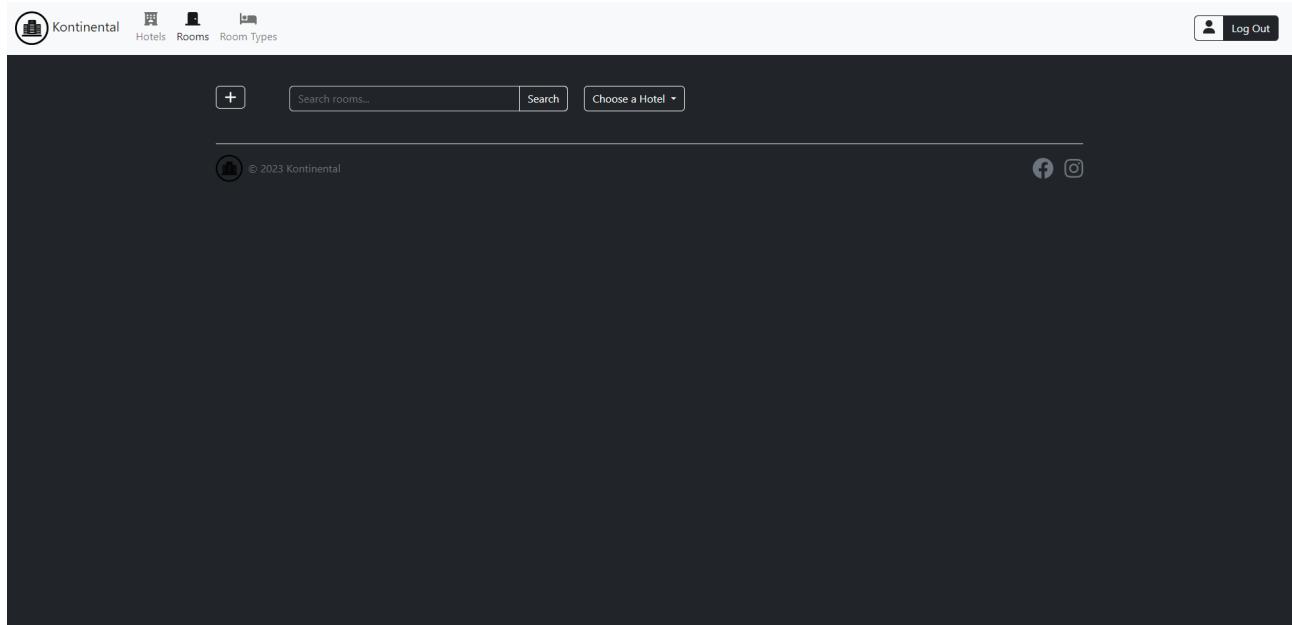
## SK12: BRISANJE SOBE

**Naziv:** Brisanje sobe iz hotela

**Aktori:** Menadžer, Administrator

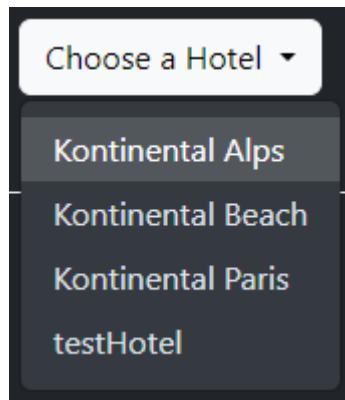
**Učesnici:** Menadžer, Administrator, Sistem

**Preduslovi:** Radnik je ulogovan i prešao je na stranicu za prikaz soba



### Osnovni scenario:

- Administrator bira u kom hotelu želi da briše sobe (APSO)



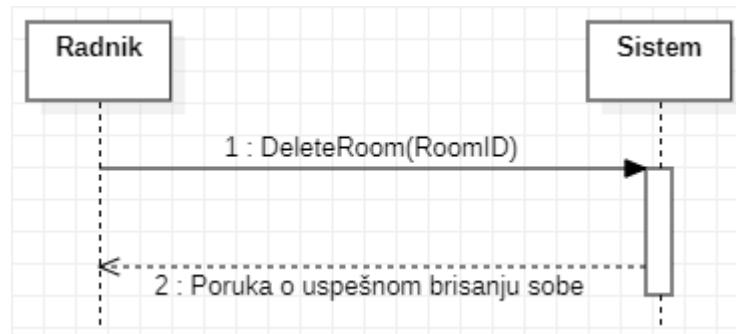
- Sistem obradjuje podatke (SO)
- Sistem prikazuje sobe koje se nalaze u tom hotelu. Menadžer je automatski doveden na ovaj korak čim je otisao na stranicu za prikaz svih soba u hotelu (IA)

The screenshot shows a hotel management interface for 'Kontinental Alps'. At the top, there are navigation links for 'Hotels', 'Rooms', and 'Room Types', along with a 'Log Out' button. Below the header, there's a search bar with 'Search rooms...' and a 'Search' button, followed by a dropdown menu for 'Choose a Hotel'. The main area displays a grid of room types:

Room ID	Description	Price per Night	Actions
101	1x Single Bed   No Kitchen   Shower	€80.00	
102	1x Single Bed   No Kitchen   Shower	€80.00	
103	1x Single Bed   No Kitchen   Shower	€80.00	
104	1x Single Bed   No Kitchen   Shower	€80.00	
105	1x Single Bed   No Kitchen   Shower	€80.00	
106	1x Double Bed   Semi-furnished Kitchen   Bath	€80.00	
107	1x Double Bed   Semi-furnished Kitchen   Bath	€80.00	
108	1x Double Bed   Semi-furnished Kitchen   Bath	€80.00	
109	1x Double Bed   Semi-furnished Kitchen   Bath	€90.00	
110	1x Double Bed   Semi-furnished Kitchen   Bath	€90.00	
201	2x Single Beds   Fully-furnished Kitchen   Shower	€100.00	
202	2x Single Beds   Fully-furnished Kitchen   Shower	€100.00	

4. Radnik bira koju sobu želi da obriše i klikće na dugme za brisanje (APSO)
5. Sistem briše sobu (SO)
6. Sistem prikazuje poruku o uspešnom brisanju. (IA)

The selected room has been deleted!



### Uvedene su sistemske operacije:

1. DeleteRoom(RoomID)

## SK13: DODAVANJE TIPOA SOBE

**Naziv:** Dodavanje tipa sobe

**Aktori:** Menadžer, Administrator

**Učesnici:** Menadžer, Administrator, Sistem

**Preduslovi:** Radnik je ulogovan i prešao je na stranicu za prikaz svih tipova soba

The screenshot shows a web-based application for managing room types. At the top, there is a navigation bar with icons for Hotel, Rooms, and Room Types, and a Log Out button. Below the navigation bar, there is a search bar labeled "Search room types..." and a "Search" button. A "+" button is located at the top left of the main content area. The main content area displays eight room type configurations in a grid:

Room Type Configuration	Description	Number of beds	Bed type	Kitchen	Bathroom	TV	Actions
1x Double Bed   Semi-furnished Kitchen   Bath	Number of beds: 2 Bed type: Double Kitchen: Semi-furnished Bathroom: Bath TV: Yes	2	Double	Semi-furnished	Bath	Yes	
1x King Size Bed   Fully-furnished Kitchen   Bath	Number of beds: 2 Bed type: King Kitchen: Fully-furnished Bathroom: Bath TV: Yes	2	King	Fully-furnished	Bath	Yes	
1x Queen Size Bed   Fully-furnished Kitchen   Bath	Number of beds: 2 Bed type: Queen Kitchen: Fully-furnished Bathroom: Bath TV: Yes	2	Queen	Fully-furnished	Bath	Yes	
1x Single Bed   No Kitchen   Shower	Number of beds: 1 Bed type: Single Kitchen: None Bathroom: Shower TV: Yes	1	Single	None	Shower	Yes	
1x Single/Double Combo   Semi-furnished Kitchen   Shower	Number of beds: 3 Bed type: Single + Double Kitchen: Semi-furnished Bathroom: Shower TV: No	3	Single + Double	Semi-furnished	Shower	No	
2x Double Beds   Fully-furnished Kitchen   Bath	Number of beds: 4 Bed type: Double Kitchen: Fully-furnished Bathroom: Bath TV: Yes	4	Double	Fully-furnished	Bath	Yes	
2x King Size Beds   Fully-furnished Kitchen   Bath	Number of beds: 4 Bed type: King Kitchen: Fully-furnished Bathroom: Bath TV: Yes	4	King	Fully-furnished	Bath	Yes	
2x Single Beds   Fully-furnished Kitchen   Shower	Number of beds: 2 Bed type: Single Kitchen: Fully-furnished Bathroom: Shower TV: No	2	Single	Fully-furnished	Shower	No	

### Osnovni scenario:

1. Radnik klikće na dugme sa plusom (APSO)
2. Sistem obradjuje podatke (SO)
3. Sistem prikazuje formu za unos novog tipa sobe (IA)

### Add New Room Type

Bed Type	Number of Beds
<input type="button" value="Select One"/>	<input type="text"/>
Kitchen Type	Bathroom Type
<input type="button" value="Select One"/>	<input type="button" value="Select One"/>
<input checked="" type="checkbox"/> TV	
<input type="text" value="Room Description"/>	
<input type="button" value="Add Room Type"/>	

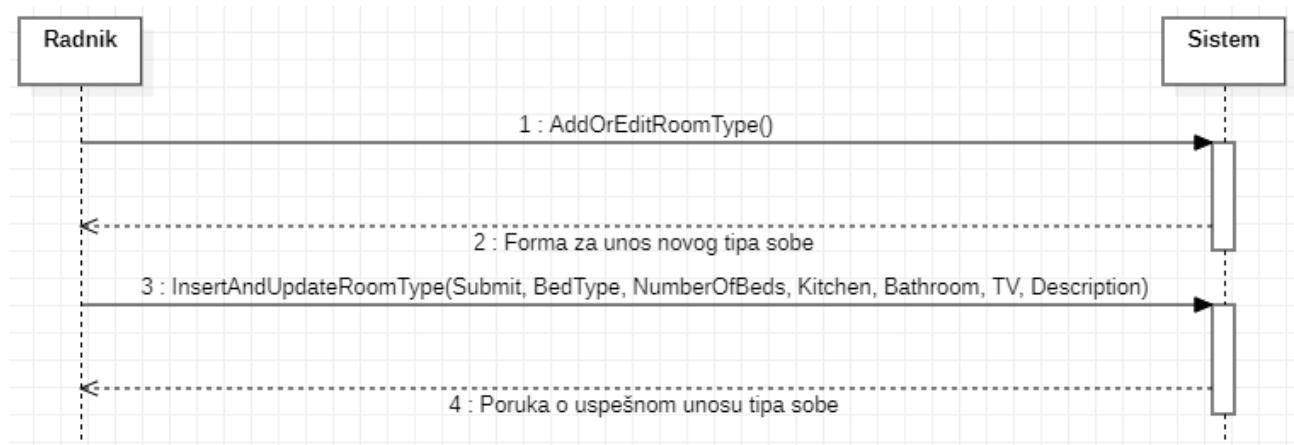
4. Radnik popunjava formu i klikće na dugme "Add Room Type" (APUSO)

## Add New Room Type

Bed Type	Number of Beds
Single	3
Kitchen Type	Bathroom Type
Fully-furnished	Shower
<input checked="" type="checkbox"/> TV	
<b>Room Description</b> Lorem ipsum dolor sit amet, consectetur adipiscing elit. In aliquet eget libero ac tincidunt. Nam ut lacus vitae nisl condimentum tempus. Nullam scelerisque erat ac aliquet laoreet. Nullam vestibulum id tortor nec tincidunt. Ut euismod tincidunt urna, ac tempus ipsum scelerisque sed. Vestibulum non finibus	
<input type="button" value="Add Room Type"/>	

5. Sistem obradjuje podatke (SO)
6. Sistem prikazuje poruku o uspešnom unosu novog tipa sobe (IA)

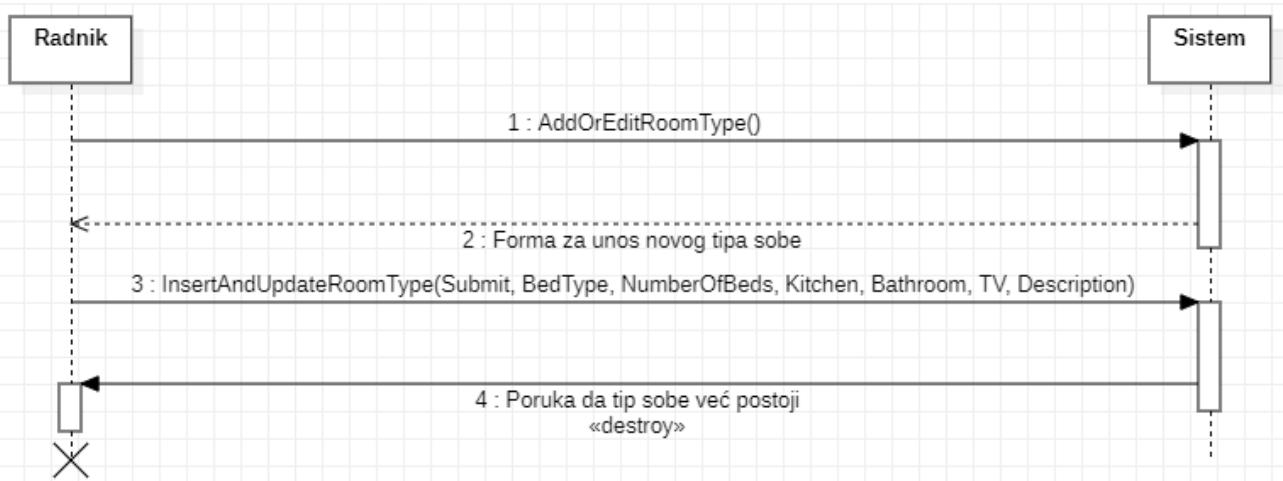
 The new room type has been added!



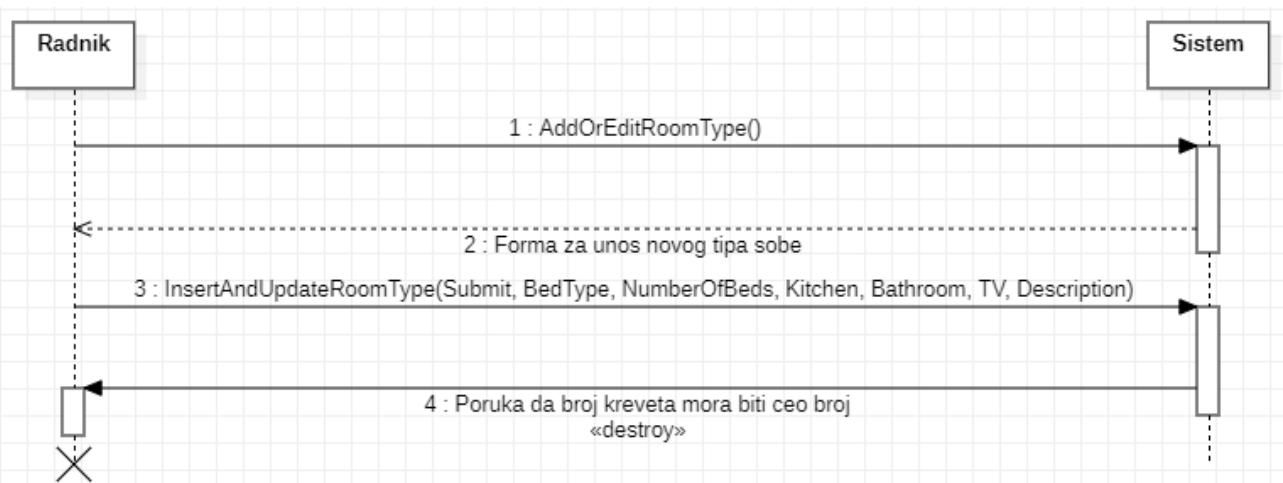
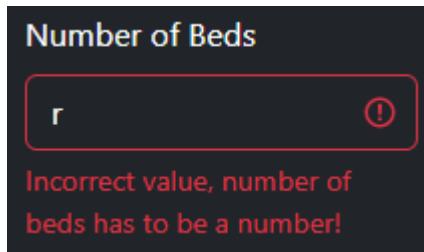
### Alternativni scenario:

5.1. Radnik je napravio tip sobe koji već postoji i sistem ga upozorava o tome (IA)

 Selected room type already exists!



