



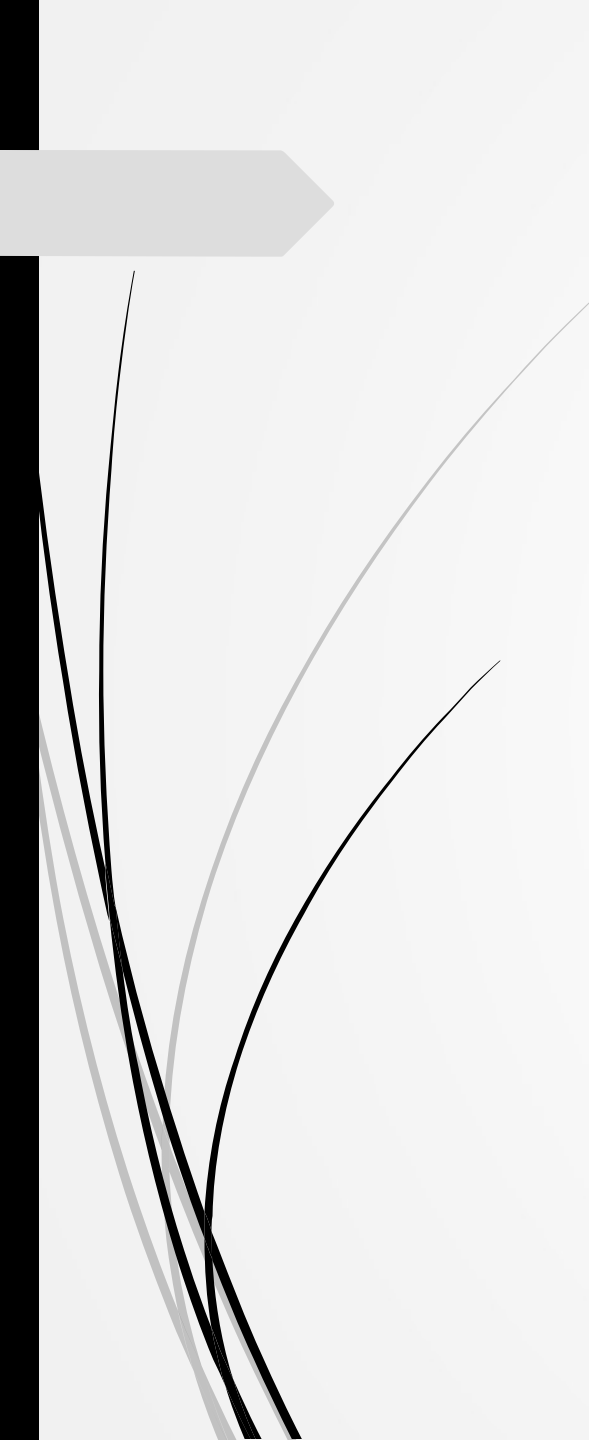
INTERACTIVE ONLINE FURNITURE STORE

graduate work
(educational qualification level - master)
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Topicality

- ▶ The modern world is fast and changing. This year's unforeseen events have shown the relevance of online shopping worldwide. Today, online shopping is an integral part of the lives of global network users.
- ▶ Some products are difficult to pick up in one visit to the store. Especially it is problematic to bring the furniture at home and "try on" them, and in case of need to return back. Even the most beautiful furniture may not fit into the interior, and the point here is not only in size but also in the design itself. For example, in the image and in the imagination of the buyer, the thing may look great, but in fact it turns out that it is not compatible with other furniture and looks dimly. A similar problem is the gradual acquisition of furniture and the unexpected disappointment of the incompatibility of new furniture with old, whether in size, color or style.

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- It was developed an online trading platform where the consumer has the opportunity to choose the products that interest him and get their complete and detailed information, view them in three-dimensional space and check their combination with each other. The interactive part of the developed online store helps to pick up furniture harmoniously not only among themselves, but also under a certain interior of a room. By modeling by the user, the result will be a list of furniture that is subject to all specified requirements and ready to order.



PURPOSE, OBJECT and SUBJECT of development

- ▶ The purpose of the work is to increase the functionality and interest of users compared to existing stores, by developing and adding a high-speed convenient and powerful interactive part.
- ▶ *Object of research is the process of finding effective solutions for creating an interactive online furniture store.*
- ▶ *Subject of research is programming technologies for creating an interactive online furniture store.*

