

University of Belgrade, Faculty of Architecture
Undergraduate studies
Winter term 2013/2014

Modul 17 - Elective subject
Subject - Integrated modeling of architectural structures - Revit
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Student: Nikola Perišić 94/2011

PORTFOLIO



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Residential building for a family of three

SP1 project



AUTODESK
REVIT



LESSON 1: MODELING BUILDING ELEMENTS

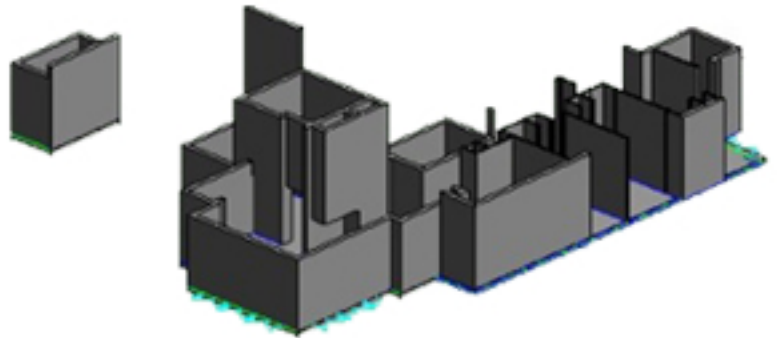
EXERCISE 1.1.1: MODELING EXTERIOR AND INTERIOR WALLS

EXERCISE 1.1.2: ADDING DOORS AND WINDOWS

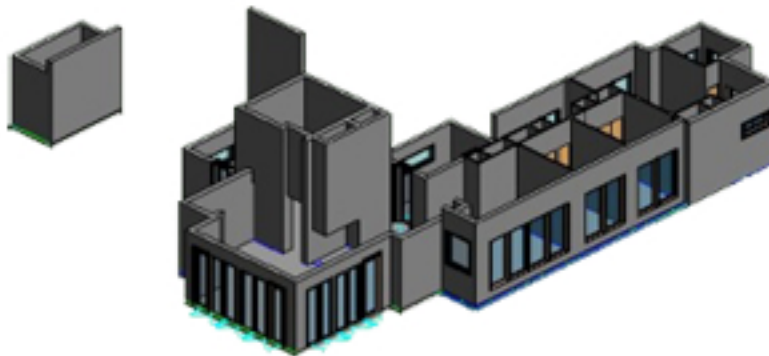
EXERCISE 1.1.3: CREATING FLOORS AND ROOFS

IN THE FIRST LESSON WE LEARNED SETTING UP OF EXTERNAL AND INTERNAL WALLS, DOORS AND WINDOWS, AS WELL AS THE FORMATION OF FLAT AND PITCHED ROOF SURFACES TO A GIVEN BASIS.