5.2. Radnik je pri unosu stavio da broj kreveta nije broj i sistem vraća grešku (IA)



### Uvedene su sistemske operacije:

1. InsertAndUpdateRoomType(Submit, BedType, NumberOfBeds, Kitchen, Bathroom, TV, Description)

## SK14: IZMENA TIPOA SOBE

**Naziv:** Izmena tipa sobe

**Aktori:** Menadžer, Administrator

**Učesnici:** Menadžer, Administrator, Sistem

**Preduslovi:** Radnik je ulogovan i prešao je na stranicu za prikaz svih tipova soba

The screenshot shows a web-based application for managing room types. At the top, there is a navigation bar with icons for Hotel, Rooms, and Room Types, and a Log Out button. Below the navigation bar, there is a search bar labeled "Search room types..." and a "Search" button. A "+" button is located at the top left of the main content area. The main content area displays eight room type configurations in a grid:

- 1x Double Bed | Semi-furnished Kitchen | Bath**
  - Number of beds: 2
  - Bed type: Double
  - Kitchen: Semi-furnished
  - Bathroom: Bath
  - TV: Yes
  -
- 1x King Size Bed | Fully-furnished Kitchen | Bath**
  - Number of beds: 2
  - Bed type: King
  - Kitchen: Fully-furnished
  - Bathroom: Bath
  - TV: Yes
  -
- 1x Queen Size Bed | Fully-furnished Kitchen | Bath**
  - Number of beds: 2
  - Bed type: Queen
  - Kitchen: Fully-furnished
  - Bathroom: Bath
  - TV: Yes
  -
- 1x Single Bed | No Kitchen | Shower**
  - Number of beds: 1
  - Bed type: Single
  - Kitchen: None
  - Bathroom: Shower
  - TV: Yes
  -
- 1x Single/Double Combo | Semi-furnished Kitchen | Shower**
  - Number of beds: 3
  - Bed type: Single + Double
  - Kitchen: Semi-furnished
  - Bathroom: Shower
  - TV: No
  -
- 2x Double Beds | Fully-furnished Kitchen | Bath**
  - Number of beds: 4
  - Bed type: Double
  - Kitchen: Fully-furnished
  - Bathroom: Bath
  - TV: Yes
  -
- 2x King Size Beds | Fully-furnished Kitchen | Bath**
  - Number of beds: 4
  - Bed type: King
  - Kitchen: Fully-furnished
  - Bathroom: Bath
  - TV: Yes
  -
- 2x Single Beds | Fully-furnished Kitchen | Shower**
  - Number of beds: 2
  - Bed type: Single
  - Kitchen: Fully-furnished
  - Bathroom: Shower
  - TV: No
  -

### Osnovni scenario:

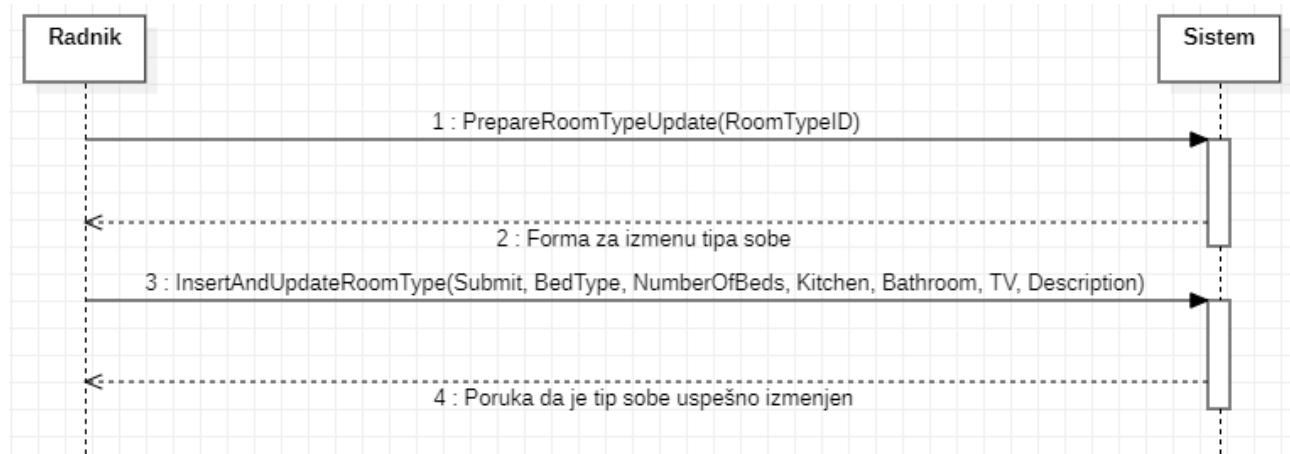
1. Radnik bira koji tip sobe želi da menja i klikće na dugme za izmenu (APSO)
2. Sistem generiše popunjenu formu sa detaljima tipa sobe (SO)
3. Sistem prikazuje formu (IA)

## Edit Room Type

Bed Type <input type="button" value="Single"/>	Number of Beds <input type="text" value="3"/>
Kitchen Type <input type="button" value="Fully-furnished"/>	Bathroom Type <input type="button" value="Shower"/>
<input checked="" type="checkbox"/> TV	
<b>Room Description</b> <i>Nullam orci nisi, tincidunt non congue suscipit, gravida vel purus. Mauris at elementum augue. Duis eleifend augue at enim tincidunt blandit. Curabitur in ultrices metus.</i>	
<input type="button" value="Edit Room Type"/>	

4. Radnik nakon što je izmenio podatke koje želi, klikće na dugme "Edit Room Type" (APUSO)
5. Sistem obradjuje podatke (SO)
6. Sistem prikazuje poruku o uspešnoj izmeni tipa sobe (IA)

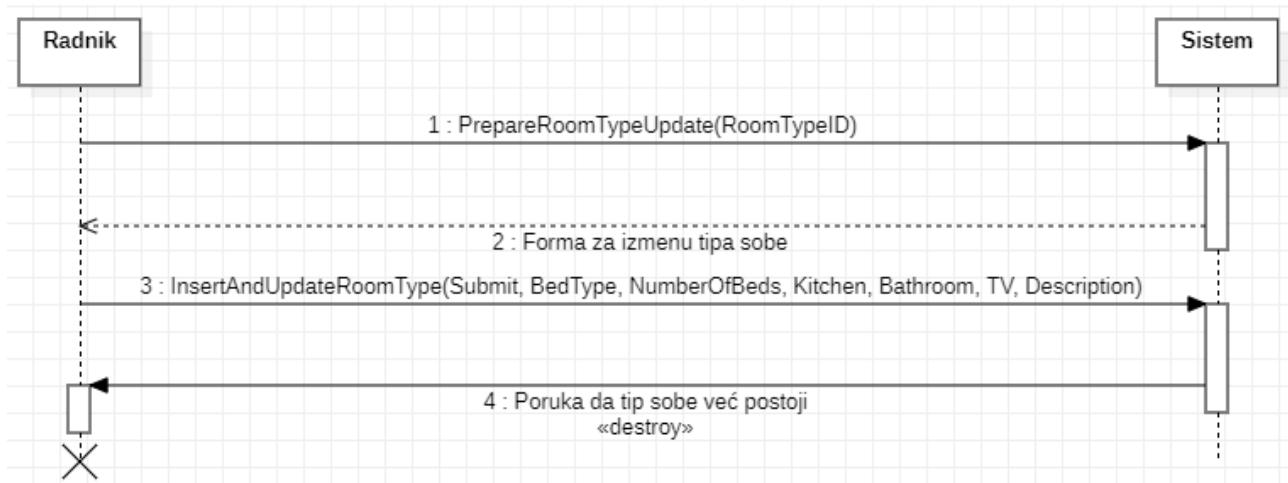
 The selected room type details have been updated!



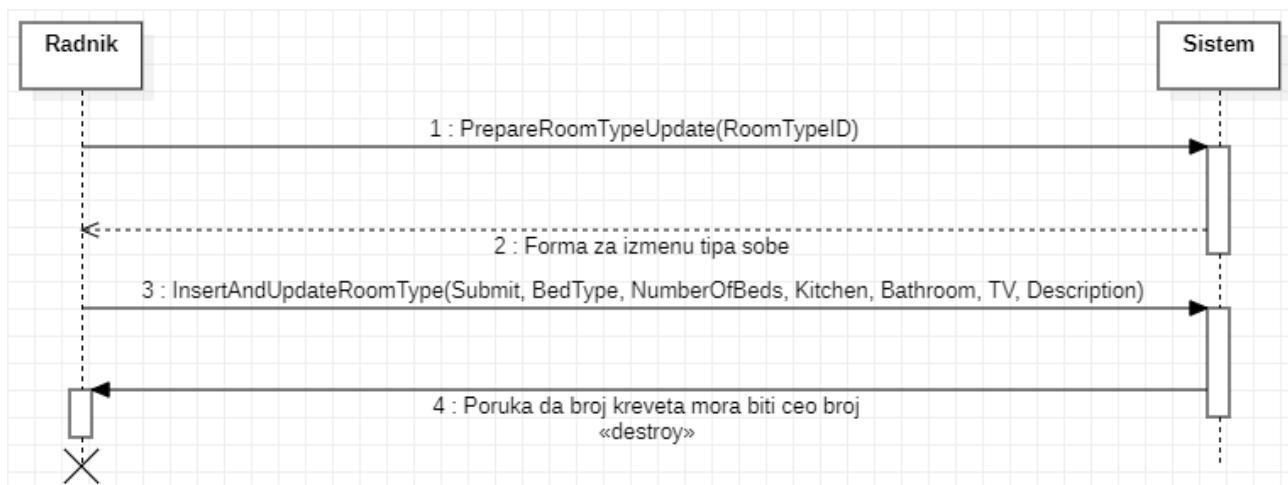
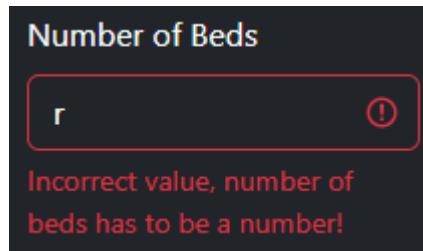
### Alternativni scenario:

5.1. Radnik je pri izmeni tip sobe promenio u tip sobe koji već postoji i sistem ga upozorava o tome (IA)

 Selected room type already exists!



5.2. Radnik je pri izmeni stavio da broj kreveta nije broj i sistem vraća grešku (IA)



### Uvedene su sistemske operacije:

1. PrepareRoomTypeUpdate(RoomTypeID)

## SK15: BRISANJE TIPOA SOBE

**Naziv:** Brisanje tipa sobe

**Aktori:** Menadžer, Administrator

**Učesnici:** Menadžer, Administrator, Sistem

**Preduslovi:** Radnik je ulogovan i prešao je na stranicu za prikaz svih tipova soba

Room Type Details	Room Type Details	Room Type Details	Room Type Details
1x Double Bed   Semi-furnished Kitchen   Bath Number of beds: 2 Bed type: Double Kitchen: Semi-furnished Bathroom: Bath TV: Yes	1x King Size Bed   Fully-furnished Kitchen   Bath Number of beds: 2 Bed type: King Kitchen: Fully-furnished Bathroom: Bath TV: Yes	1x Queen Size Bed   Fully-furnished Kitchen   Bath Number of beds: 2 Bed type: Queen Kitchen: Fully-furnished Bathroom: Bath TV: Yes	1x Single Bed   No Kitchen   Shower Number of beds: 1 Bed type: Single Kitchen: None Bathroom: Shower TV: Yes
1x Single/Double Combo   Semi-furnished Kitchen   Shower Number of beds: 3 Bed type: Single + Double Kitchen: Semi-furnished Bathroom: Shower TV: No	2x Double Beds   Fully-furnished Kitchen   Bath Number of beds: 4 Bed type: Double Kitchen: Fully-furnished Bathroom: Bath TV: Yes	2x King Size Beds   Fully-furnished Kitchen   Bath Number of beds: 4 Bed type: King Kitchen: Fully-furnished Bathroom: Bath TV: Yes	2x Single Beds   Fully-furnished Kitchen   Shower Number of beds: 2 Bed type: Single Kitchen: Fully-furnished Bathroom: Shower TV: No

### Osnovni scenario:

1. Radnik bira tip sobe koji želi da obriše i klikće na dugme za brisanje (APSO)
2. Sistem briše tip sobe (SO)
3. Sistem prikazuje poruku da je tip sobe uspešno obrisan (IA)

The selected room type has been deleted!



### Uvedene su sistemske operacije:

1. DeleteRoomType(RoomTypeID)

### 3.4. ADMINISTRATOR

#### SK16: DODAVANJE HOTELA

**Naziv:** Dodavanje novog hotela

**Aktori:** Administrator

**Učesnici:** Administrator, Sistem

**Preduslovi:** Administrator je ulogovan i prešao je na stranicu za prikaz svih hotela

The screenshot shows a dark-themed web application for hotel management. At the top, there's a navigation bar with icons for 'Hotels', 'Rooms', and 'Room Types'. On the right side of the header is a 'Log Out' button. Below the header, there's a search bar with placeholder text 'Search hotels...' and a 'Search' button. A '+' button is located in the top-left corner of the main content area. The main content displays three hotel cards in a grid:

- Kontinental Alps**  
France, Tignes  
Stars: 4  
Parking spots: 150
- Kontinental Beach**  
France, Nice  
Stars: 5  
Parking spots: 350
- Kontinental Paris**  
France, Paris  
Stars: 4  
Parking spots: 250

Each card includes edit and delete icons at the bottom. At the bottom of the page, there's a footer with the Kontinental logo and the text '© 2023 Kontinental'. To the right of the footer are social media links for Facebook and Instagram.