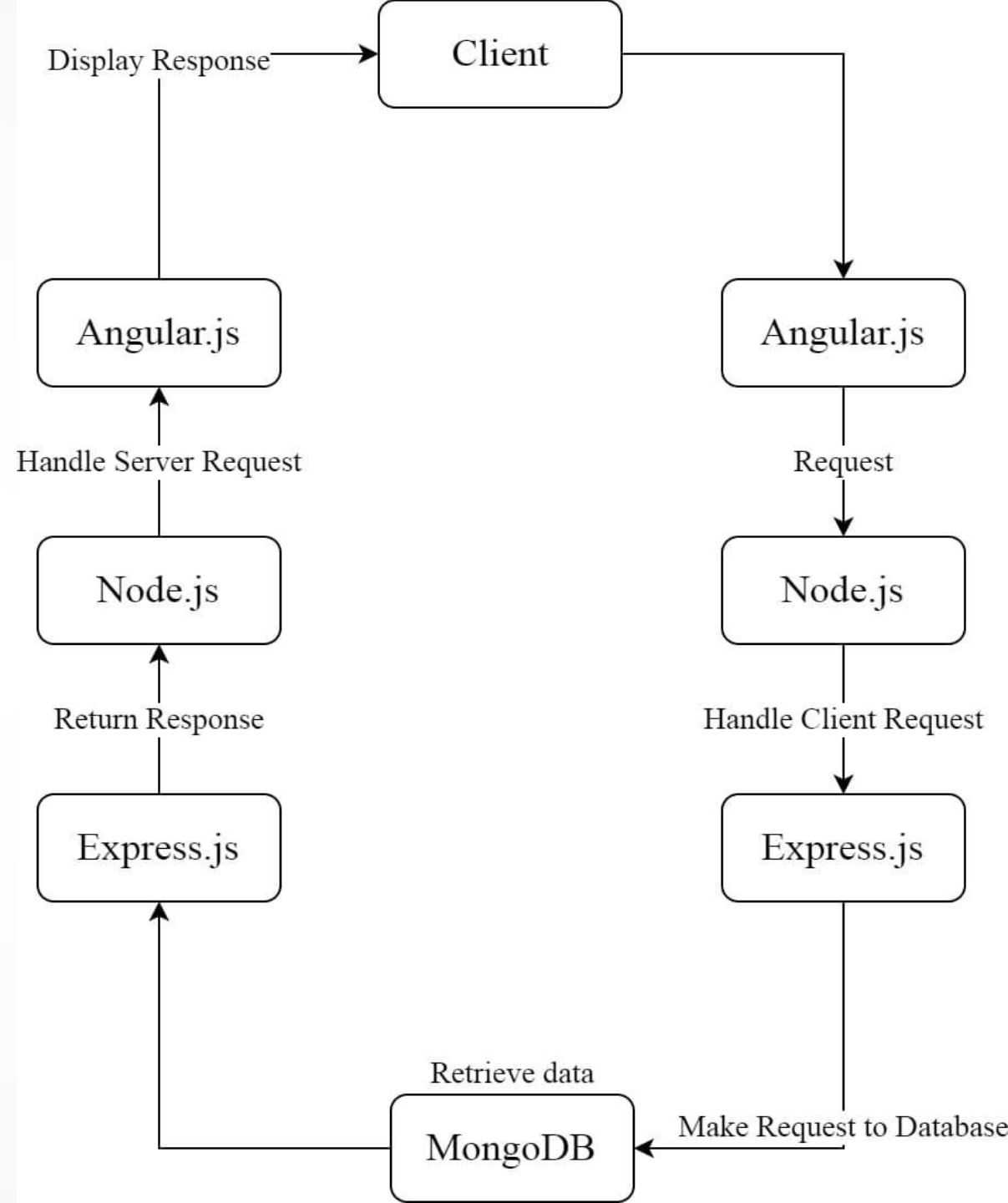
Scientific novelty

- ▶ The new approach of the implementation of an online furniture store has been developed, which, unlike existing analogues, has an interactive part that allows to increase the flow of potential buyers and encourage them to buy. The interactive part allows to create a 3D-room and add to it the furniture of choice to check the relationship of goods, arranging the furniture in the desired order, choosing their color or combine them to liking.