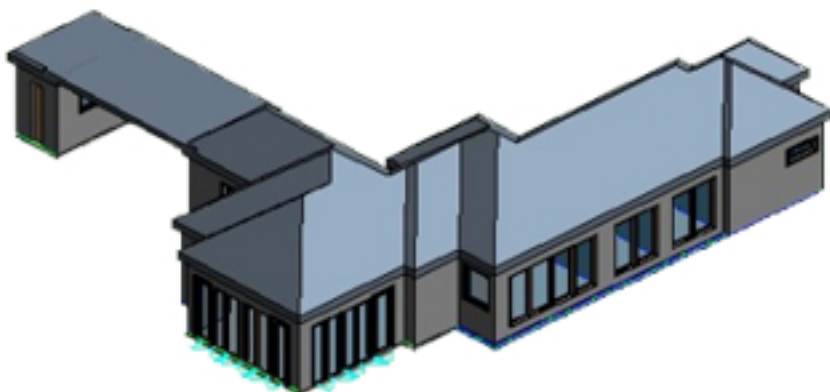
APPENDIX 1: SETTING UP THE WALLS



APPENDIX 2: INSTALLING DOORS AND WINDOWS



APPENDIX 3: STRAIGHT AND SLANT ROOF





Lesson 2: Building Envelope

Exercise 1.2.1: Modeling Wall Types, Structures, and Design Features

Exercise 1.2.2: Adding Doors, Windows, and Wall Openings

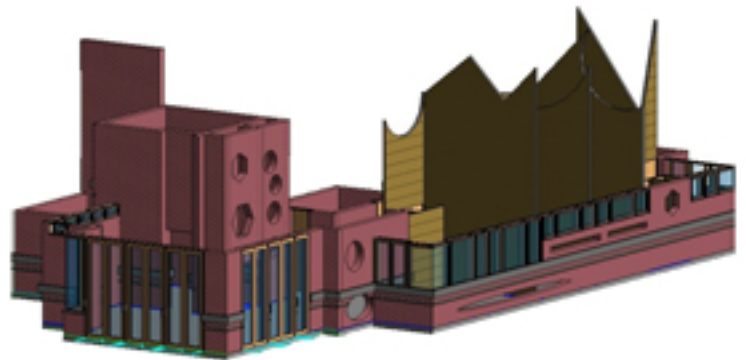
Exercise 1.2.3: Creating Roof Shapes

The first task: Changing materials and external walls, create a new type internal walls, adding aesthetic elements on the exterior of the facade, and drilling, shaping and cutting the existing walls.

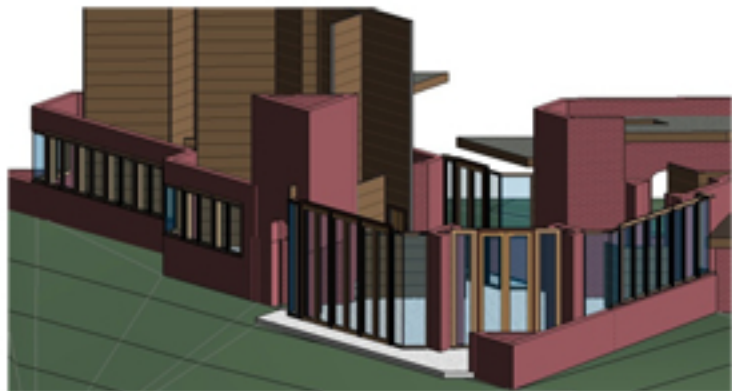
Second task: Use the options array, a number of times to copy the windows and doors at a certain distance.

The third task: Establishing roof slopes above date basis and connect them using the Join Roof option.