#### Osnovni scenario:

1. Administrator klikće na dugme sa plusom (APSO)
2. Sistem obradjuje podatke (SO)

3. Sistem prikazuje formu za unos novog hotela (IA)

## Add New Hotel

Hotel Manager:

Select One

Hotel Name

Country:

City

Number of stars

Parking spots

Hotel Picture

Hotel Description

Add Hotel

4. Radnik popunjava formu i klikće dugme "Add Hotel" (APUSO)

## Add New Hotel

Hotel Manager:

M1004 - Katarina Katic

Hotel Name  
Kontinental Venice

Country:  
Italy

City  
Venice

Number of stars  
5

Parking spots  
175

Hotel Picture  
hotelVenice.webp

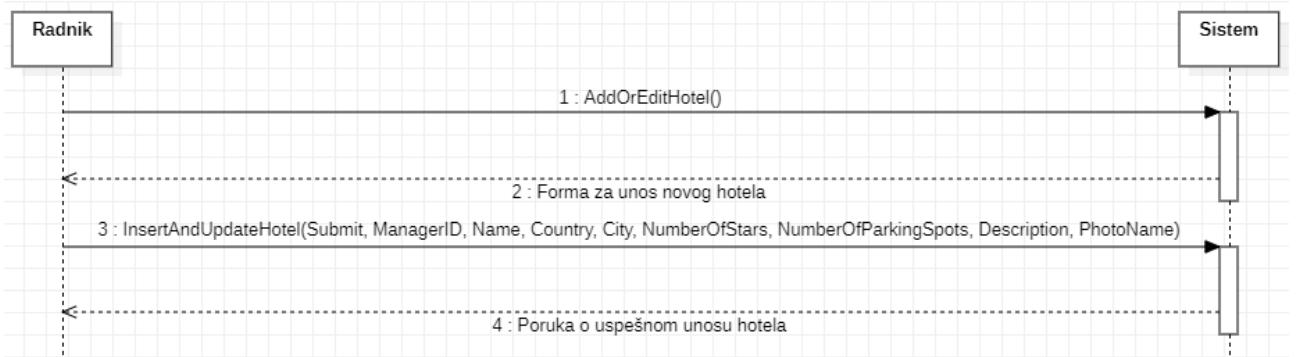
Hotel Description

Suspendisse porttitor nibh ipsum. Curabitur tempus sagittis tortor in dignissim. Nullam sit amet faucibus ante. Integer ornare eleifend nisi ac vehicula. Fusce scelerisque velit velit. Quisque arcu est, facilisis vel facilisis ut, ultrices eu arcu. Ut sollicitudin a tellus id molestie. Morbi non est vulputate, lacinia diam vitae,

Add Hotel

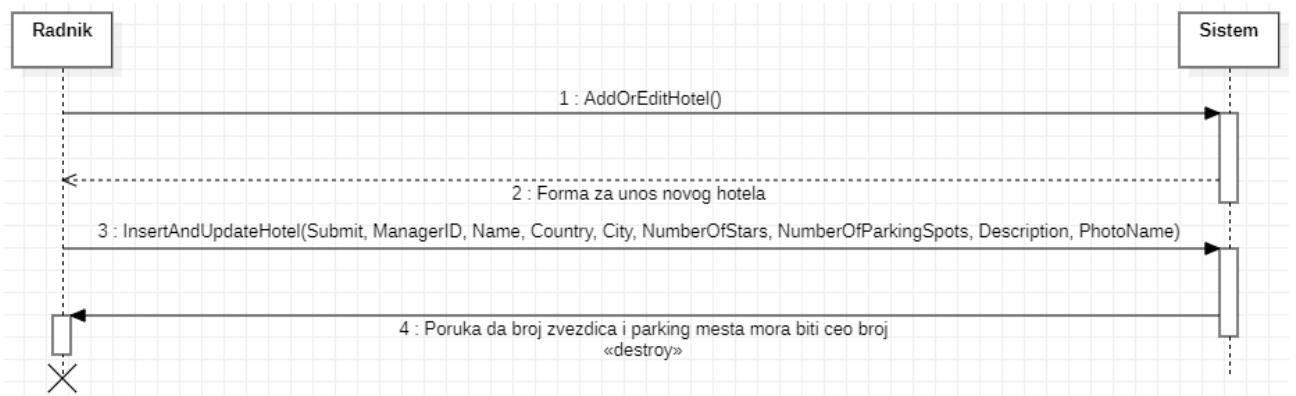
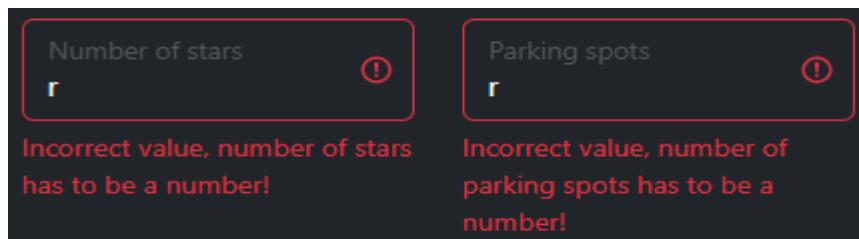
5. Sistem obradjuje podatke (SO)  
6. Sistem prikazuje poruku o uspešnom unosu hotela (IA)

 A new hotel has been added!



### Alternativni scenario:

- 5.1. Radnik za broj zvezdica ili broj parking mesta nije uneo ceo broj i obavešten je o tome (IA)



**Nisu uvedene nove sistemske operacije.**

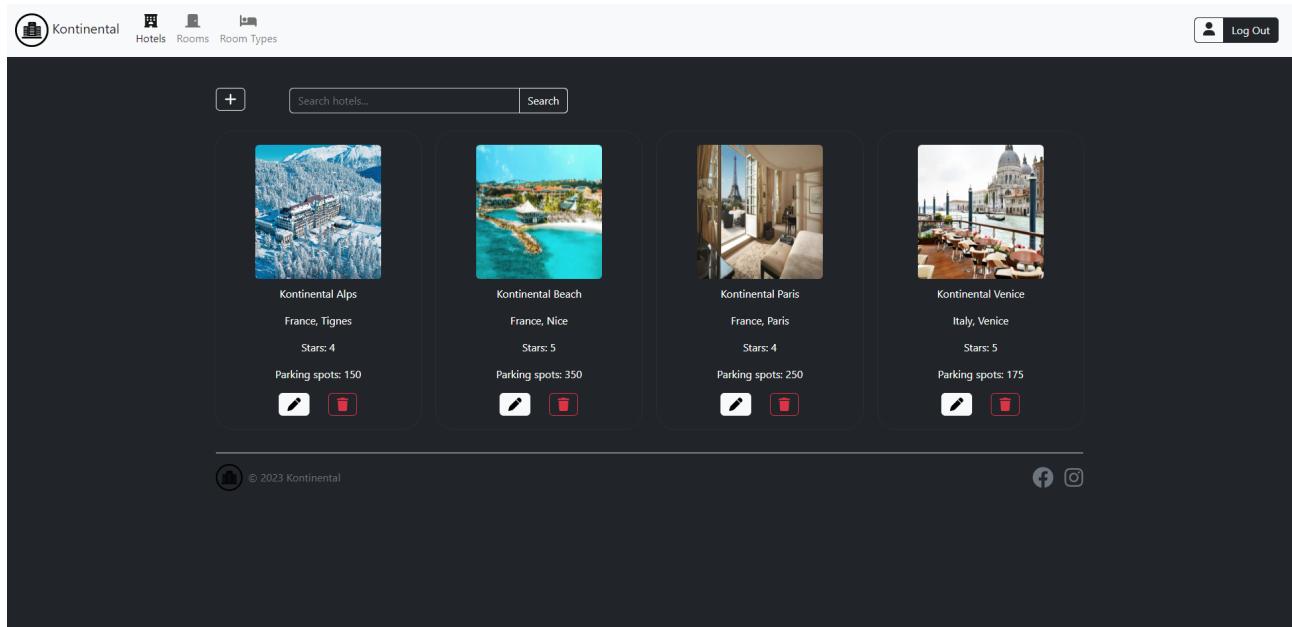
## SK17: BRISANJE HOTELA

**Naziv:** Brisanje hotela

**Aktori:** Administrator

**Učesnici:** Administrator, Sistem

**Preduslovi:** Administrator je ulogovan i prešao je na stranicu za prikaz svih hotela



### Osnovni scenario:

1. Administrator bira hotel koji želi da obriše i klikće na dugme za brisanje (APSO)
2. Sistem briše hotel (SO)
3. Sistem prikazuje poruku o uspešnom brisanju hotela (IA)

The hotel has been deleted!



### Uvedene su sistemske operacije:

1. DeleteHotel(HotelID)

## **4. DEFINISANJE UGOVORA O SISTEMSKIM OPERACIJAMA I DIJAGRAMI SEKVENCI I KOLABORACIJE ZA SISTEMSKE OPERACIJE**

Uočene su sledeće sistemske operacije koje treba projektovati:

1. **Login**(Email, Password)
2. **Signup**(FirstName, LastName, Email, Password, Country, City, Address, PhoneNumber, Birthday)
3. **EditClient**(ID, FirstName, LastName, Email, Password, Country, City, Address, PhoneNumber, Birthday)
4. **SearchHotels**(SearchText)
5. **BrowseRooms**(HotelID)
6. **ShowAvailableRooms**(HotelID, DateFrom, DateTo)
7. **SearchRooms**(SearchText)
8. **FilterRooms**(HotelID, SearchText, DateFrom, BedType, NumberOfBeds, Kitchen, Bathroom)
9. **ReservationForm**(HotelID, RoomTypeID, DateFrom, DateTo)
10. **ReserveRoom**(RoomID, DateFrom, DateTo, FullPrice, ApplyPoints)
11. **DeleteReservation**(ReservationID)
12. **DeleteClient**(ClientID)
13. **PrepareHotelUpdate**(HotelID)
14. **InsertAndUpdateHotel**(Submit, ManagerID, Name, Country, City, NumberOfStars, NumberOfParkingSpots, Description, PhotoName)
15. **InsertAndUpdateRoom**(Submit, HotelID, RoomTypeID, RoomNumber, PricePerNight)
16. **PrepareRoomUpdate**(RoomID)
17. **DeleteRoom**(RoomID)
18. **InsertAndUpdateRoomType**(Submit, BedType, NumberOfBeds, Kitchen, Bathroom, TV, Description)
19. **PrepareRoomTypeUpdate**(RoomTypeID)
20. **DeleteRoomType**(RoomTypeID)
21. **DeleteHotel**(HotelID)

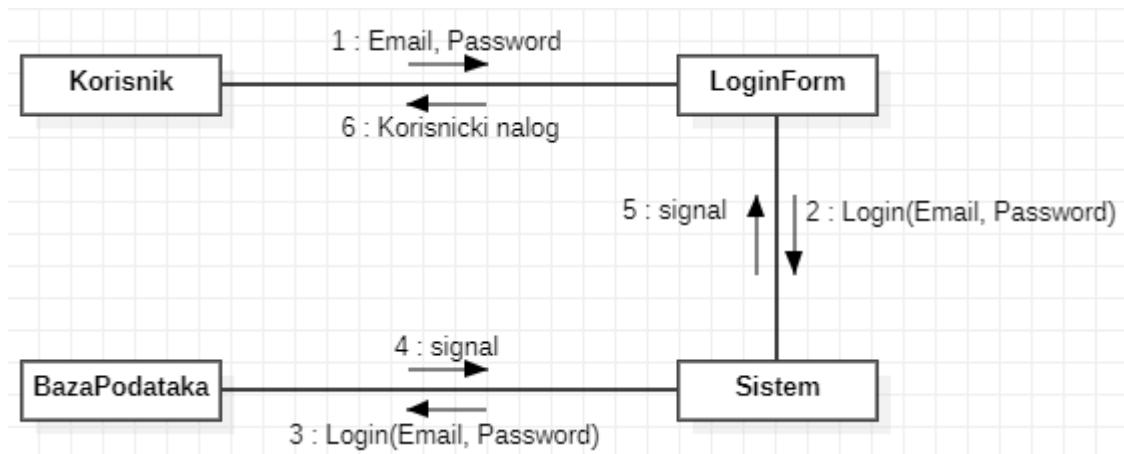
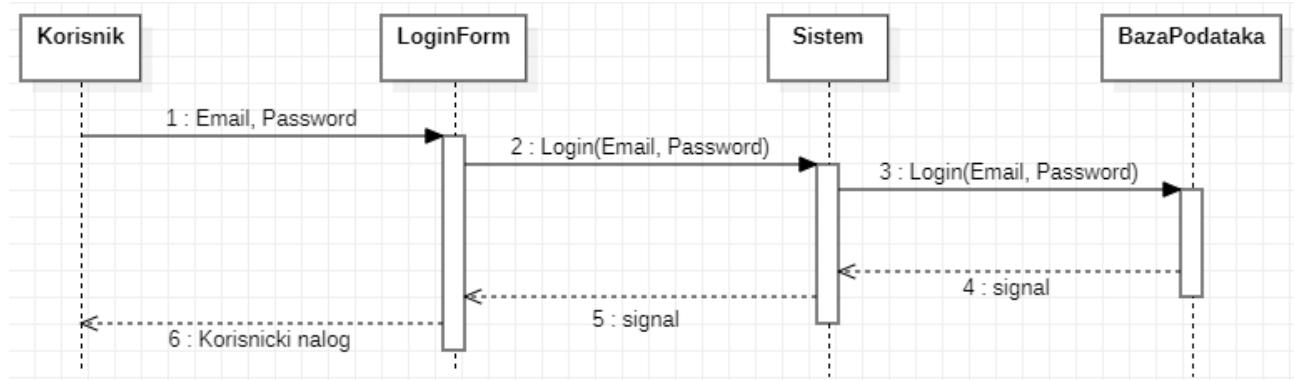
## UGOVOR UG1: Login

**Operacija:** Login>Email, Password : void

**Veza sa SK:** SK1

**Preduslovi:** Korisnik postoji u bazi

**Postuslovi:** Korisnik je ulogovan



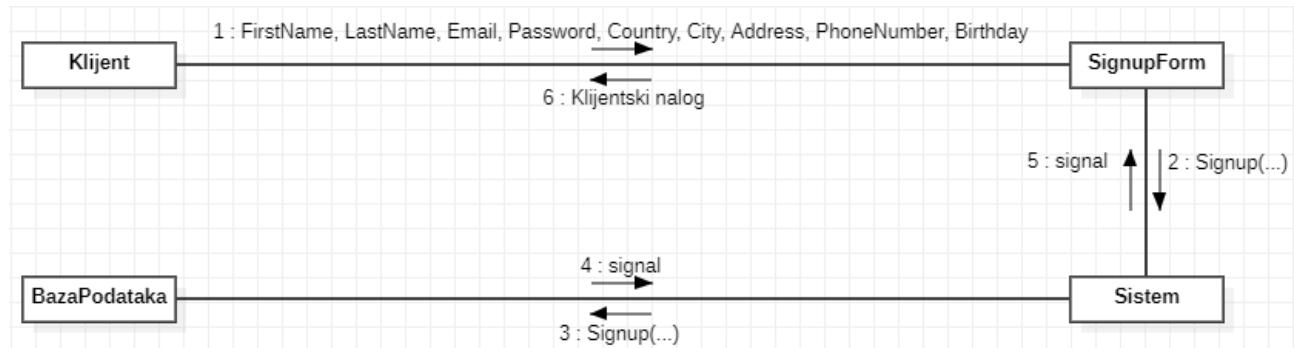
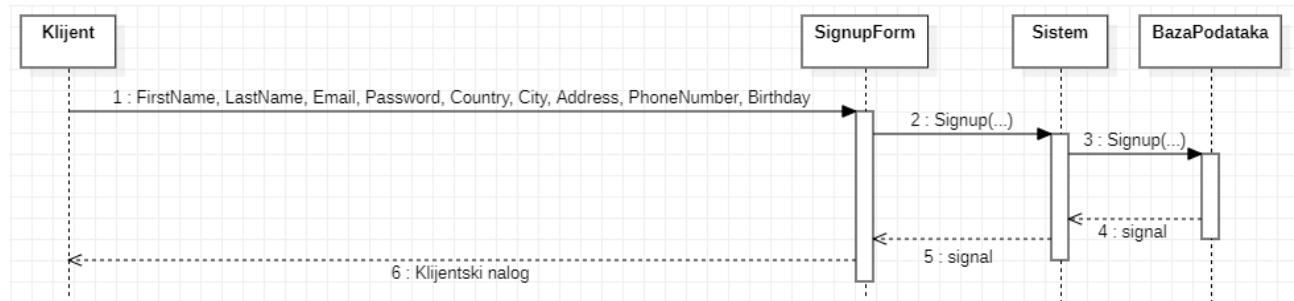
## UGOVOR UG2: Signup