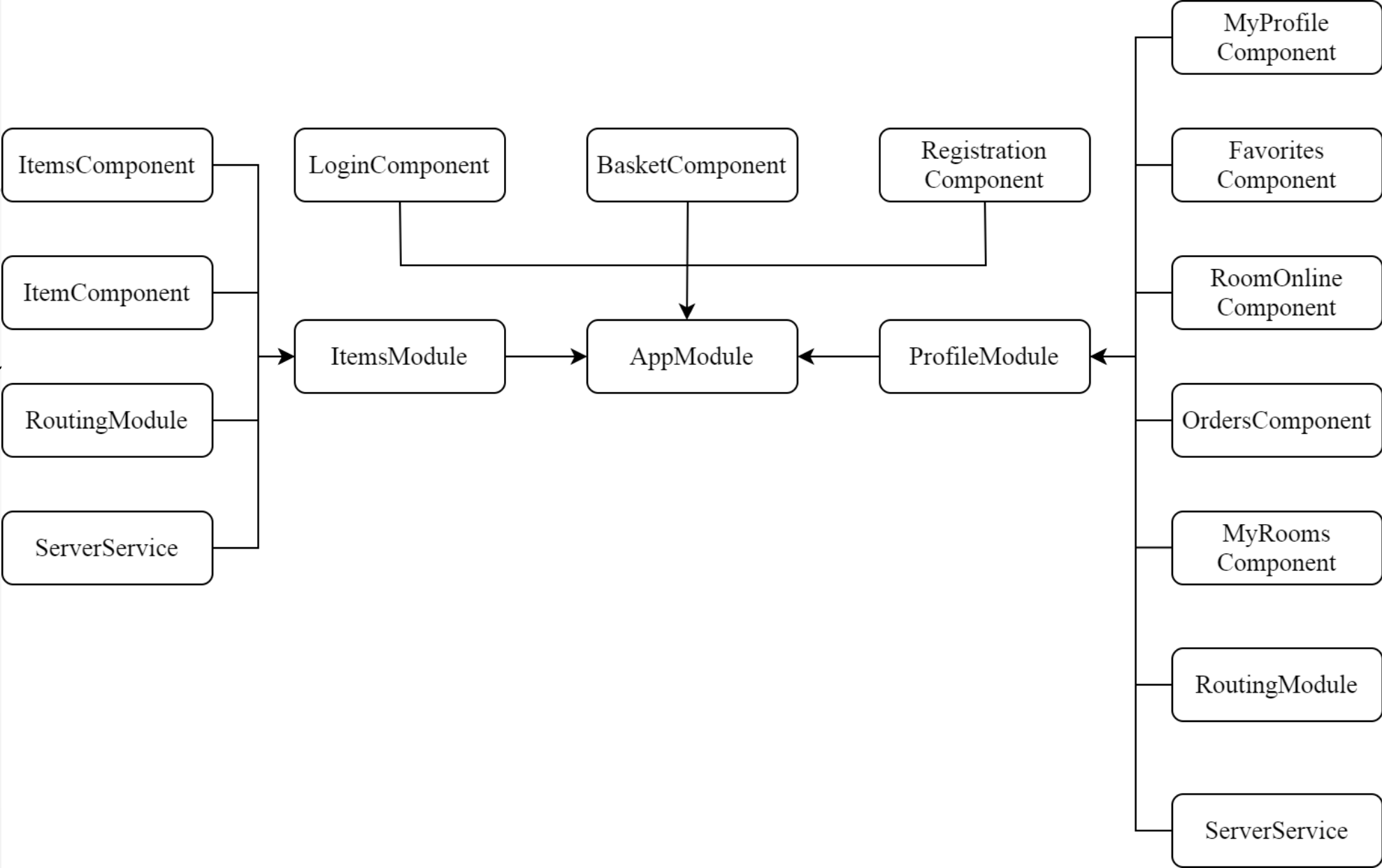
Practical value

- ▶ The developed WEB-application can be used as a platform for online trade as a single brand and for a seller who works with many brands. The interactive component attracts the attention of new customers, delays them on the site and increases the average time a user stays on the page. Interactive content attracts attention and is stored in the user's memory, which encourages him to return to the site and try to create his own interiors based on his ideas, preferences, wishes and new impressions.