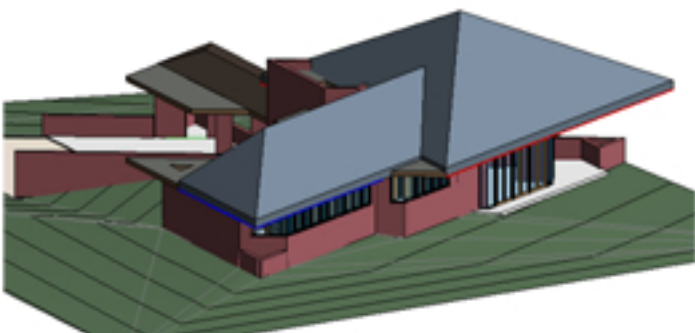
Appendix 1: Setting up the walls



Appendix 2: Installing doors and windows



Appendix 3: Roof





Lesson 3: Curtain Systems

Exercise 1.3.1: Creating Curtain Walls

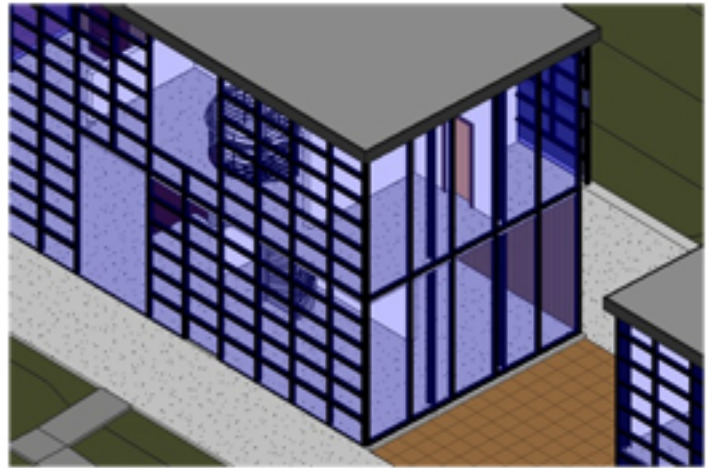
Exercise 1.3.2: Adjusting Grid lines

Exercise 1.3.3: Choosing and Creating Curtain Panel Types

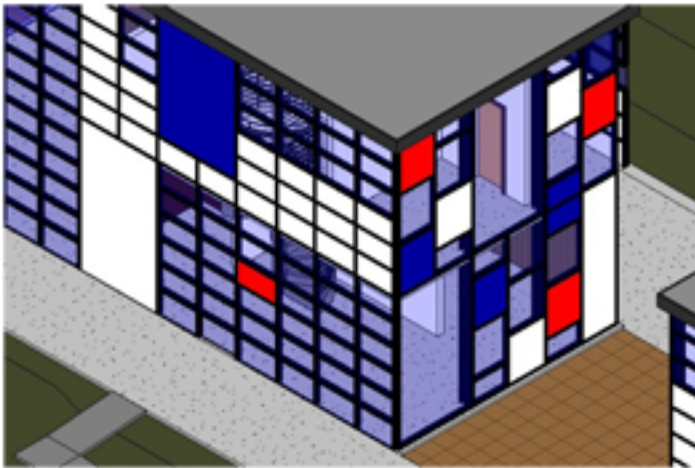
Exercise 1.3.4: Placing Doors in Curtain Walls

- 1) Set the curtain wall;
- 2) Create your own panels;
- 3) Changing and adding panels of different materials in curtain wall;
- 4) Plotting the door to the existing curtain wall.

