CLAIMS

1. A system for generating at least one digital twin of at least one physical real-world building for its supervision, comprising

a plurality of devices that includes, a first device being a user device, and a second device;

at least one data storage unit for storing floor plan data files; and

at least one processing unit that is part of the first device, which is configured to operate a plurality of modules and/or their related data content, in which any one or a combination of the modules and/or their related data content are being provided, and/or previously provided, by the second device to the first device;

wherein the modules and/or their related data content are on the first device in a semi-permanent manner and embedded within an application software operating on the first device;

wherein the processing unit generates digital twin data content that forms the digital twin of the building from the floor plan data files through at least one module embedded within the application software operating on the first device; and

wherein the digital twin is mapped with assets, and subsequently analysed in conjunction with information collected from the building to generate analysed data content, with the information collected from the building comprising

first variable asset data content which includes data files that correspond to a first type of information related to the building in the form of modifiable qualitative data; and

second variable asset data content which includes data files that correspond to a second type of information related to the building in the form of quantitative data that is updated in real-time;

so that supervision of the building through its digital twin is performed via the first device, which presents the digital twin with the information collected from the building, or further, the analysed data content, to a user.

2. The system according to claim 1 , wherein the modules include an editor module that is stored in the second device and provided to the first device, in which during operation, the editor module is configured to scale the floor plan data files based on at least one dimension.

3. The system according to claim 2, wherein the editor module is further configured to generate one or more digital models based on the floor plan data files, as the first device detects signals that correspond to tracing and/or sketching actions performed by the user upon the first device over the floor plan data file that is displayed thereon, in which one or more points are marked within a space of a virtual environment displayed on the first device for the digital models to be generated and/or provided within the virtual environment based on the marked points.

4. The system according to claim 3, wherein the editor module is further configured to enable the models to each have a required or specific level of detail (LOD) as they are generated and/or provided within the virtual environment.

5. The system according to any one of the preceding claims, wherein the devices are configured to store any one or both the first variable asset data content and the second variable asset data content.

6. The system according to any one of the preceding claims, wherein the modules further include an asset mapping module that is stored in the second device and provided to the first device, in which during operation, the asset mapping module is configured to retrieve any one or a combination of the digital twin data content and the first variable asset data content to allow the user to assign one or more unique identifies so that their data files are mapped accordingly for generating topological asset data content.

7. The system according to claim 6, wherein the modules further include an extraction and computation module that is stored in the second device and provided to the first device, in which during operation, the extraction and computation module is configured to analyse information within any one or a combination of the topological asset data content, the first variable asset data content, and the second variable asset data content, to generate analysed data content therefrom.

8. The system according to claim 7, wherein the modules further include a visualization module that is stored in the second device and provided to the first device, in which during operation, the visualization module is configured to construct the digital twin together with

information collected from the building, from any one or a combination of the topological asset data content, the first variable asset data content, the second variable asset data content, and the analysed data content, in which the digital twin together with information collected from the building are displayed on the first device in a user-interactable manner.

9. The system according to any one of the preceding claims, wherein the digital twin data content includes data files that define the digital twin of the building, in which it comprises any one or a combination of

one or more data files related to information of a number of floors and of the building and their layout;

one or more data files related to renderable wall models, their defined rooms, and their arrangement within one floor, which correspond to the building;

one or more data files related to renderable fixture models and their arrangement within one floor, which correspond to the building; and

one or more data files related to renderable furniture modules and their arrangement within one floor, which correspond to the building.

10. A method for generating at least one digital twin of at least one physical real-world building for its supervision, comprising the steps of

providing a plurality of devices that includes a first device being a user device, and a second device;

storing floor plan data files, by at least one data storage unit; and

operating a plurality of modules and/or their related data content, by at least one processing unit, in which any one or a combination of the modules and/or their related data content are being provided, and/or previously provided, by the second device to the first device;

wherein the modules and/or their related data content are on the first device in a semi-permanent manner and embedded within an application software operating on the first device;

wherein the processing unit generates digital twin data content that forms the digital twin of the building from the floor plan data files through at least one module embedded within the application software operating on the first device; and

wherein the digital twin is mapped assets, and subsequently analysed in conjunction with information collected from the building to generate analysed data content, with the information collected from the building comprising

first variable asset data content which includes data files that correspond to a first type of information related to the building in the form of modifiable qualitative data; and

second variable asset data content which includes data files that correspond to a second type of information related to the building in the form of quantitative data that is updated in real-time;

so that supervision of the building through its digital twin is performed via the first device, which presents the digital twin with the information collected from the building, or further, the analysed data content, to a user.

11. The method according to claim 10, further comprising one or more steps that are further performed by an editor module that is stored in the second device and provided to the first device for its operation, which comprises

scaling the floor plan data files based on at least one dimension, by an editor module.

12. The system according to claim 11, further comprising one or more steps that are further performed by the editor module, which comprises

detecting signals that correspond to tracing and/or sketching actions performed by the user upon the first device over the floor plan data file that is displayed thereon;

marking one or more points are marked within a space of a virtual environment displayed on the first device; and

generating and/or providing one or more digital models in the virtual environment based on the marked points.

13. The method according to claim 12, further comprising one or more steps that are further performed by the editor module, which comprises enabling the models to each have a required or specific level of detail (LOD) as they are generated and/or provided within the virtual environment.

14. The method according to any one of the claims 10 – 13, wherein the devices are configured to store any one or both the first variable asset data content and the second variable asset data content.

15. The method according to any one of claims 10 – 14, further comprising one or more steps that are further performed by an asset mapping module that is stored in the second device and provided to the first device for its operation, which comprises

retrieving any one or a combination of the digital twin data content and the first variable asset data content;

allowing the user to assign one or more unique identifies so that their data files are mapped accordingly; and

generating topological asset data content.

16. The method according to claim 15, further comprising one or more steps that are further performed by an extraction and computation module that is stored in the second device and provided to the first device for its operation, which comprises

analysing information within any one or a combination of the topological asset data content, the first variable asset data content, and the second variable asset data content; and

generating the analysed data content.

17. The method according to claim 16, further comprising one or more steps that are further performed by a visualization module that is stored in the second device and provided to the first device for its operation, which comprises

constructing the digital twin together with information collected from the building, from any one or a combination of the topological asset data content, the first variable asset data content, the second variable asset data content, and the analysed data content; and

displaying the digital twin together with information collected from the building on the first device in a user-interactable manner.

18. The method according to any one of claims 10 – 17, wherein the digital twin data content includes data files that define the digital twin of the building, in which it comprises any one or a combination of

one or more data files related to information of a number of floors and of the building and their layout;

one or more data files related to renderable wall models, their defined rooms, and their arrangement within one floor, which correspond to the building;

one or more data files related to renderable fixture models and their arrangement within one floor, which correspond to the building; and

one or more data files related to renderable furniture modules and their arrangement within one floor, which correspond to the building.