**Operacija:** Signup(FirstName, LastName, Email, Password, Country, City, Address, PhoneNumber, Birthday) : void

**Veza sa SK:** SK2

**Preduslovi:** Klijent ne postoji u bazi

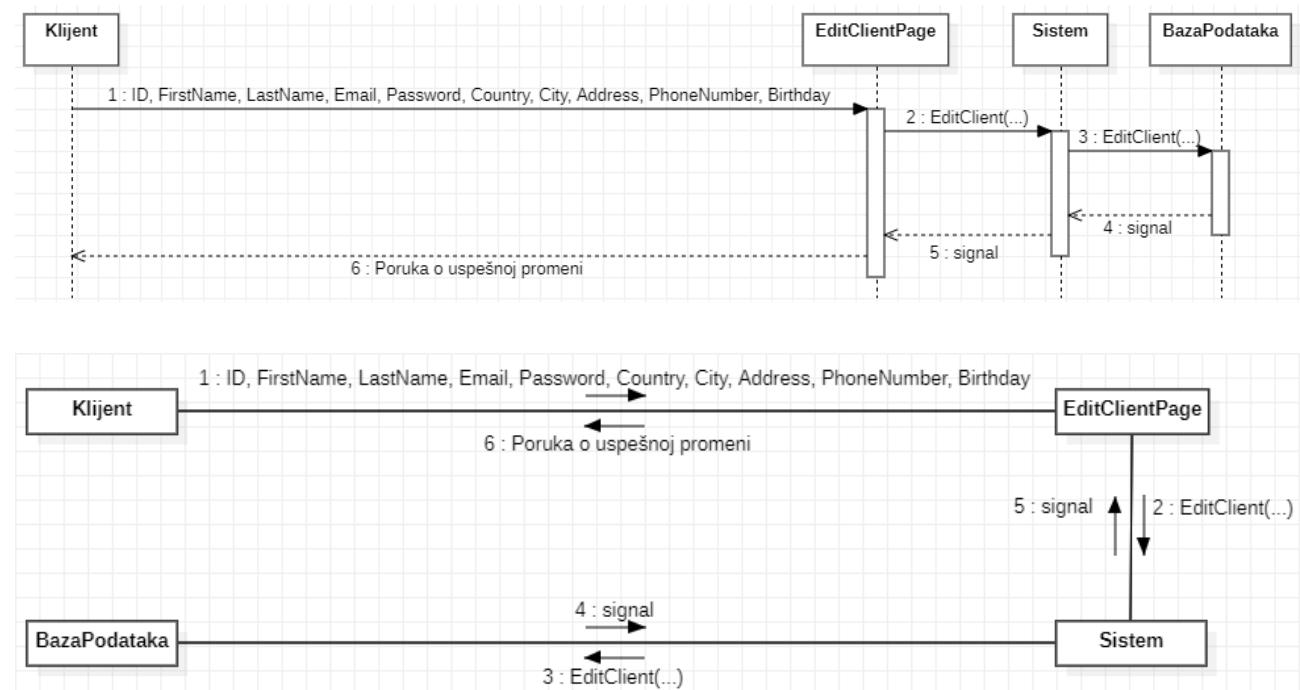
**Postuslovi:** Napravljen je novi klijent u bazi podataka



## UGOVOR UG3: EditClient

**Operacija:** EditClient(ID, FirstName, LastName, Email, Password, Country, City, Address, PhoneNumber, Birthday) : void  
**Veza sa SK:** SK3

**Preduslovi:** Klijent postoji u bazi  
**Postuslovi:** Podaci o klijentu su promenjeni



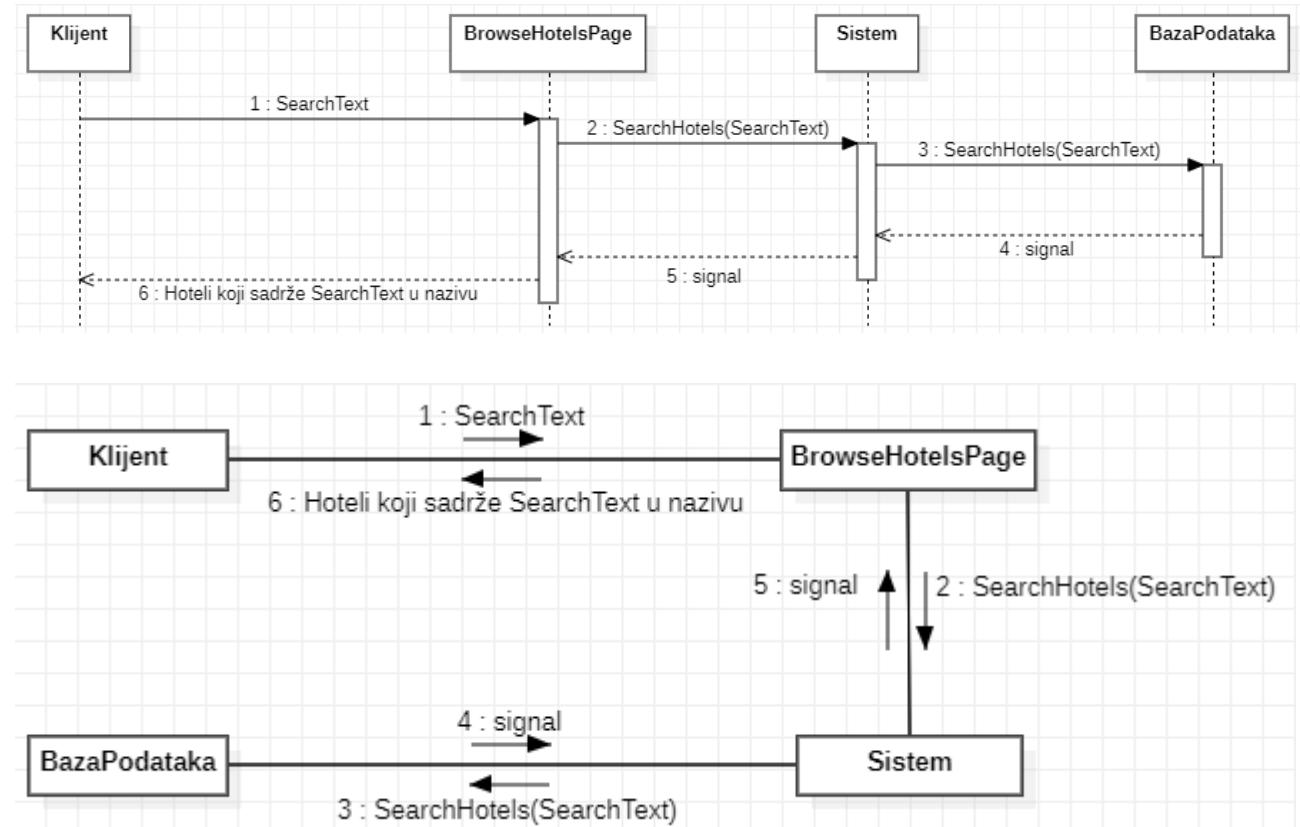
## UGOVOR UG4: SearchHotels

**Operacija:** SearchHotels(SearchText) : ArrayList<Hotel>

**Veza sa SK:** SK4, SK9, SK16, SK17

**Preduslovi:** Hoteli postoje u bazi

**Postuslovi:** Prikazuju se hoteli koji sadrže SearchText u nazivu



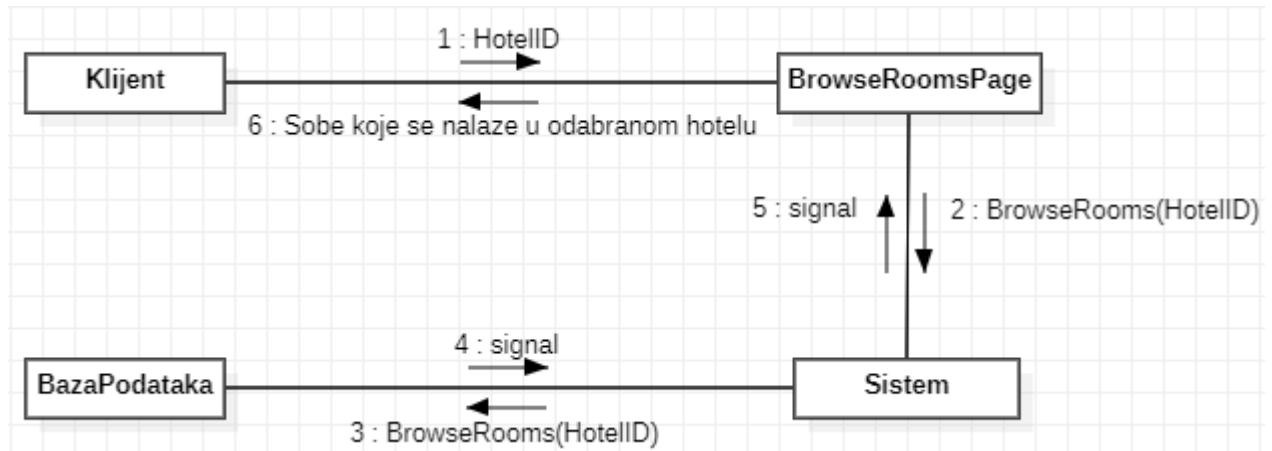
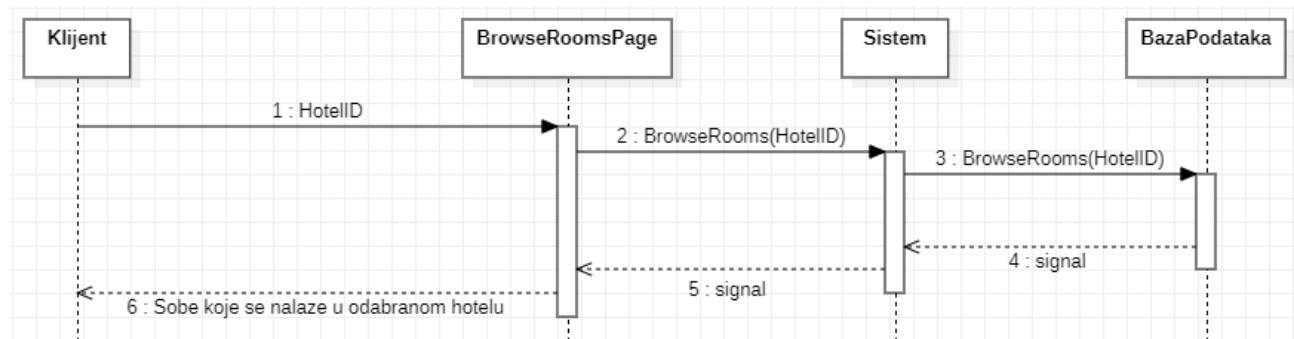
## UGOVOR UG5: BrowseRooms