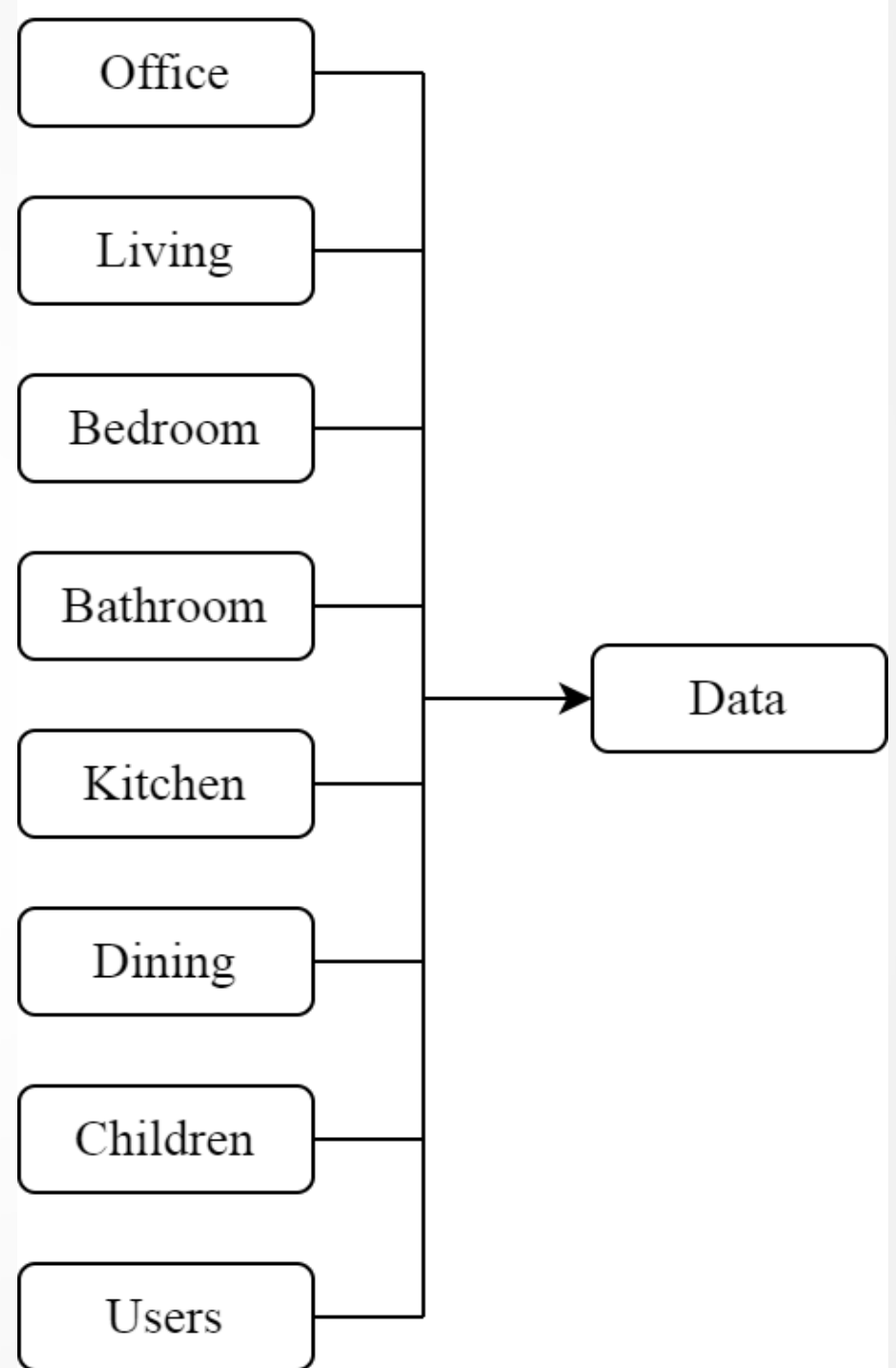
Architecture of the server side



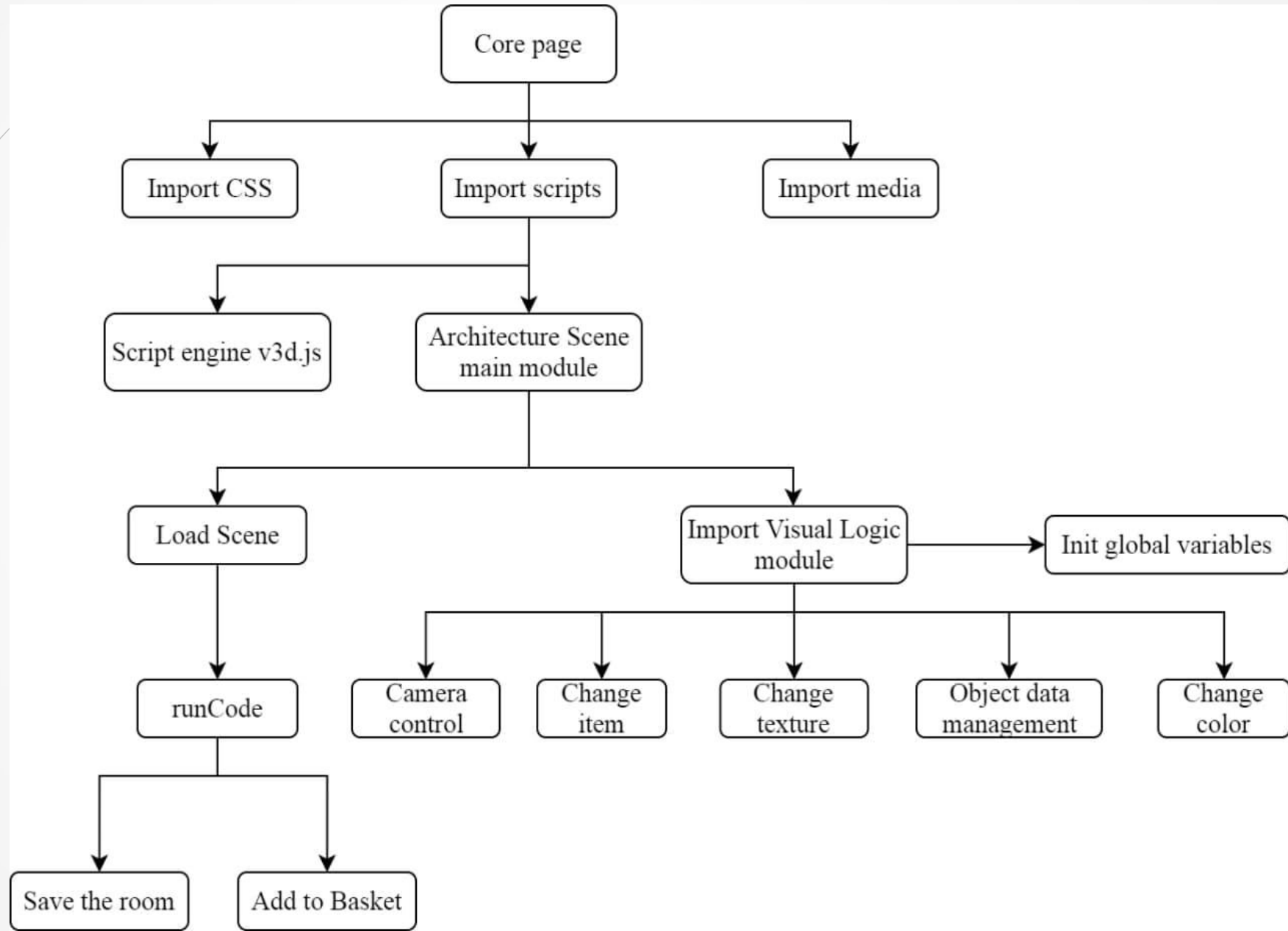
Application architecture scheme



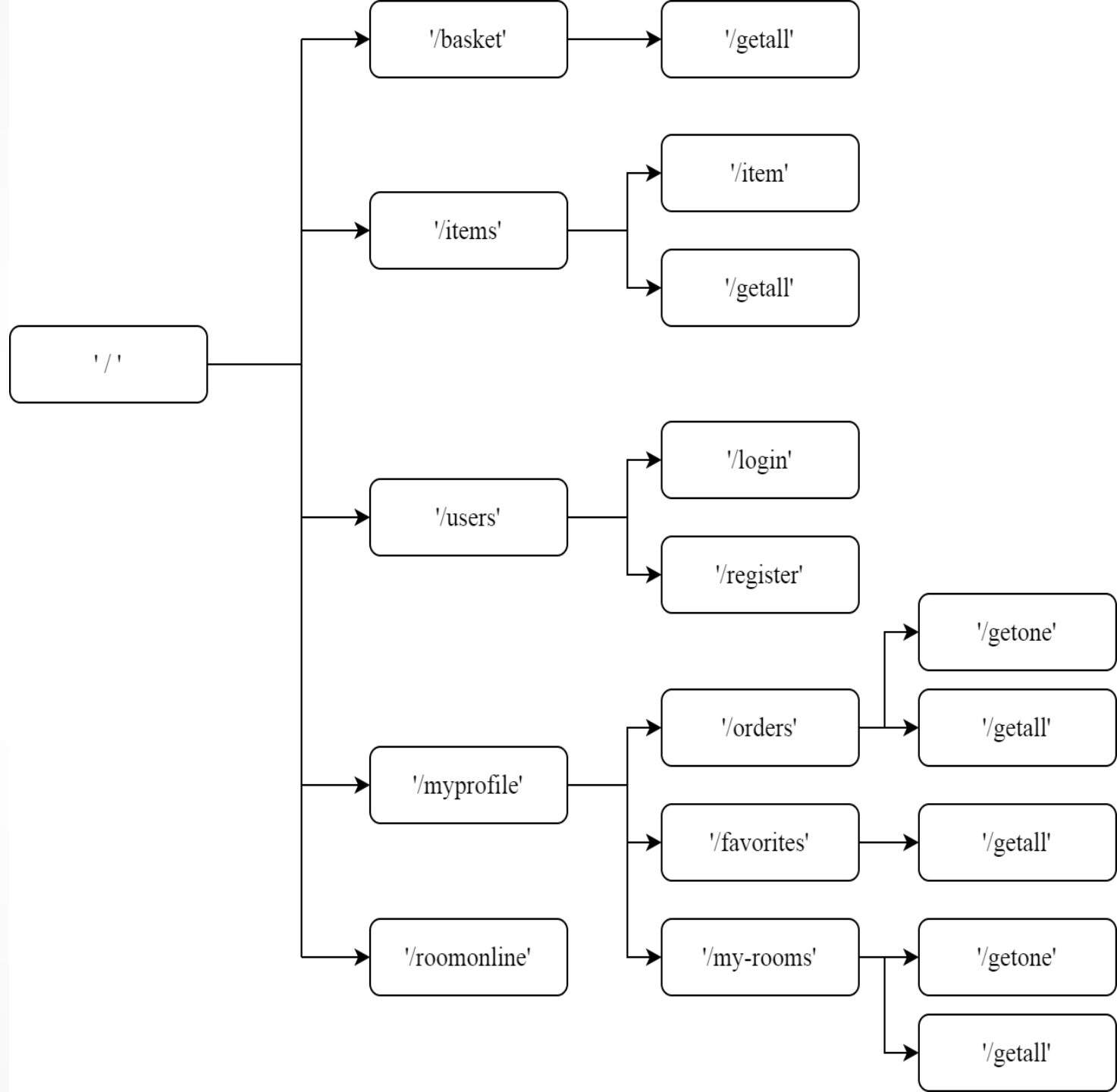
Database architecture



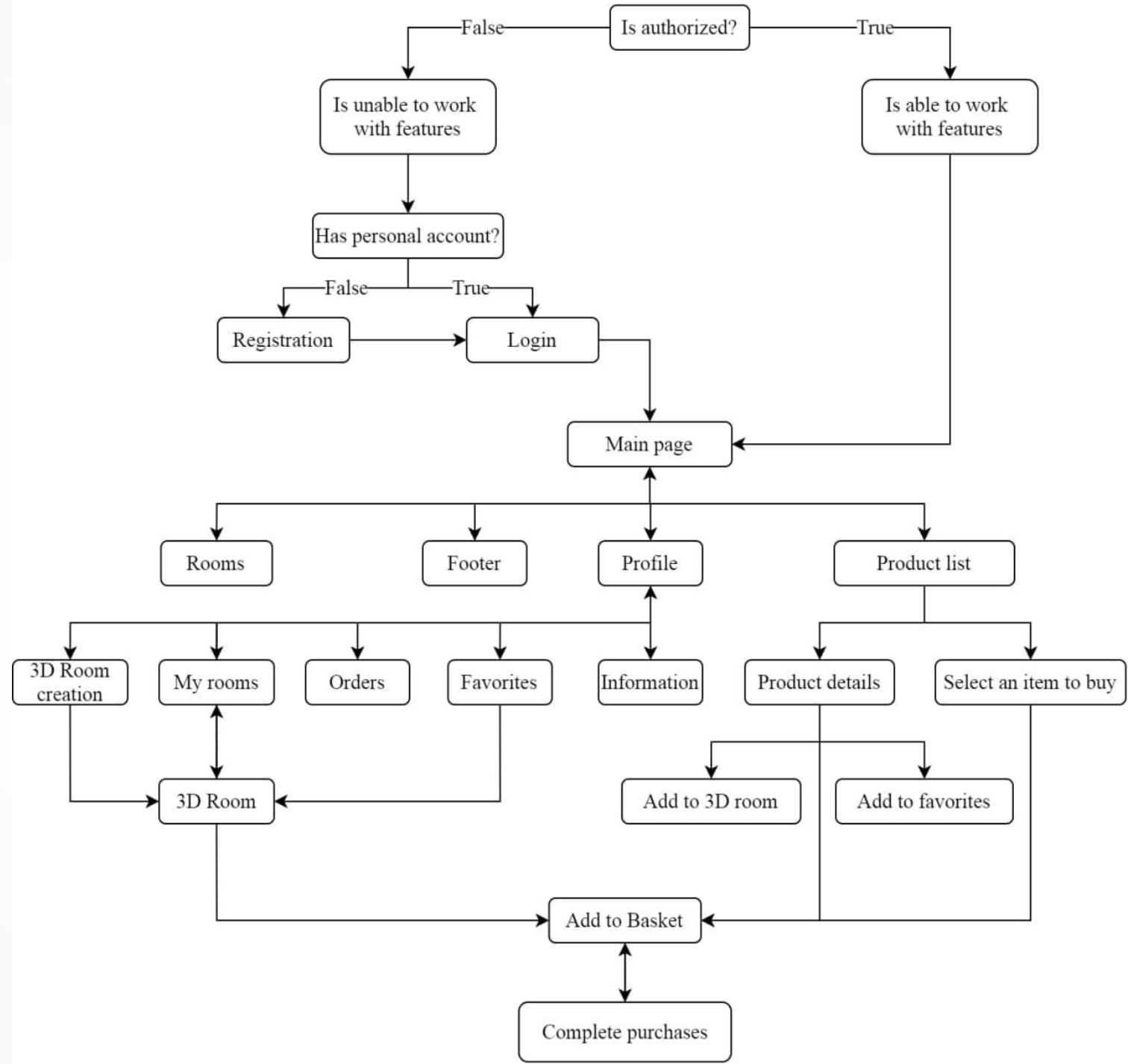
Architecture of the interactive module



Server-side routing scheme

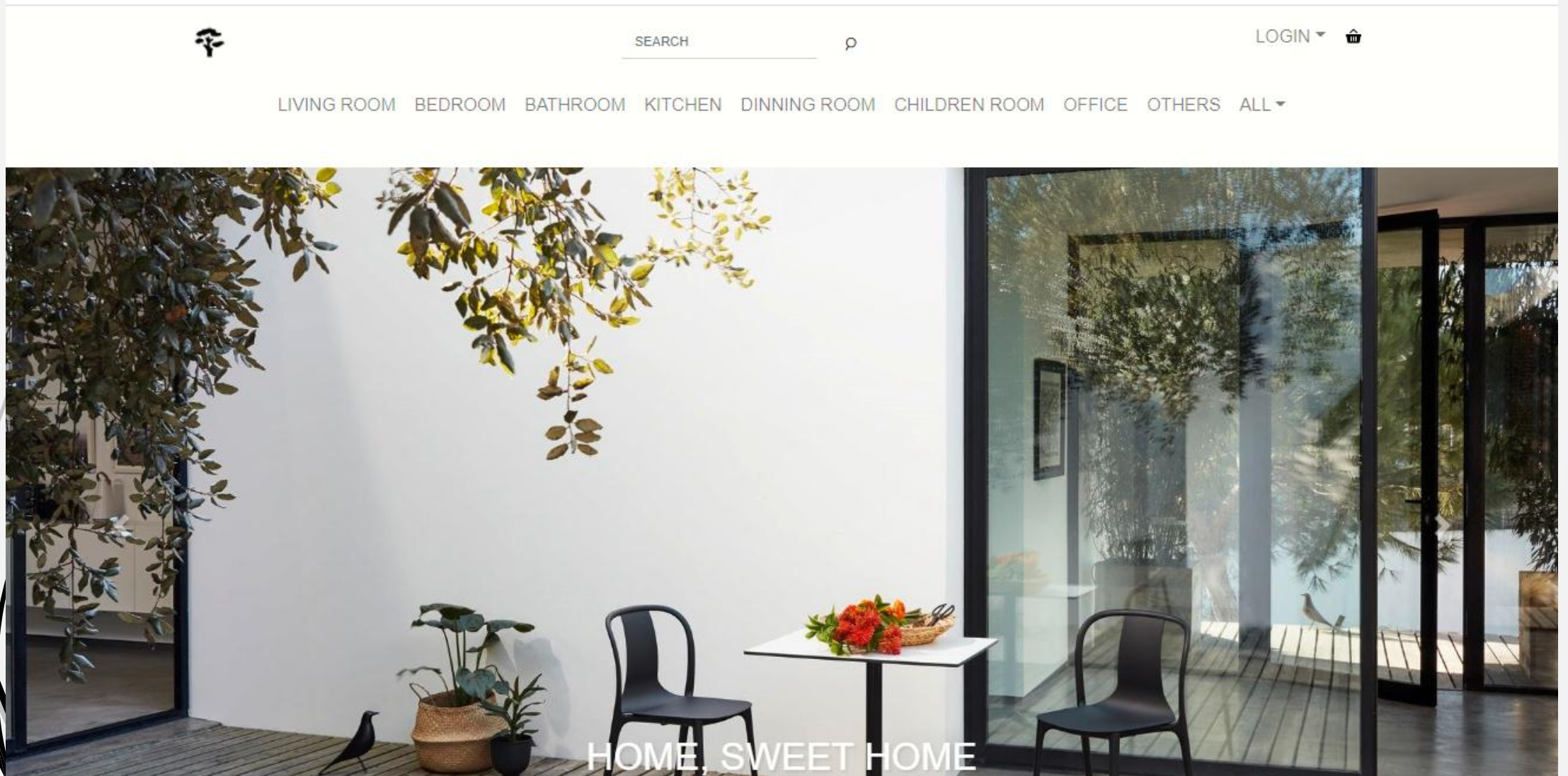


Site functionality map



Graphical interface

Main page of the site



Graphical interface

Product page



SEARCH



LIVING ROOM BEDROOM BATHROOM KITCHEN DINNING ROOM CHILDREN ROOM OFFICE OTHERS ALL ▾

HOME / CHAIRS / Eames Plastic Side Chair DSW /



PRODUCT NAME:

Eames Plastic Side Chair DSW

PRICE:

183 \$

SELECT COLOUR:



PRODUCT
INFORMATION

Charles & Ray Eames, 1950

For the Dining Height Side Chair Wood Base (DSW), Charles and Ray Eames combined the organically shaped seat shell with a four-legged wooden base. This mix of plastic and wood lends the classic design a certain warmth and casual appeal. The seat shells can be fitted with seat cushions or full upholstery in a wide selection of fabric colours, enabling a multitude of individual configurations.