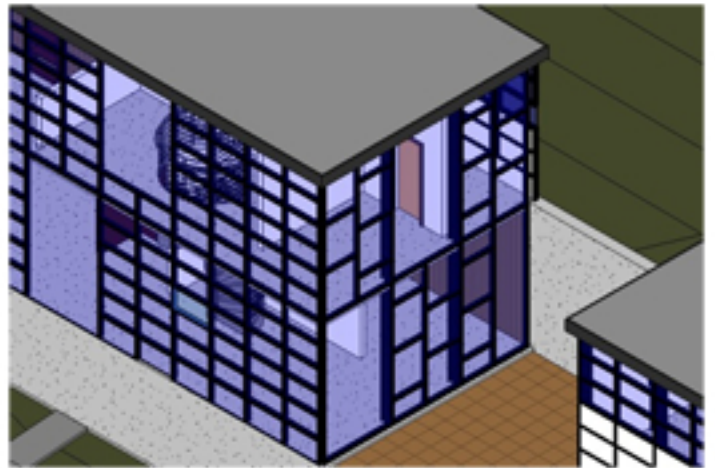
Appendix 1



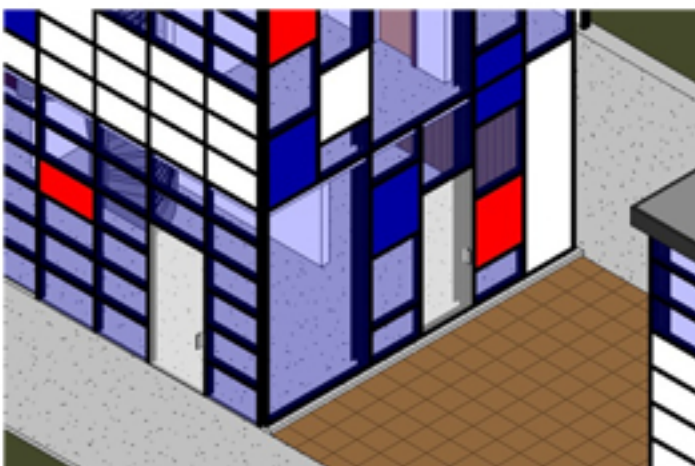
Appendix 3



Appendix 2



Appendix 4

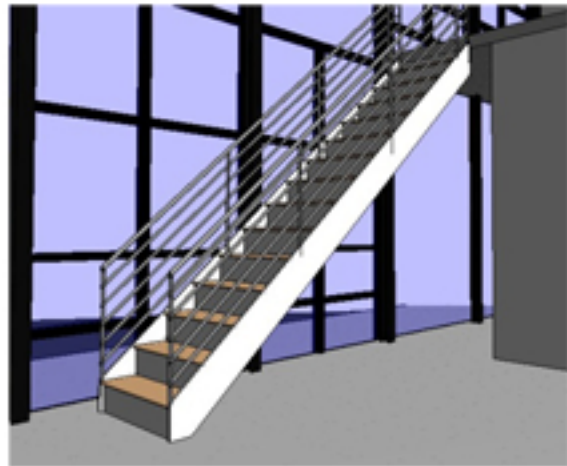
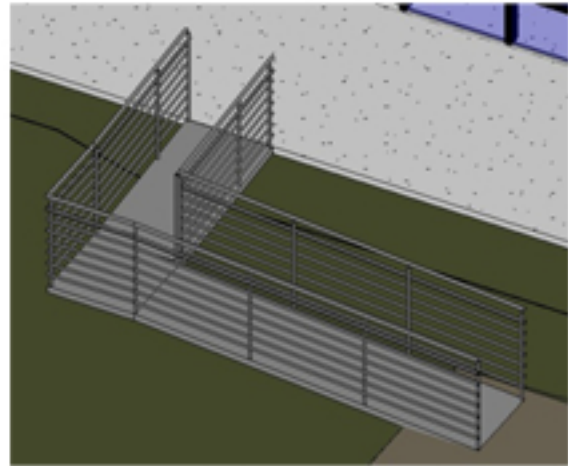


Lesson 4: Interiors and Circulation
Exercise 1.4.1: Creating a Stair and Ramp
Exercise 1.4.2: Modeling Custom Stairs
Exercise 1.4.3: Creating a Floor Opening
Exercise 1.4.4: Creating an Elevator

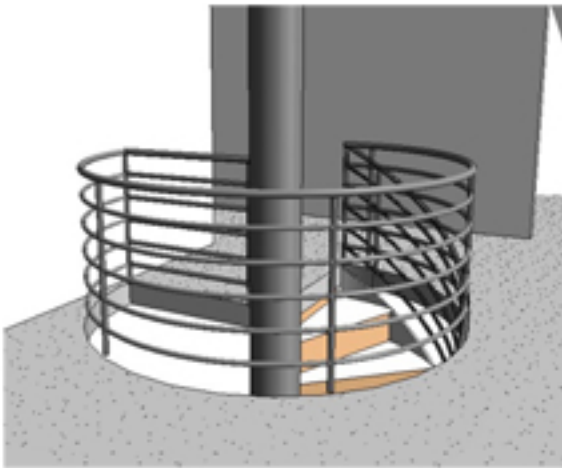
The fourth lesson we learned:

- 1) Setting up stairs and ramps;
- 2) Modifying the stairs and railings;
- 3) Create a hole in the plate and fencing;
- 4) Set the elevator opening in the panel (with options shaft opening) and the walls around the elevator (with the openings, with options wall opening).

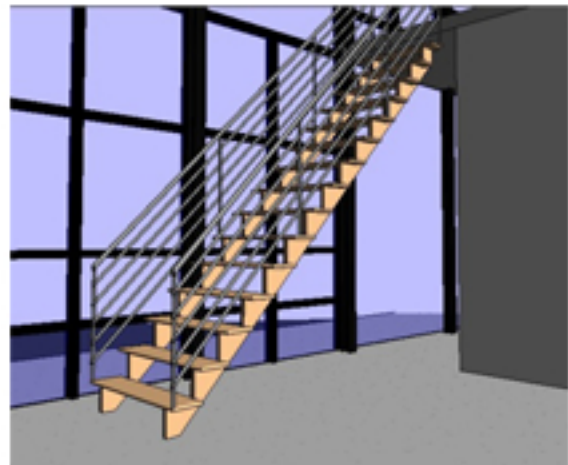
Appendix 1



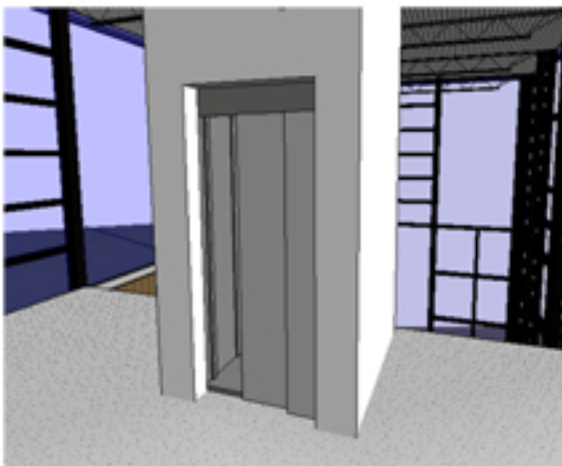
Appendix 3



Appendix 2



Appendix 4



Lesson 5: Families and Components
Exercise 1.5.1: Modeling In-Place Components
Exercise 1.5.2: Modifying a Family Definition
Exercise 1.5.3: Creating New Families