**Operacija:** BrowseRooms(HotelID) : ArrayList<Room>

**Veza sa SK:** SK5, SK10, SK11, SK12

**Preduslovi:** Postoje sobe u bazi

**Postuslovi:** Prikazane su sobe koje pripadaju određenom hotelu



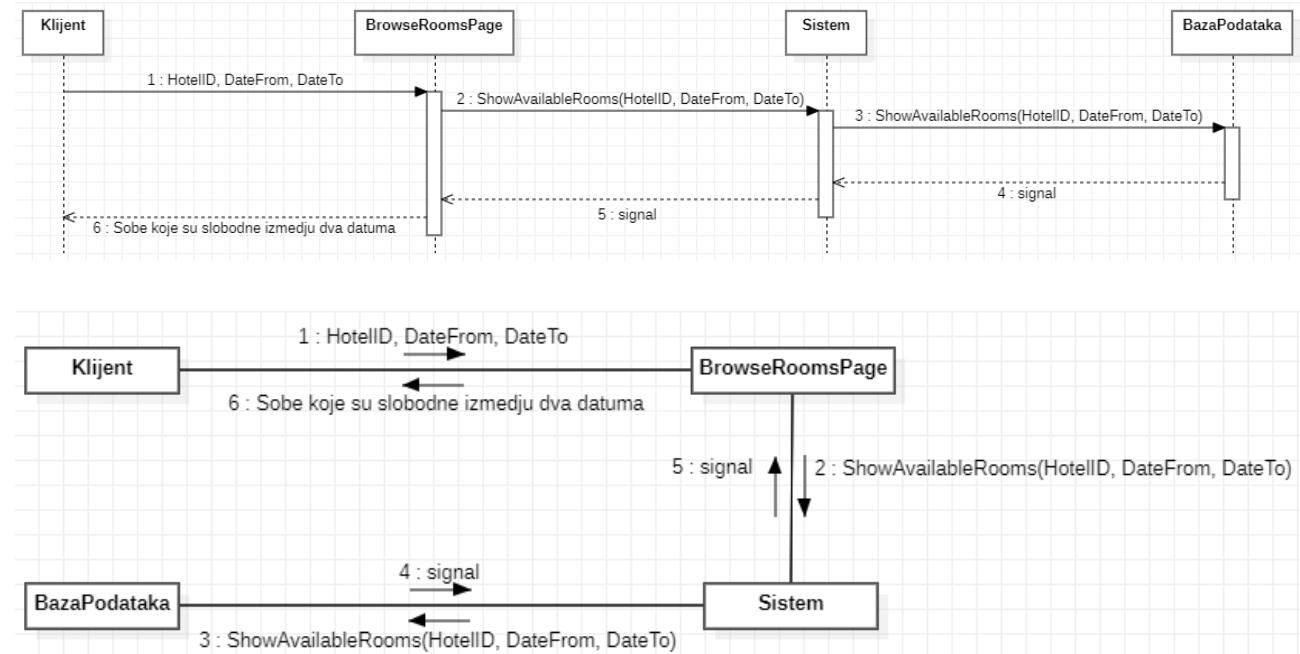
## UGOVOR UG6: ShowAvailableRooms

**Operacije:** ShowAvailableRooms(HotelID, DateFrom, DateTo) : ArrayList<Room>

**Veza sa SK:** SK5

**Preduslovi:** U bazi postoje sobe koje nisu rezervisane izmedju dva navedena datuma

**Postuslovi:** Prikazane su slobodne sobe



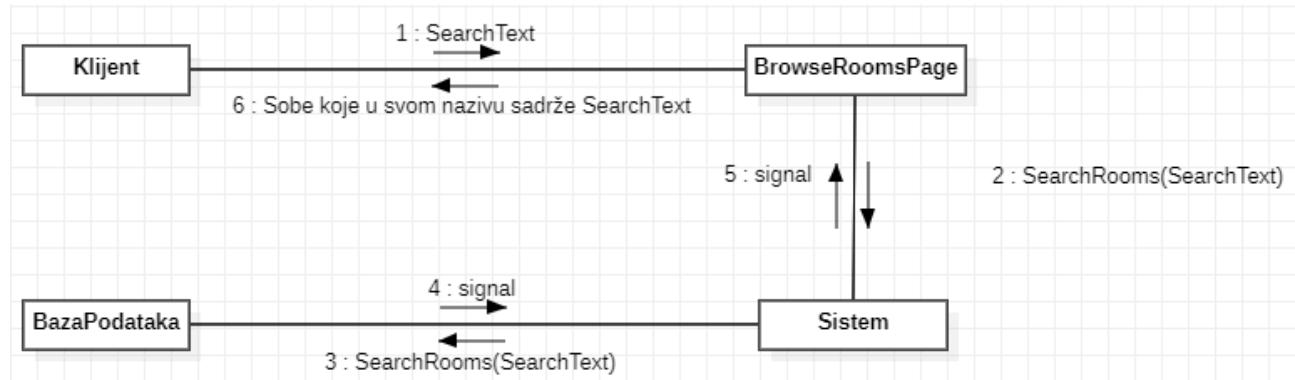
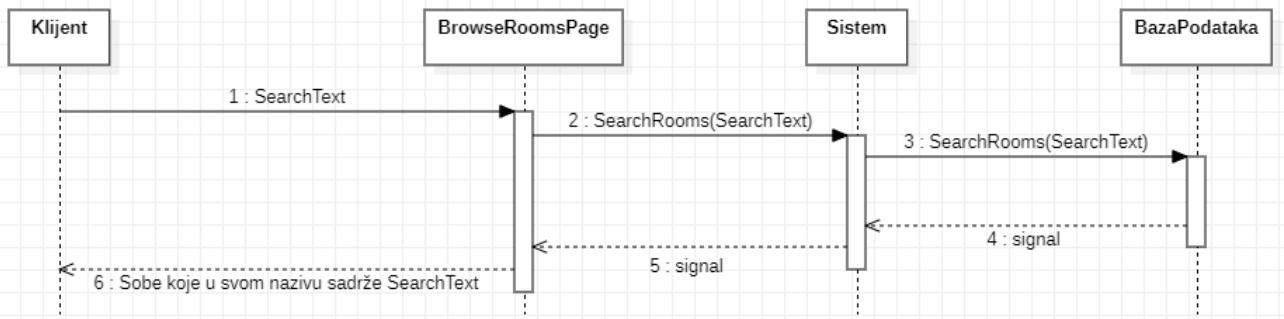
## UGOVOR UG7: SearchRooms

**Operacija:** SearchRooms(SearchText) : ArrayList<Room>

**Veza sa SK:** SK5, SK10, SK11, SK12

**Preduslovi:** U bazi postoje sobe

**Postuslovi:** Prikazane su sobe koje u svom nazivu imaju SearchText



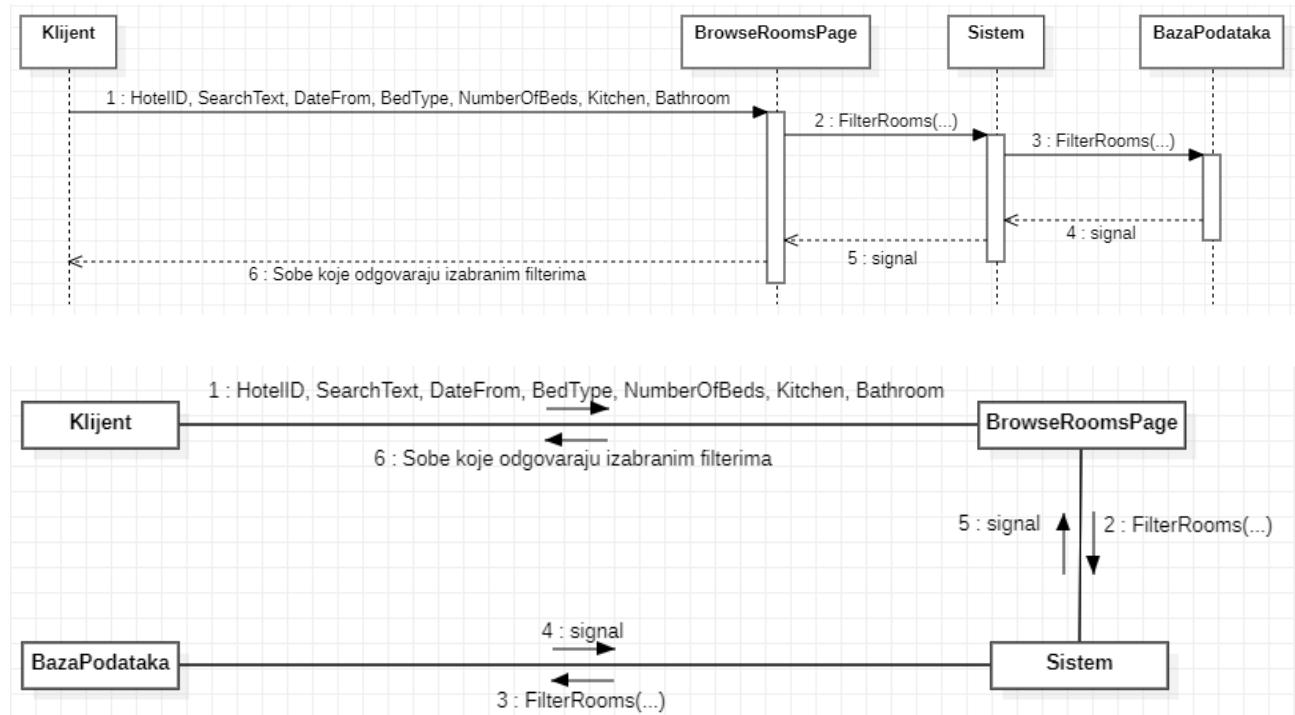
## UGOVOR UG8: FilterRooms

**Operacija:** FilterRooms(HotelID, SearchText, DateFrom, BedType, NumberOfBeds, Kitchen, Bathroom) : ArrayList<Room>

**Veza sa SK:** SK5

**Preduslovi:** Sobe postoje u bazi

**Postuslovi:** Prikazane su sobe koje odgovaraju izabranim filterima



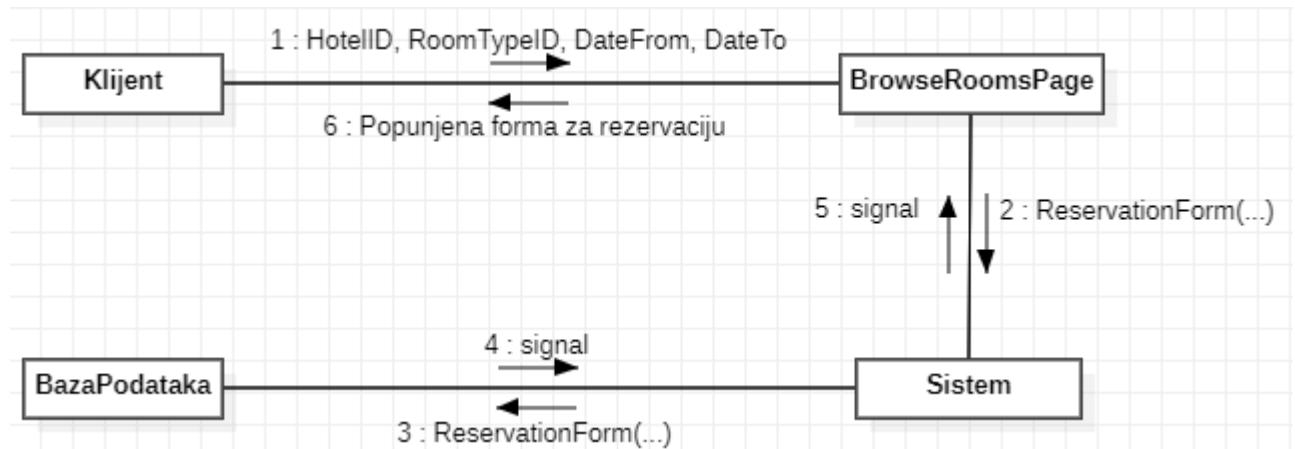
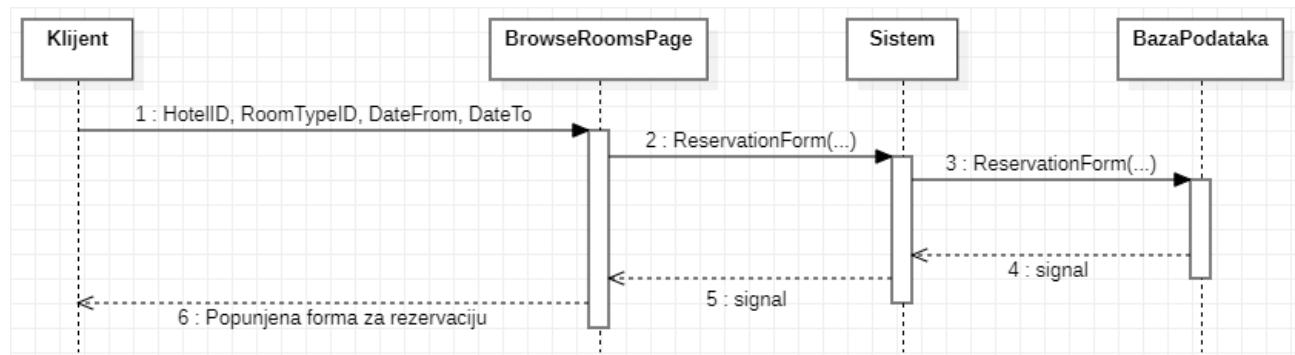
## UGOVOR UG9: ReservationForm

**Operacija:** ReservationForm(HotelID, RoomTypeID, DateFrom, DateTo) : void

**Veza sa SK:** SK5

**Preduslovi:** /

**Postuslovi:** Prikazuje se popunjena forma za rezervaciju



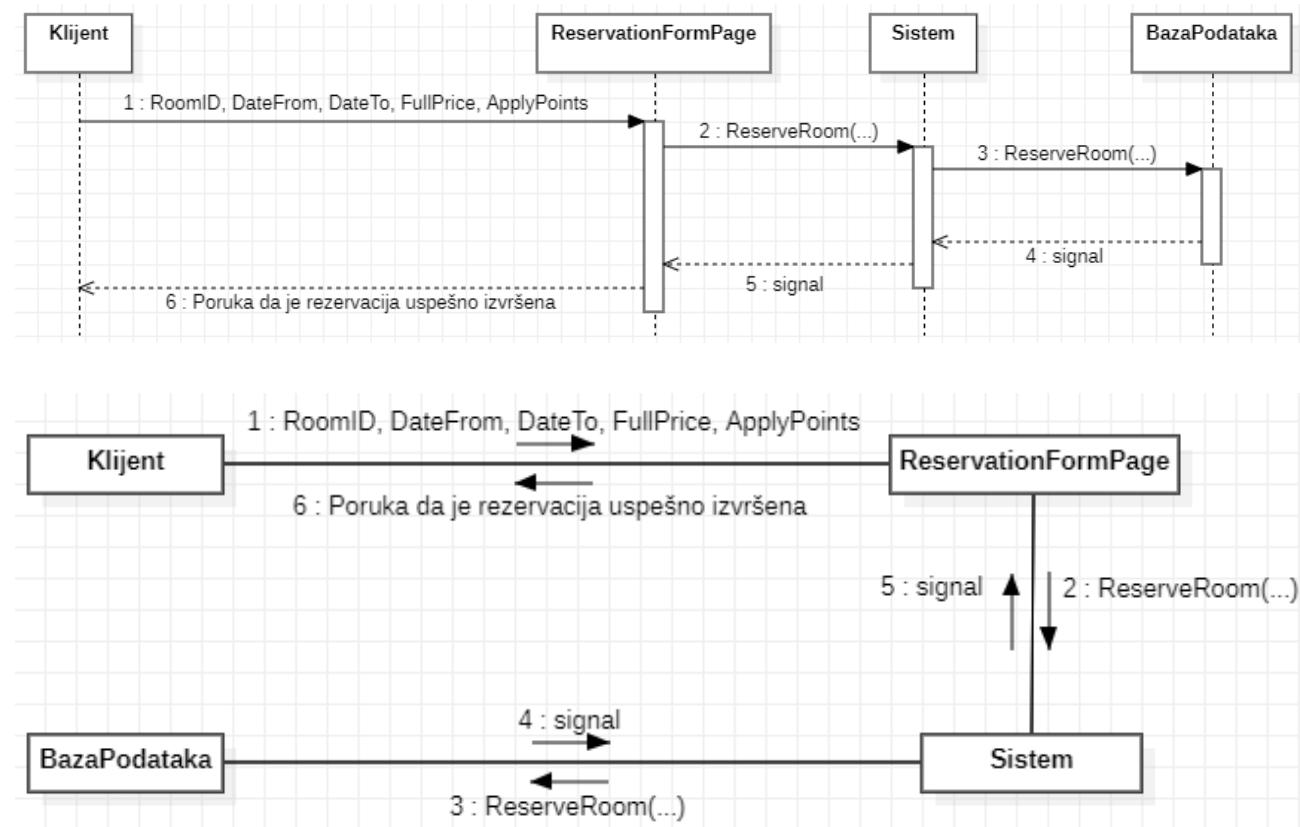
## UGOVOR UG10: ReserveRoom

**Operacija:** ReserveRoom(RoomID, DateFrom, DateTo, FullPrice, ApplyPoints) : void

**Veza sa SK:** SK6

**Preduslovi:** /

**Postuslovi:** Uneta je nova rezervacija u bazu



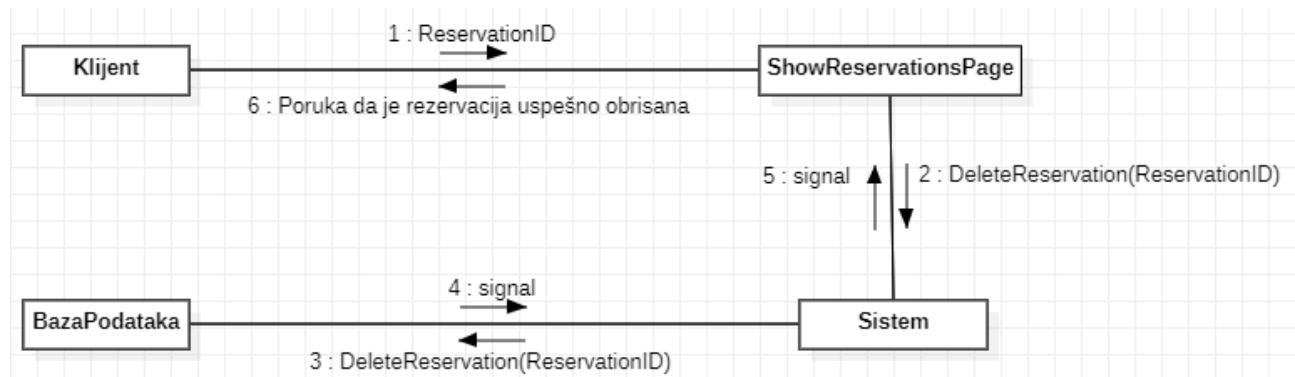
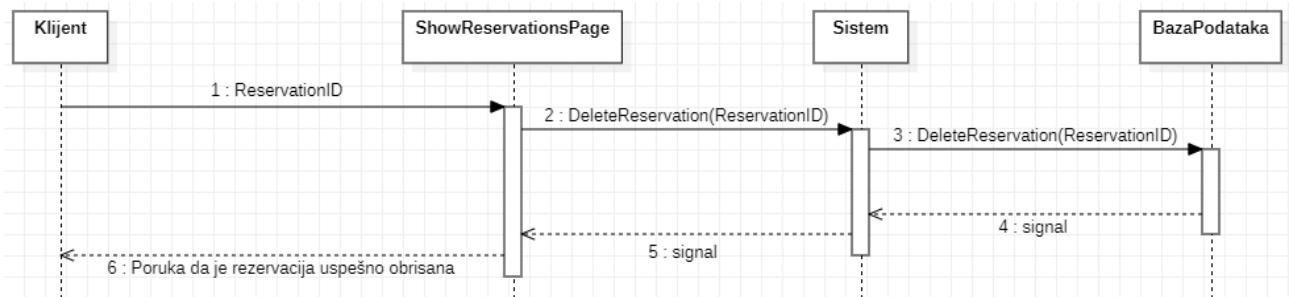
## UGOVOR UG11: DeleteReservation

