The aim of this work is to develop a room rental application /

residences. Users will have access to the Content Modern application

web browser.

There are 4 roles in the application: Administrator / Host / Tenant /

Anonymous. The role of the administrator is assigned to a specific user / users

when installing the application. Any other user who subscribes to

application selects the role of the tenant, the host or both. In

each role corresponds to a separate graphical user interface through which: A)

administrators manage application users, B) hosts

register houses / rooms for rent, the time periods during them

which are available for rent and their features regarding

pricing, location, area, floor, heating, etc. Also

can process and modify all of the above. C) The

tenants can look for homes / rooms to rent, yes

consider their features and make reservations. Anonymous users

who have not registered in the application can like the tenants to

look for rooms and residences and consider their features and

availability but cannot make reservations.

Application requirements

1. The application initially displays in its browser

visitor Welcome page. This page should

to enable the user to register in the application by clicking

the corresponding button on the navigation bar. It should also give it

enabling a user to enter the application by giving the username

(username) and user code (password) in the navigation bar. The

corresponding HTTP applications must be encrypted through it

SSL / TLS protocol. This page should also be included in the main page

part of a form in which the anonymous user can enter it

location (district, city, country) for which he is looking for a room / residence, the

rental time and the number of people involved in the search.

2. The registration page of a new user will require him to enter

username, username, username confirmation, username,

last name, email address, contact phone number,

desired roles in the application, photography and any other elements

deemed necessary. If the username is already used by someone else

user, the application should prompt him to import a new one

Username. In case the user chooses the role of host,

after successfully entering its details, a message will be displayed which will

informs him that the approval of his application for registration in the application is pending

with the role of host. In any case, the new user will be able to

enter the application as a tenant after registering if he has selected

this role.

3. In the application there will be one installed by the installation

user who will have the role of administrator. When the administrator enters it correctly

username and password will be displayed on the page

management.

4. Through the admin page the administrator should navigate to

list of users. From the list of users it will be possible to navigate the page

of each user's data, through which he will be able to examine the data

users and approve their application to the system if they are young

users want to acquire the role of host. Also, the administrator

will be able to export its data to JSON and XML files

application (the places available for rent by the hosts

along with all relevant information, tenant reservations, reviews that

have hired every tenant after rent, the reviews they have

submitted and related to each host).

5. After a user (anonymous / tenant) enters the form

Search the homepage for the required information (location,

dates, number of people) and submitted by the application will display one

list that will contain the search results sorted by

lower to the most expensive price (spaces should be available to them

specific search dates). If the results are

more than ten, then they will be divided into pages that each will contain

up to ten results in which it can be navigated with appropriate

links at the top and at the end of the results. The results will

are presented in the form of a grid. Each grid cell will include

a representative photo of the space for rent, the cost

rent per day, type of rental space (private room,

common room, whole house), number of beds, number

of critics and their average price from 1 to 5 stars. The user will have the

ability to add more search filters giving specific

options in the following criteria: room type, maximum cost, benefits:

wireless internet, cooling, heating, kitchen, TV, parking,

elevator.

6. The user will examine the details of each rented space

by selecting the corresponding cell in the grid with the mouse, then it will navigate to

page detailed presentation of space elements. The page is detailed

presentation will include the details of the rented space

sorted into the following categories: space (number of beds, number of bathrooms,

type of rental space, number of bedrooms, living room, area

space), description (free text), rental rules (whether allowed or not

smoking, pets and events, as well as the minimum number

rental days), location (map Openstreetmap, address, neighborhood,

transportation), photos of the place, details of the host (photo,

critics). Through the host's details it will be possible to navigate to a page

exchanging messages with him / her to ask questions and provide

clarifications. Finally, the option to confirm the booking will be given

for the period initially specified in the search.

7. When a user enters the application with his role

host will be navigated to the management page of the sites it offers to

tenancy. This page will include an Openstreetmap map

may specify the geographical location of the residence as well as a form

through which he will be able to enter the address in the form of text. It will also

imports information about access to it

rented space. Once the geographical location of the house has been determined, it will

the individual characteristics are entered (dates on which the space

available for rent over time, maximum number of people, minimum

rental price and additional costs per person, type of rental space,

photos, rental rules, description, number of beds, number

bathrooms, number of bedrooms, living room, living area and everything else

it is considered necessary). In a special context, the list of places that will be presented will be presented

has registered for rent. Choosing one of these spaces will

can be navigated to the page of its detailed data where it can

edit all of the above features, add or delete

photos, see, reply and delete news and old

messages sent to him by interested tenants (paginated)

suitable in case their number is large), and so on.

8. Each user, in whatever role he belongs to, will be able to edit

his account details on a corresponding profile management page in

which can be navigated through a suitable link in the bar

navigation.

9. [Bonus] The app will showcase the tenants entering

this proposed premises for rent based on the history of the tenant,

that is, based on the spaces it has already rented and the critics it has given

for them. It should be used to produce sentences

Matrix Factorization algorithm, based on what is described in the corresponding

slides posted on e-class. Relevant dataset is also provided. In

in case a tenant has not made any reservations in the past or

has not written any reviews, the application will record and use a) them

searches made by the tenant and b) the specific places in

details of which have been navigated in order to construct the

a vector that represents it and makes it possible to calculate it

similar to other users. This is one way to deal with it

data sparsity problem. The algorithms for

Recommended production must be implemented from scratch. It is not allowed

use of ready-made libraries.