Task 1: Set up new or existing family of families (optional component model in place);

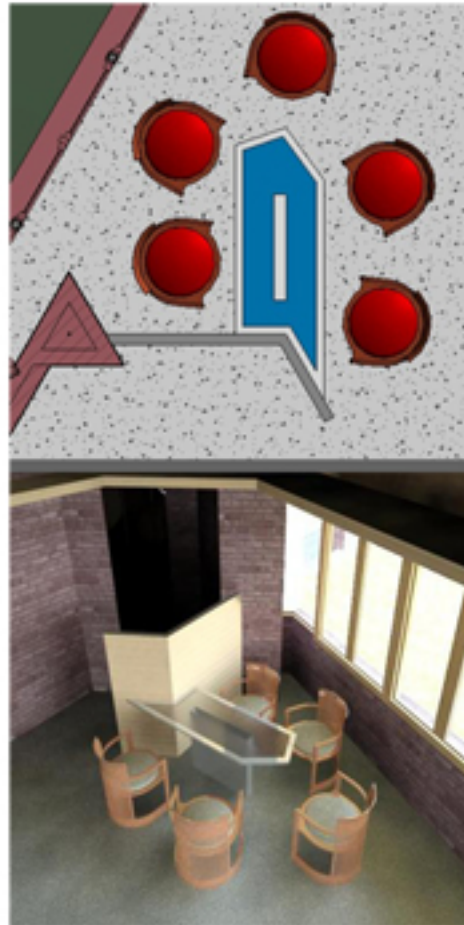
Task 2: Editing an existing family, changing the parameters, forms and materials;

Task 3: Forming a new family. Determination of the parameters, forms and materials, with the possibility to edit the family.

Download site family:

<http://revitcomponents.blogspot.com/>
<http://www.revitcity.com/downloads.php>
<http://www.revitfurniture.com/revit-families.html>

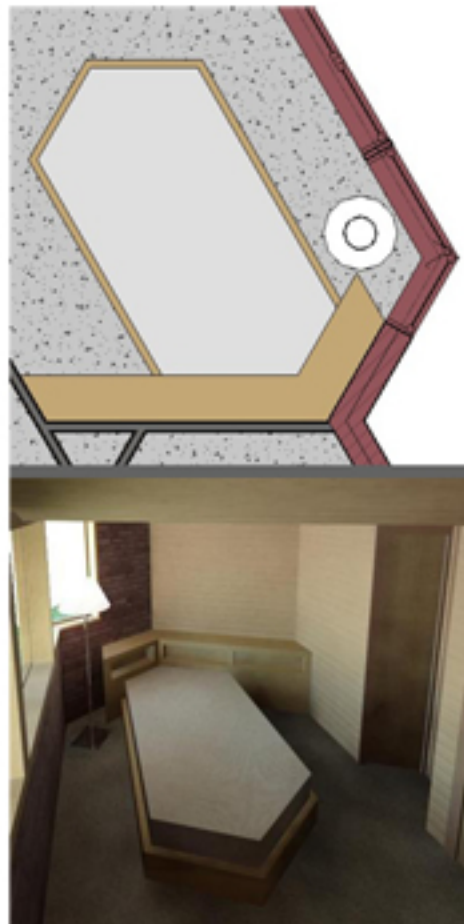
Appendix 1



Appendix 3



Appendix 2



Lesson 6: Views and Visualization

Exercise 1.6.1: Creating Plan Views

Exercise 1.6.2: Creating Elevation and Section Views

Exercise 1.6.3: Creating 3D Views

Exercise 1.6.4: Adjusting the Appearance of Elements in a View

1 task:

Provide a basis on which are highlighted structural elements (columns), the thicker the line striking colors (blue) - using the command Visibility Graphics;

In the same way, creating a basis on which it was emphasized furniture;

Cutout side, the overlap with the base of the second floor and scaling;

Different styles of presentation (Shaded with Edges, Hidden line ...).