**Operacija:** DeleteReservation(ReservationID)

**Veza sa SK:** SK7

**Preduslovi:** Postoji rezervacija u bazi

**Postuslovi:** Rezervacija je obrisana iz baze



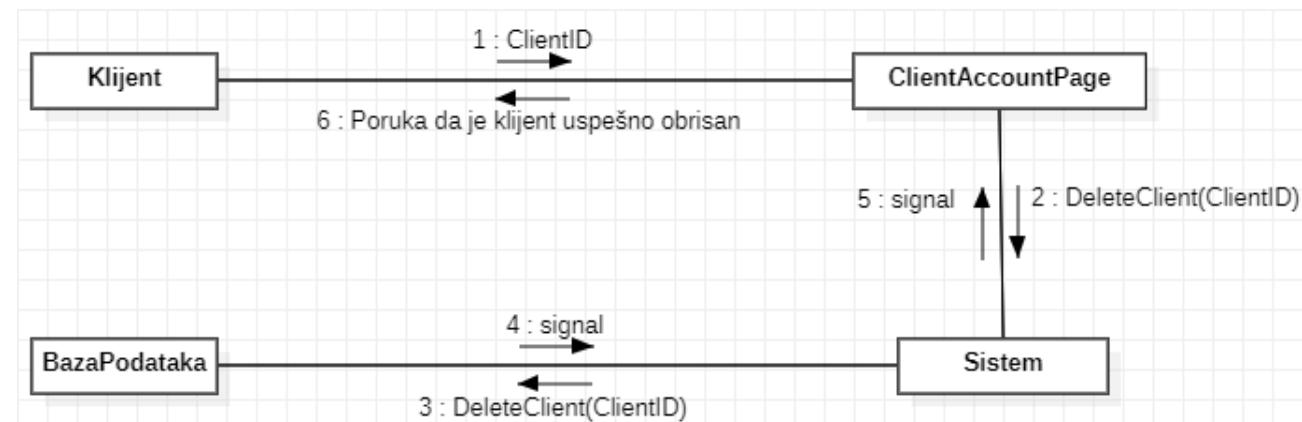
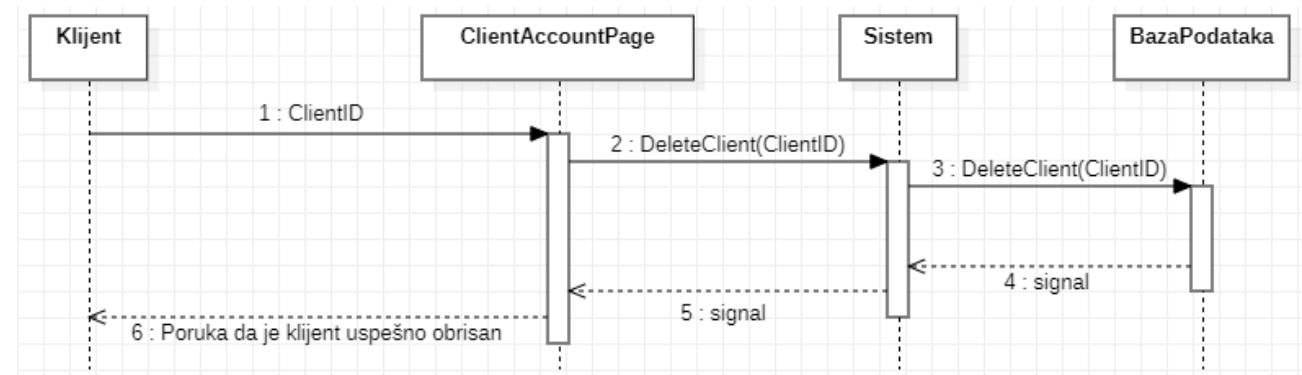
## UGOVOR UG12: DeleteClient

**Operacija:** DeleteClient(ClientID)

**Veza sa SK:** SK8

**Preduslovi:** Klijent postoji u bazi

**Postuslovi:** Klijent je obrisan iz baze



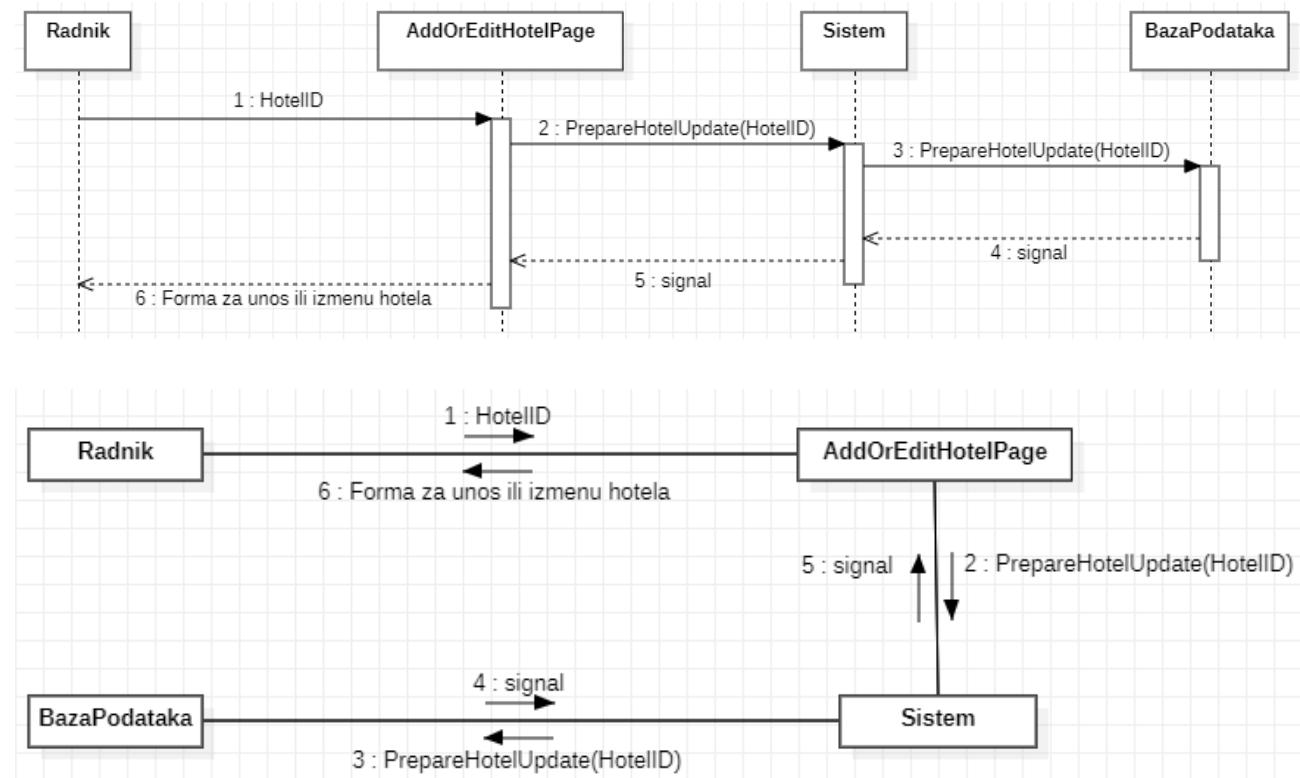
## UGOVOR UG13: PrepareHotelUpdate

**Operacija:** PrepareHotelUpdate(HotelID)

**Veza sa SK:** SK9

**Preduslovi:** Hotel postoji u bazi

**Postuslovi:** Detalji hotela su izmenjeni



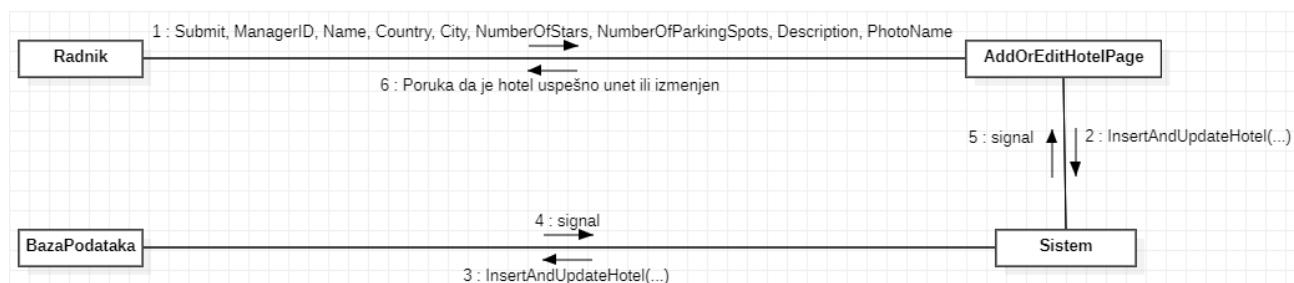
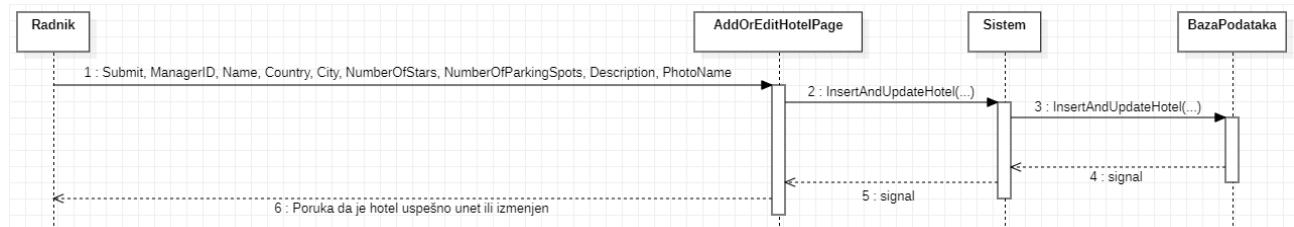
## UGOVOR UG14: InsertAndUpdateHotel

**Operacija:** InsertAndUpdateHotel(Submit, ManagerID, Name, Country, City, NumberOfStars, NumberOfParkingSpots, Description, PhotoName)

**Veza sa SK:** SK9, SK16

**Preduslovi:** Izmena hotela: Hotel postoji u bazi; Dodavanje hotela: Hotel ne postoji u bazi

**Postuslovi:** Izmena hotela: Detalji hotela su promenjeni; Dodavanje hotela: Hotel je dodat u bazu



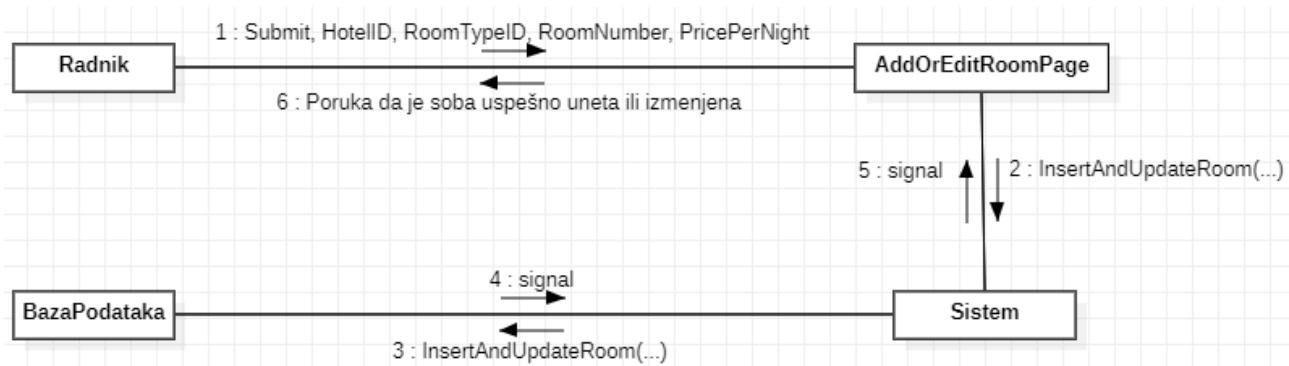
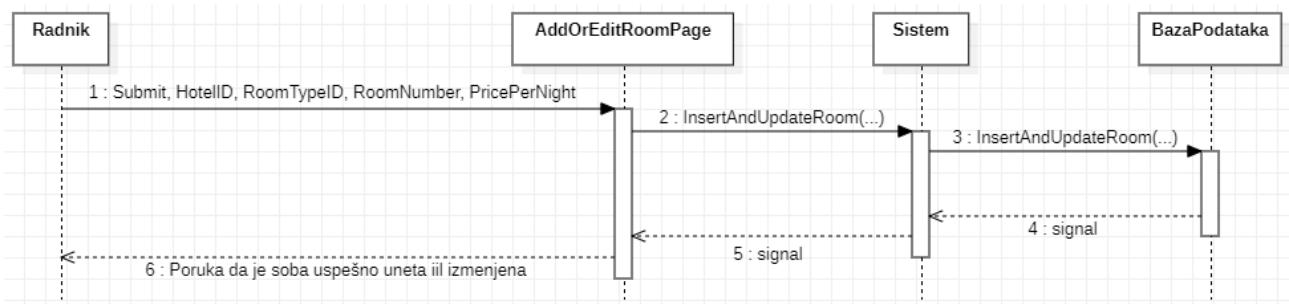
## UGOVOR UG15: InsertAndUpdateRoom