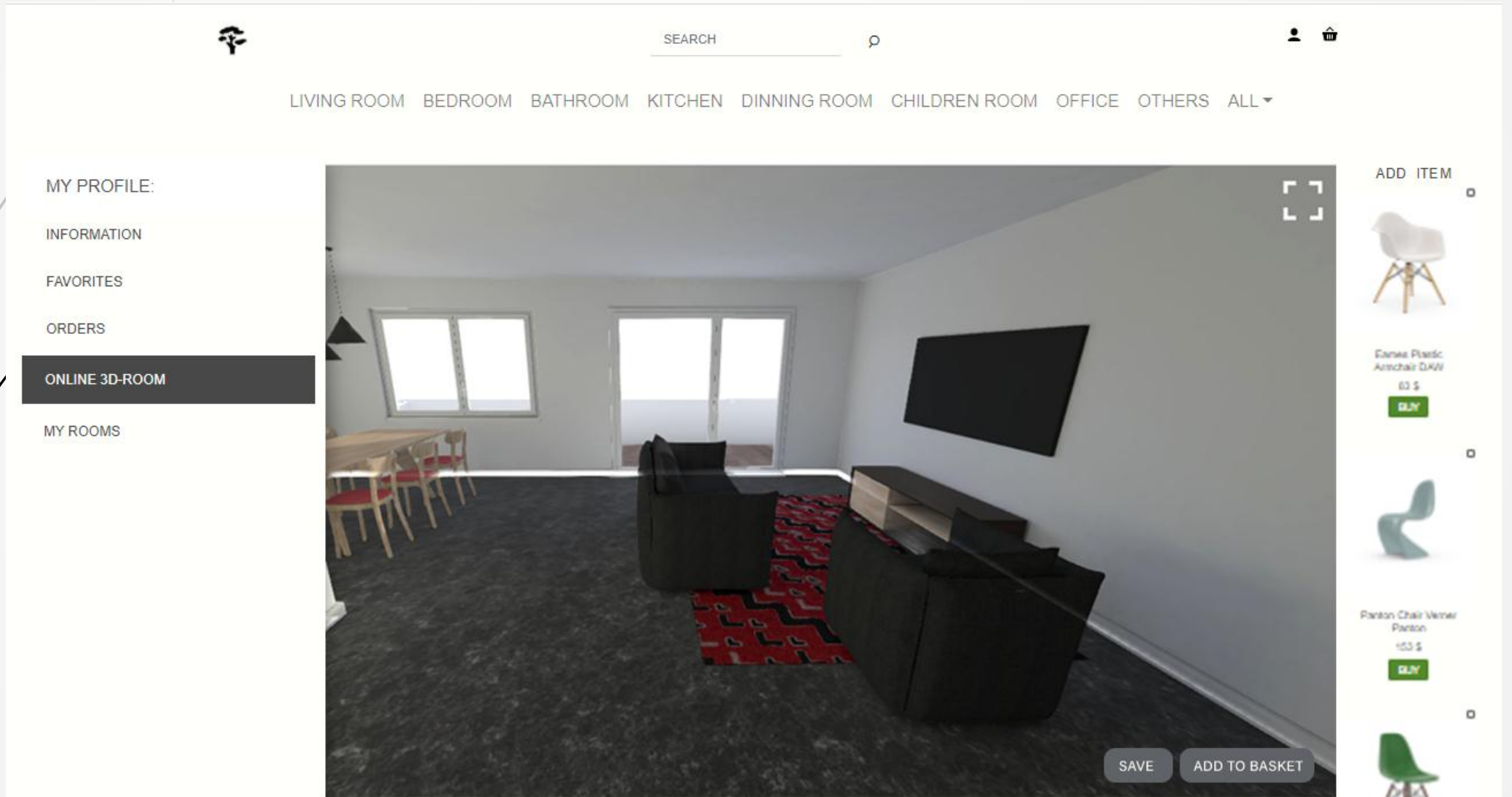
BUY

ADD TO ONLINE 3D-ROOM



Graphical interface

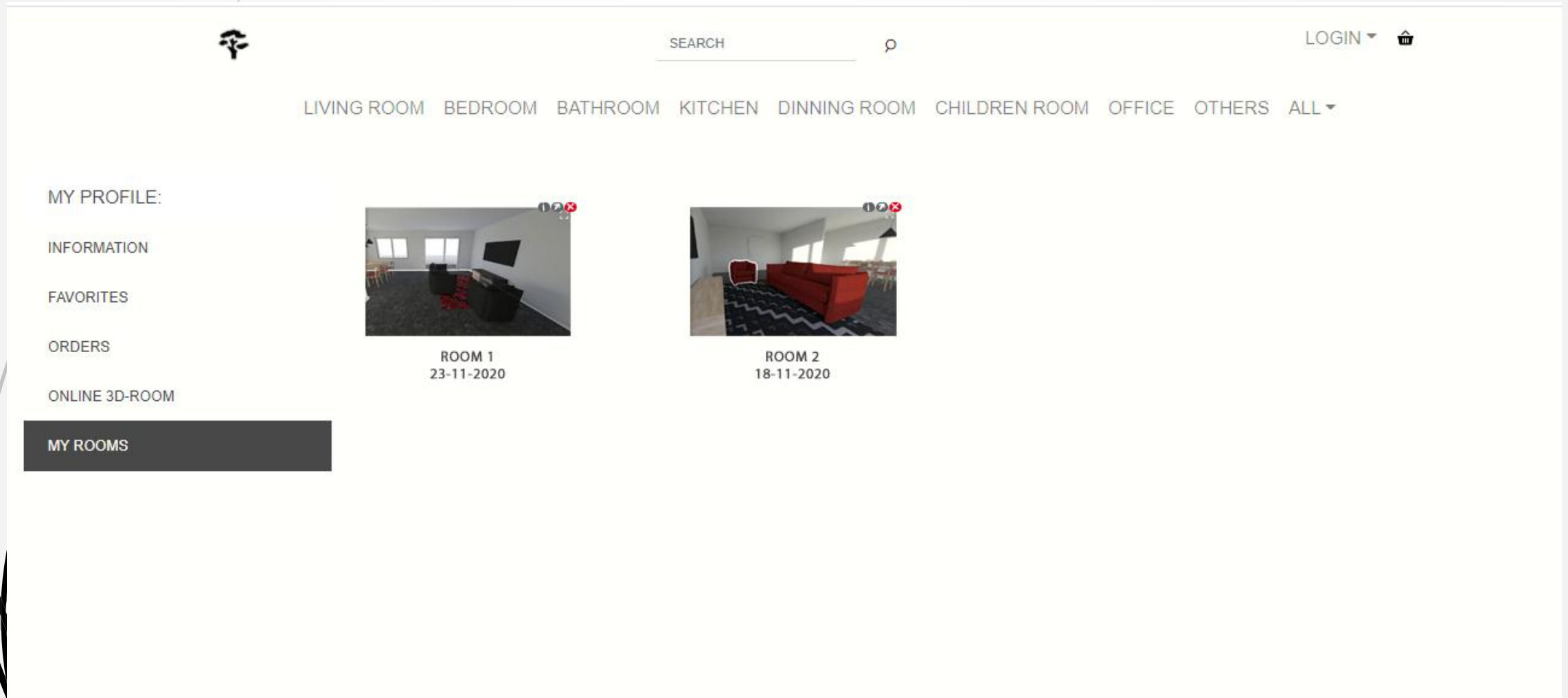
Page with an example of a furnished 3D room



The screenshot displays a web application interface for a 3D room visualization. At the top, there is a navigation bar with a search bar labeled "SEARCH" and icons for user profile and shopping cart. Below the search bar is a horizontal menu with categories: LIVING ROOM, BEDROOM, BATHROOM, KITCHEN, DINNING ROOM, CHILDREN ROOM, OFFICE, OTHERS, and ALL. On the left side, a vertical sidebar menu lists user-related options: MY PROFILE, INFORMATION, FAVORITES, ORDERS, ONLINE 3D-ROOM (highlighted), and MY ROOMS. The central area features a 3D rendering of a furnished living room with a dark carpet, a red patterned rug, a black sofa, a wooden dining table with red chairs, and a large window. On the right side, a vertical product list is visible, titled "ADD ITEM". It includes three items: a white plastic armchair for \$63 with a "BUY" button, a teal plastic armchair, and a black plastic armchair for \$153 with a "BUY" button. At the bottom of the 3D view, there are "SAVE" and "ADD TO BASKET" buttons.

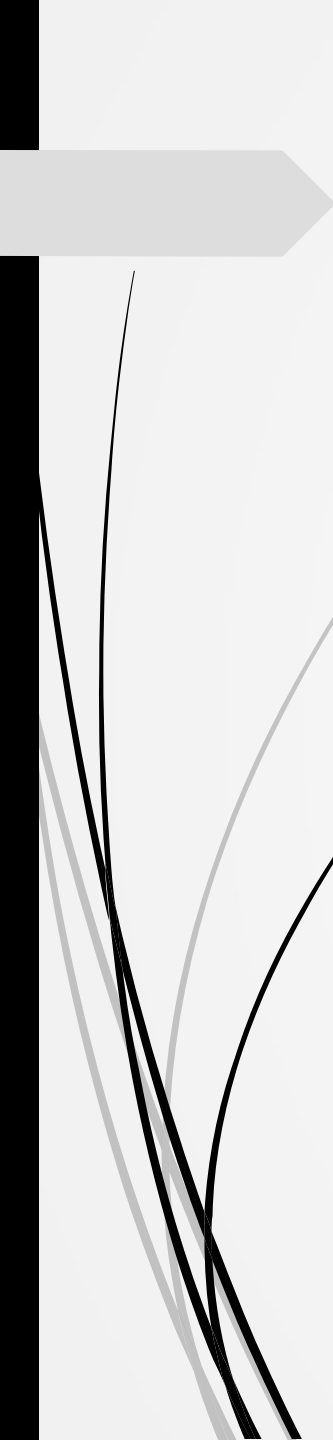
Graphical interface

Page with saved user rooms



Conclusions

- An analysis of analog-stores and development tools was conducted. Based on the findings of the analysis, the initial concept of an interactive online furniture store was developed.
- The analysis of the chosen development tools and technologies was carried out. Based on the analysis, it was determined how best to use the advantages and neutralize disadvantages of the selected tools.
- The structure and functionality of the developed application, its server, client and interactive parts are described.
- The application was tested, as a result of which we made sure that it works.
- Summing up, we can say that interactive part does not slow down the site, on the contrary, it is convenient and fast. It makes the developed WEB application unique and attracts the attention of users.

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- ▶ The scientific novelty of the work represents the developing of a new approach to the implementation of the online store, which, unlike existing counterparts, has an interactive part that allows you to increase the potential of potential buyers.
 - ▶ Development is of practical value. This WEB-application with an interactive component can be used as a platform for online trading and as a game application. Interactive content attracts attention and is stored in users' memories, prompting them to return to the site again.
 - ▶ Approbation of results and publications. The research results were tested at the XLIX scientific and technical conference of faculty, staff and students of VNTU (March 2020).



Thanks for attention!