2 task: Creating a sectional living room and their settings (cropping, changing detail ..);

3 task: Use the camera to create a new perspective and create a 3D display section;

4 task: Creating the outside perspective and adjust the display style to Shaded With Edges, changing the style of Realistic, and placing accurate shadows for a given location and month, as well as the simulation of a sunset via a gradient in the background, using options Graphic Display Options

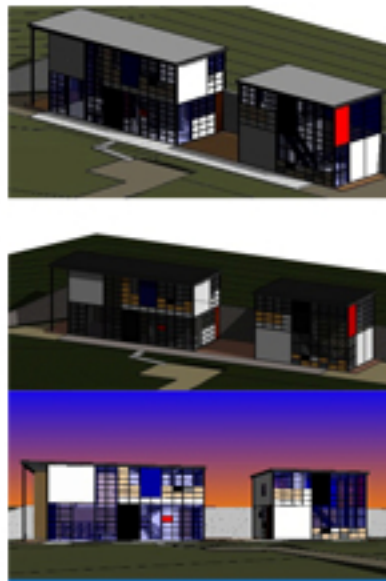
Appendix 1



Appendix 3



Appendix 4



Appendix 2



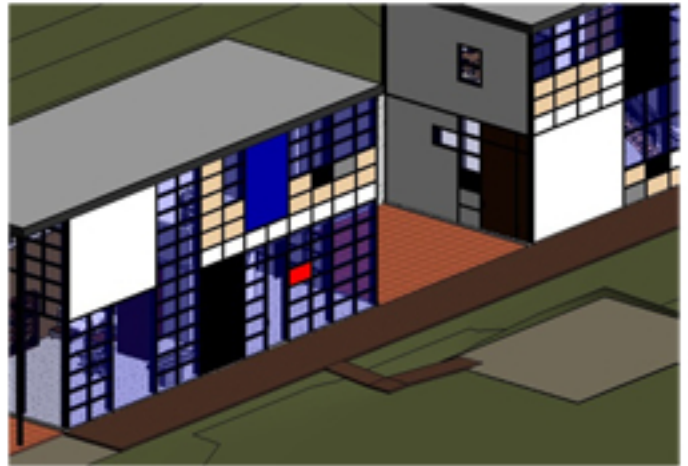
Lesson 7: Materials, Lighting, and Rendering
Exercise 1.7.1: Assigning Materials to a Component
Exercise 1.7.2: Creating New Materials
Exercise 1.7.3: Exterior Renderings
Exercise 1.7.4: Interior Renderings

- 1). Assign a material element of the building (tiling);
- 2). Creating new materials;
- 3). Making render display outside the building and light settings (High Quality Render);
- 4). Making render display inside the building and adjust lighting (low quality render).

Appendix 3



Appendix 1



Appendix 2



Appendix 4



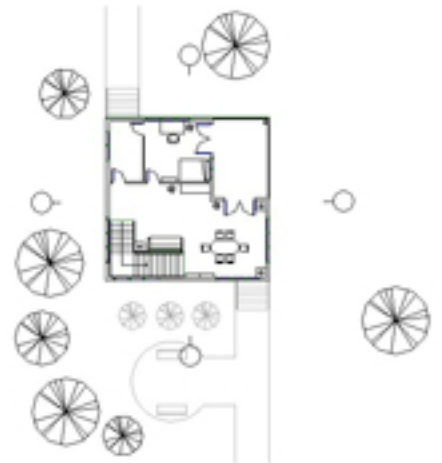
Residential building for a family of three

Attachments:

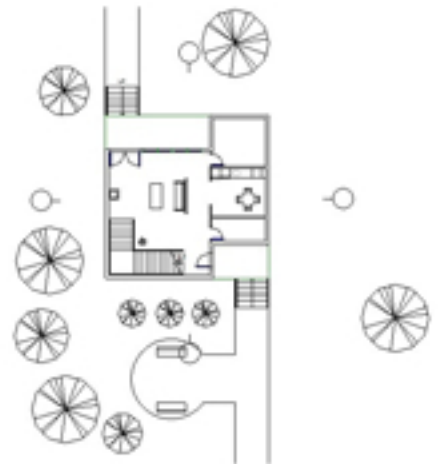
- 1) Basis of ground;
- 2) The base floor;
- 3) 3D display.



Appendix 1



Appendix 2



Appendix 3



SP1 project

Attachments:

- 1) Basis of ground;
- 2) First floor;
- 3) Interior and exterior;
- 4) Sections and axonometric section.