**Operacija:** InsertAndUpdateRoom(Submit, HotelID, RoomTypeID, RoomNumber, PricePerNight)

**Veza sa SK:** SK10, SK11

**Preduslovi:** Izmena sobe: Soba postoji u bazi; Dodavanje sobe: Soba ne postoji u hotelu

**Postuslovi:** Izmena sobe: Detalji sobe su promenjeni; Dodavanje sobe: Soba je dodata u bazu



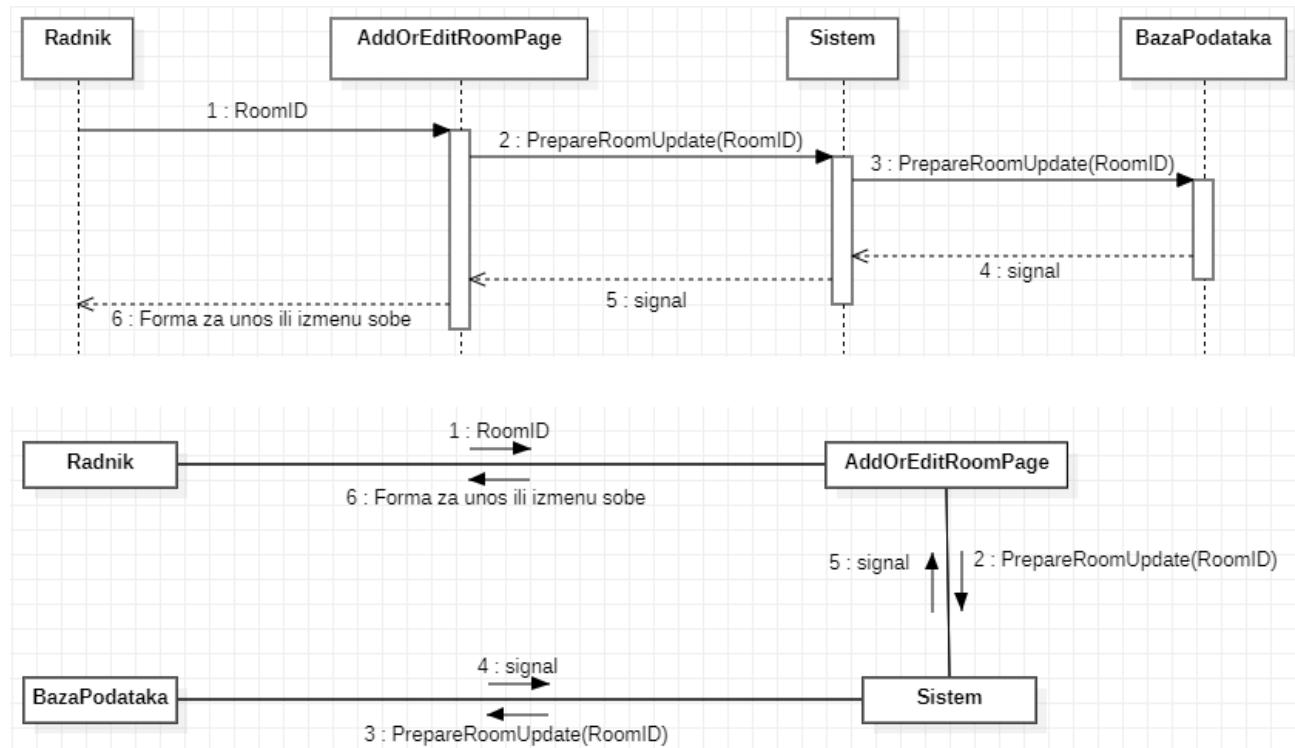
## UGOVOR UG16: PrepareRoomUpdate

**Operacija:** PrepareRoomUpdate(RoomID)

**Veza sa SK:** SK11

**Preduslovi:** Soba postoji u bazi

**Postuslovi:** Detalji sobe su izmenjeni



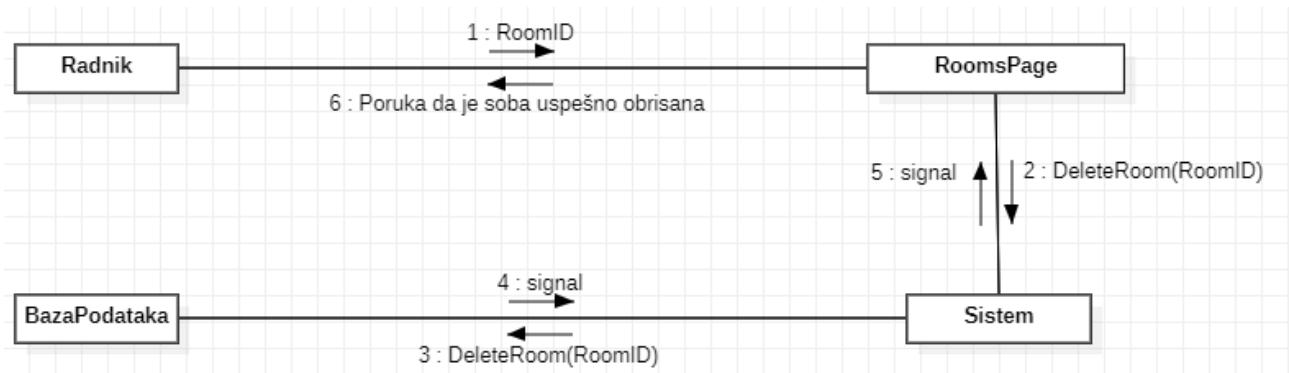
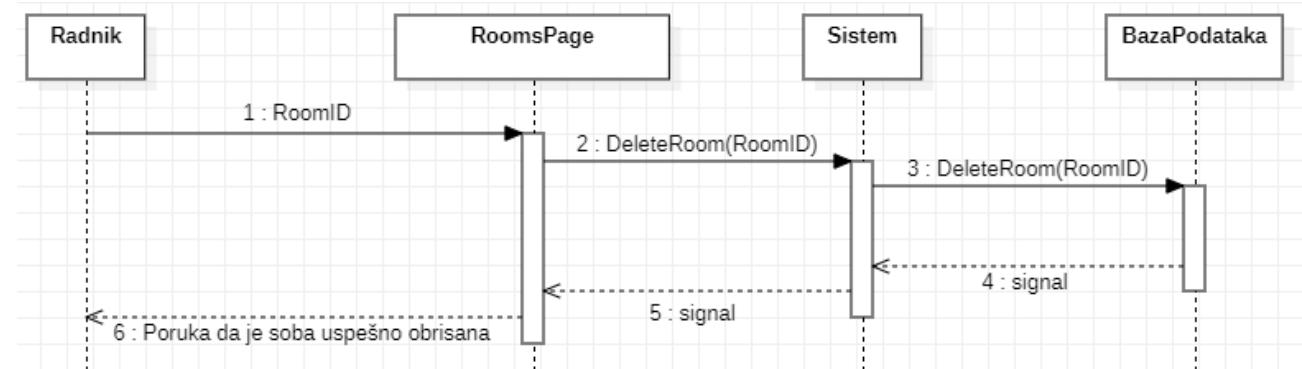
## UGOVOR UG17: DeleteRoom

**Operacija:** DeleteRoom(RoomID)

**Veza sa SK:** SK12

**Preduslovi:** Soba postoji u bazi

**Postuslovi:** Soba je obrisana iz baze



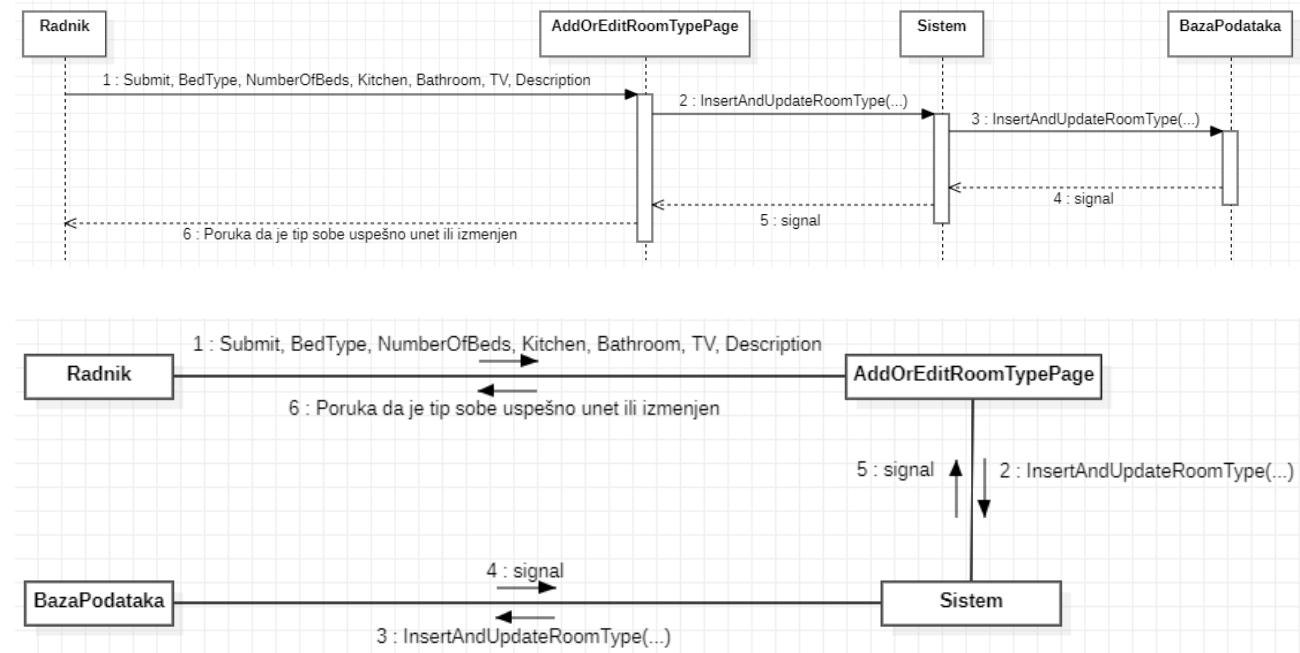
## UGOVOR UG18: InsertAndUpdateRoomType

**Operacija:** InsertAndUpdateRoomType(Submit, BedType, NumberOfBeds, Kitchen, Bathroom, TV, Description)

**Veza sa SK:** SK13, SK14

**Preduslovi:** Izmena tipa sobe: Tip sobe postoji u bazi; Dodavanje tipa sobe: Tip sobe ne postoji u bazi

**Postuslovi:** Izmena tipa sobe: Detalji tipa sobe su promenjeni; Dodavanje tipa sobe: Tip sobe je dodata u bazu



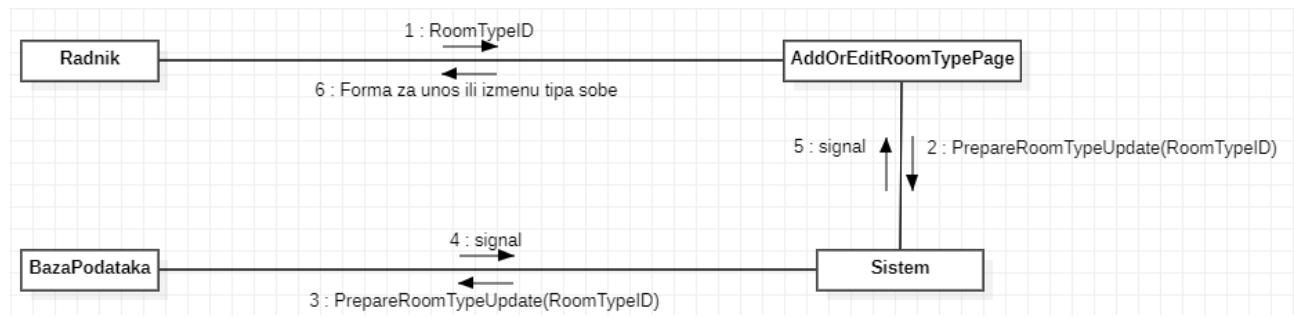
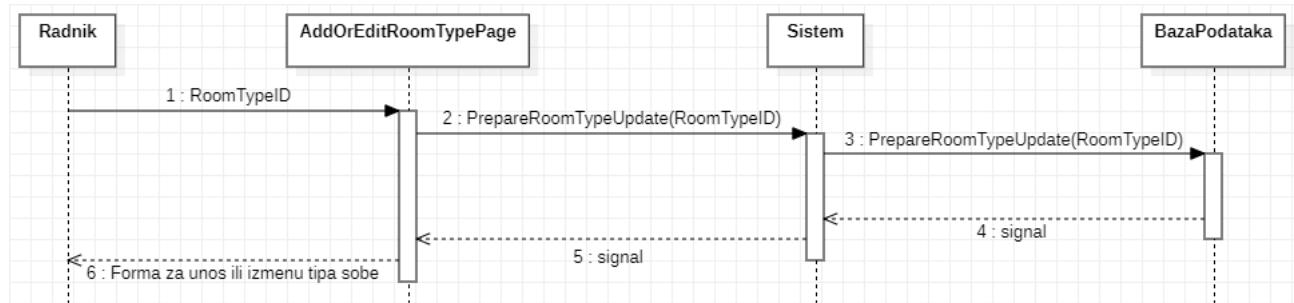
## UGOVOR UG19: PrepareRoomTypeUpdate

**Operacija:** PrepareRoomTypeUpdate(RoomTypeID)

**Veza sa SK:** SK14

**Preduslovi:** Tip sobe postoji u bazi

**Postuslovi:** Detalji tipa sobe su izmenjeni



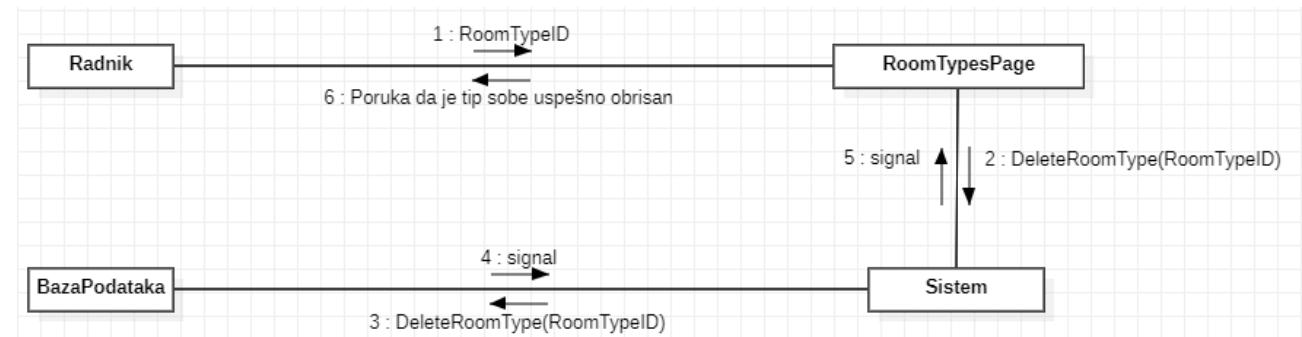
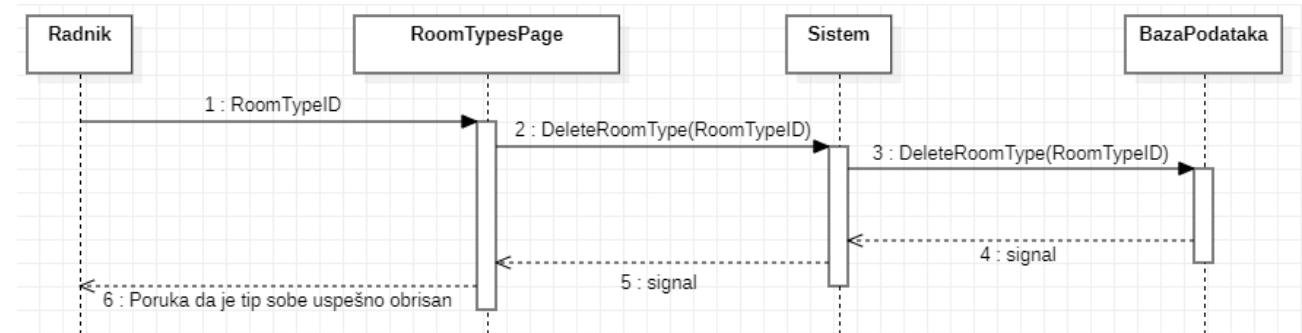
## UGOVOR UG20: DeleteRoomType

**Operacija:** DeleteRoomType(RoomTypeID)

**Veza sa SK:** SK15

**Preduslovi:** Tip sobe postoji u bazi

**Postuslovi:** Tip sobe je izbrisana iz baze



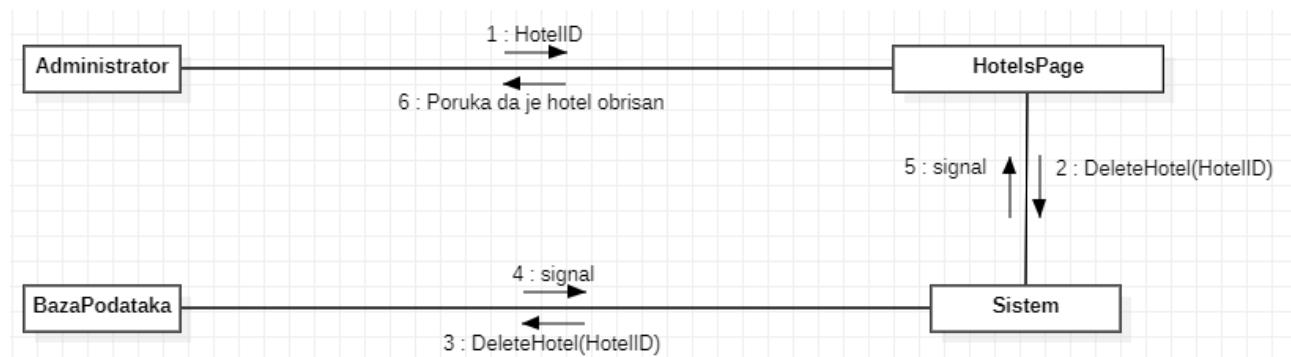
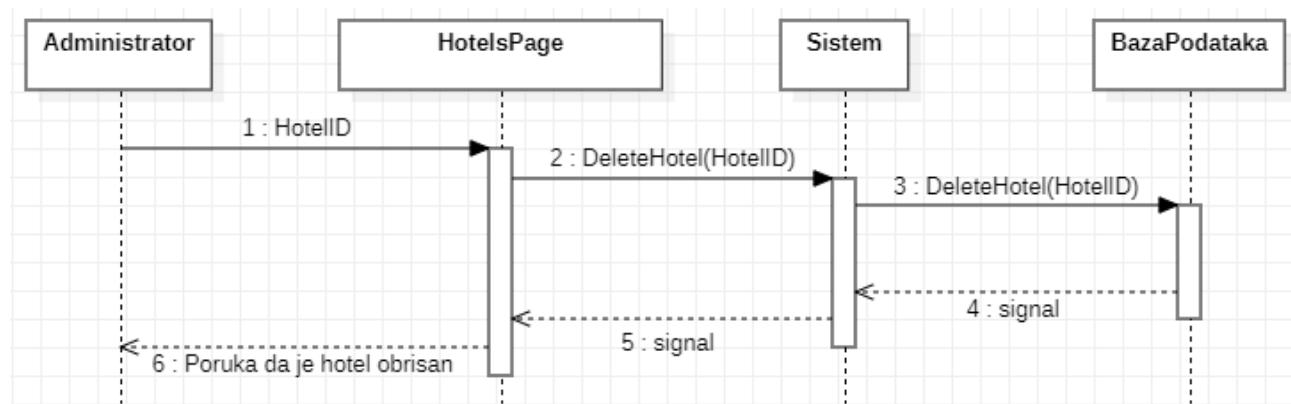
## UGOVOR UG21: DeleteHotel

**Operacija:** DeleteHotel(HotelID)

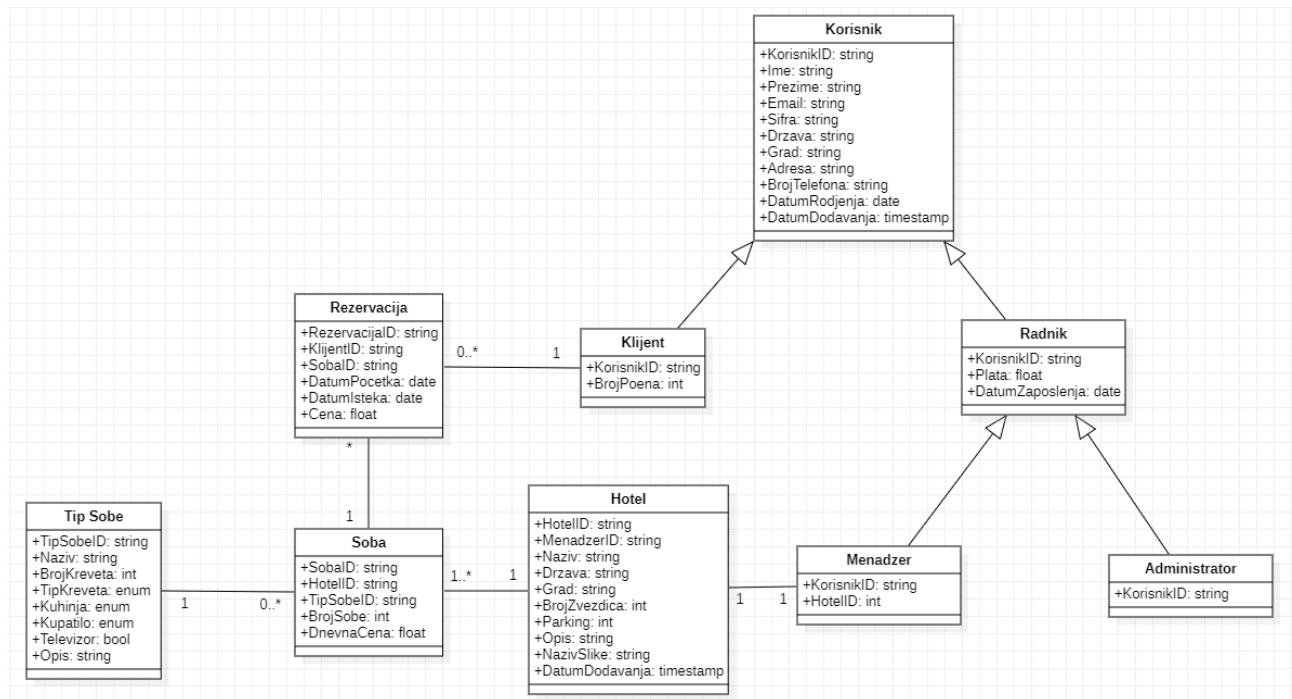
**Veza sa SK:** SK17

**Preduslovi:** Hotel postoji u bazi

**Postuslovi:** Hotel je izbrisani iz baze



## 5. KONCEPTUALNI MODEL



## 6. RELACIONI MODEL

**Korisnik**(KorisnikID, Ime, Prezime, Email, Sifra, Drzava, Grad, Adresa, BrojTelefona, DatumRodjenja, DatumDodavanja)

**Klijent**(KorisnikID, BrojPoena)

Klijent(KorisnikID) referencira Korisnik(KorisnikID)

**Radnik**(KorisnikID, Plata, DatumZaposlenja)

Radnik(KorisnikID) referencira Korisnik(KorisnikID)

**Administrator**(KorisnikID)

Administrator(KorisnikID) referencira Korisnik(KorisnikID)

**TipSobe**(TipSobeID, Naziv, BrojKreveta, TipKreveta, Kuhinja, Kupatilo, Televizor, Opis)

**Hotel**(HotelID, MenadzerID, Naziv, Drzava, Grad, BrojZvezdica, Parking, Opis, NazivSlike, DatumDodavanja)

Hotel(MenadzerID) referencira Menadzer(KorisnikID)

**Menadzer**(KorisnikID, HotelID)

Menadzer(HotelID) referencira Hotel(HotelID)

**Soba**(SobaID, HotelID, TipSobeID, BrojSobe, DnevnaCena)

Soba(HotelID) referencira Hotel(HotelID)

Soba(TipSobeID) referencira TipSobe(TipSobe)

**Rezervacija**(RezervacijaID, KlijentID, SobaID, DatumPocetka, DatumIsteka, Cena)

Rezervacija(KlijentID) referencira Klijent(KorisnikID)

Rezervacija(SobaID) referencira Soba(SobaID)

## 7. PROJEKTOVANJE SKLADIŠTA PODATAKA

**TABELA: KORISNIK**

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	<b>korisnik_id</b> 🔑	varchar(20)	utf8mb4_general_ci		No	None		
2	<b>ime</b>	varchar(20)	utf8mb4_general_ci		No	None		
3	<b>prezime</b>	varchar(20)	utf8mb4_general_ci		No	None		
4	<b>email</b> 🔑	varchar(50)	utf8mb4_general_ci		No	None		
5	<b>sifra</b>	varchar(100)	utf8mb4_general_ci		No	None		
6	<b>drzava</b>	varchar(50)	utf8mb4_general_ci		No	None		
7	<b>grad</b>	varchar(30)	utf8mb4_general_ci		No	None		
8	<b>adresa</b>	varchar(50)	utf8mb4_general_ci		No	None		
9	<b>broj_telefona</b>	varchar(20)	utf8mb4_general_ci		No	None		
10	<b>datum_rodjenja</b>	date			No	None		
11	<b>datum_dodavanja</b>	timestamp			No	current_timestamp()		

**TABELA: KLIJENT**

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	<b>korisnik_id</b> 🔑	varchar(20)	utf8mb4_general_ci		No	None		
2	<b>broj_poena</b>	int(11)			No	None		

**TABELA: RADNIK**

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	<b>korisnik_id</b> 🔑	varchar(20)	utf8mb4_general_ci		No	None		
2	<b>plata</b>	float			No	None		
3	<b>datum_zaposlenja</b>	date			No	None		

**TABELA: MENADZER**

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	<b>korisnik_id</b> 🔑	varchar(20)	utf8mb4_general_ci		No	None		
2	<b>hotel_id</b> 🔑	varchar(20)	utf8mb4_general_ci		Yes	NULL		

**TABELA: ADMINISTRATOR**

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	<b>korisnik_id</b> 🔑	varchar(20)	utf8mb4_general_ci		No	None		

### TABELA: HOTEL

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	hotel_id	varchar(20)	utf8mb4_general_ci		No	None		
2	menadzher_id	varchar(20)	utf8mb4_general_ci		Yes	NULL		
3	naziv	varchar(40)	utf8mb4_general_ci		No	None		
4	drzava	varchar(30)	utf8mb4_general_ci		No	None		
5	grad	varchar(30)	utf8mb4_general_ci		No	None		
6	broj_zvezdica	int(11)			No	None		
7	broj_parking_mesta	int(11)			No	None		
8	opis	varchar(500)	utf8mb4_general_ci		No	None		
9	naziv_slike	varchar(50)	utf8mb4_general_ci		Yes	NULL		
10	datum_dodavanja	timestamp			No	current_timestamp()		

### TABELA: SOBA

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	soba_id	varchar(20)	utf8mb4_general_ci		No	None		
2	hotel_id	varchar(20)	utf8mb4_general_ci		No	None		
3	tip_sobe_id	varchar(20)	utf8mb4_general_ci		Yes	NULL		
4	broj_sobe	int(3)			No	None		
5	dnevna_cena	float			No	None		

### TABELA: TIP SOBE

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	tip_sobe_id	varchar(50)	utf8mb4_general_ci		No	None		
2	naziv	varchar(100)	utf8mb4_general_ci		No	None		
3	broj_kreveta	int(11)			No	None		
4	tip_kreveta	enum('Single', 'Double', 'Queen', 'King', 'Single')	utf8mb4_general_ci		No	None		
5	kuhinja	enum('None', 'Semi-furnished', 'Fully-furnished')	utf8mb4_general_ci		No	None		
6	kupatilo	enum('Shower', 'Bath')	utf8mb4_general_ci		No	None		
7	televizor	bit(1)			No	None		
8	opis	varchar(500)	utf8mb4_general_ci		No	None		

### TABELA: REZERVACIJA

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	rezervacija_id	varchar(50)	utf8mb4_general_ci		No	None		
2	klijent_id	varchar(20)	utf8mb4_general_ci		Yes	NULL		
3	soba_id	varchar(20)	utf8mb4_general_ci		Yes	NULL		
4	datum_pocetka	date			No	None		
5	datum_isteka	date			No	None		
6	cena	float			No	None		

## **8. ZAKLJUČAK**

U ovom projektu je prikazan proces razvoja web aplikacije za rezervaciju hotelskih soba u Jakarta EE okruženju.

Aplikacija je zasnovana na MVC arhitekturi (Model - klase u folderu Models; View - JSP stranice; Controller - Servleti u Servlets folderu).

Time je izbegnuto je bespotrebno ponavljanje koda i napravljena je jasna raspodela zaduženja među različitim delovima softvera što omogućava jednostavnu nadogradnju i proširenje funkcionalnosti u budućnosti.

Maven je korišćen kao build sistem aplikacije za kontrolu dependency-a.

Od tehnologija za back-end su korišćeni standardni Java paketi, Jakarta paketi tj. Servleti i JSP skriptleti.

Za front-end je korišćen standardni HTML u kombinaciji sa JSP skriptletima, standardni CSS, Bootstrap framework za CSS i standardni JavaScript.

Baza podataka je radjena pomoću XAMPP-ove PhpMyAdmin MySQL baze podataka. Za konekciju izmedju baze i aplikacije je korišćen JDBC drajver i MySQL konektor.

Za izradu projekta je korišćeno znanje stečeno sa predmeta "Internet Programerski Alati" i drugih predmeta gde su se izradjivale aplikacije pomoću MVC modela. Uz to su konsultovani i drugi izvori informacija sa interneta.

## **9. LITERATURA**

1. dr Svetlana Jevremović: Predavanja i vežbe za predmet "Internet Programerski Alati" u .pdf formatu, Beograd 2023.