CLAIMS

I claim:

1. A method for creating a timber framework within a variable spatial framework for use in designing and manufacturing an architectural component, the method comprising:

receiving a variable spatial framework for use in designing and manufacturing an architectural component, wherein the variable spatial framework digitally defines the architectural component;

receiving input to divide the variable spatial framework into one or more independent spaces within the variable spatial framework;

creating at least a first independent space and a second independent space based upon the received input, wherein creating the first independent space and the second independent space includes associating with at least the first independent space a first independently executable software object and the second independent space a second independently executable software object;

automatically incorporating a digital representation of a first timber framework into the first independent space, wherein the characteristics of the first timber framework are determined by the first independently executable software object;

receiving input to modify one or more characteristics associated with the first independent space;

in response to the received input, automatically modifying the second independent space based on the received input, wherein automatically modifying the second independent space includes at least:

the first independently executable software object automatically sending a communication associated with the received input to the second independently executable software object; and

in response to receiving the communication, the second independently executable software object automatically modifying one or more characteristics associated with the second independent space;

calculating structural integrity requirements for the architectural component, wherein calculating the structural integrity requirements includes accounting for the structural support provided by at least a first timber framework associated with the first independent space and a second timber framework associated with the second independent space; and

based upon the calculated structural integrity requirements, automatically incorporating into the first timber framework and the second timber framework support features.

2. The method as recited in claim 1, further comprising:

receiving a user specification defining a characteristic of the architectural component; and

automatically adjusting the first timber framework to account for the received user specification.

3. The method as recited in claim 2, wherein the first independently executable software object performs at least a portion of the automatically adjusting the first timber framework.

4. The method as recited in claim 2, wherein the user specification comprises a material type that will be used to construct the object.

5. The method as recited in claim 2, wherein the user specification comprises a size measurement of the object that will be manufactured.

6. The method as recited in claim 2, wherein the user specification comprises a thickness of a material that will be used to construct the object.

7. The method as recited in claim 1, further comprising:

identifying a surface associated with a portion of the spatial framework, wherein the surface is representative of a physical surface in the architectural component; and

receiving input to divide the surface, the surface dividing input changing the surface into multiple independent surfaces.

8. The method as recited in claim 7, wherein the surface comprises a thickness that is also divided by the dividing input.

9. The method as recited in claim 1, further comprising:

detecting the presence of a second timber framework within the second independent space, which is adjacent to the first independent space.

10. The method as recited in claim 9, further comprising:

automatically combining at least a portion of the first timber framework and the second timber framework.

11. The method as recited in claim 10, wherein combining at least a portion of the first timber framework and the second timber framework comprises:

identifying at least one adjacent feature in the first timber framework and the second timber framework that is equivalent; and

replacing the identified equivalent features with a single common feature.

12. In a computer-based system for automatically creating a timber framework within a variable spatial framework for use in designing and manufacturing an architectural component, the computer-based system comprising one or more processors for receiving and processing instructions, the instructions when executed by the one or more computer processors directing the computer-base system to perform a method comprising:

associating a first independently executable software object with a first independent space within a variable spatial framework;

associating a second independently executable software object with a second independent space within the variable spatial framework, wherein the first independent space and the second independent space are adjacent to each other within the variable spatial framework; and

automatically incorporating a digital representation of a timber framework into the variable spatial framework, wherein the structure and characteristics of the timber framework are determined by at least both the first independently executable software object and the second independently executable software object;

receiving input to modify one or more characteristics associated with the first independent space;

in response to the received input, automatically modifying the second independent space based on the received input, wherein automatically modifying the second independent space includes at least:

the first independently executable software object automatically sending a communication associated with the received input to the second independently executable software object; and

in response to receiving the communication, the second independently executable software object automatically modifying one or more characteristics associated with the second independent space;

calculating structural integrity requirements for the architectural component, wherein calculating the structural integrity requirements includes accounting for the structural support provided by at least a first timber framework associated with the first independent space and a second timber framework associated with the second independent space; and

based upon the calculated structural integrity requirements, automatically incorporating into the first timber framework and the second timber framework support features.

13. The method as recited in claim 12, further comprising:

receiving a user specification defining a characteristic of the architectural component; and

automatically adjusting the timber framework to account for the received material constraint.

14. The method as recited in claim 13, wherein automatically adjusting the timber framework comprises the first independently executable software object incorporating at least one new feature into the architectural component and providing timber framework for the at least one new feature.

15. The method as recited in claim 12, wherein the first independently executable software object provides specifications for building a timber framework that at least partially encloses the first independent space.

16. The method as recited in claim 15, wherein the second independently executable software object provides specifications for building a timber framework that[[are]] at least partially encloses the second independent space.

17. The method as recited in claim 16, wherein the first independent space and the second independent space share at least a portion of timber framework at a border between the first independent space and the second independent space.

18. The method as recited in claim 12, wherein automatically incorporating the timber framework comprises the first independently executable software object determining structures and characteristics of an architectural sub-component framework that will conform with a particular architectural sub-component.

19. A computer program product for use at a computer system, the computer program product for creating a timber framework within a variable spatial framework for use in designing and manufacturing an architectural component, the computer program product comprising one or more computer storage media having stored thereon computer-executable instructions that, when executed at a processor, cause the computer system to perform the method, including the following:

receiving a variable spatial framework for use in designing and manufacturing an architectural component, wherein the variable spatial framework digitally defines the architectural component;

receiving input to divide the variable spatial framework into one or more independent spaces within the variable spatial framework;

creating at least a first independent space and a second independent space based upon the received input, wherein creating the first independent space and the second independent space includes associating with at least the first independent space a first independently executable software object and the second independent space a second independently executable software object; and

automatically incorporating a digital representation of a first timber framework into the first independent space, wherein the characteristics of the first timber framework are determined by the first independently executable software object;

receiving input to modify one or more characteristics associated with the first independent space;

in response to the received input, automatically modifying the second independent space based on the received input, wherein automatically modifying the second independent space includes at least:

the first independently executable software object automatically sending a communication associated with the received input to the second independently executable software object; and

in response to receiving the communication, the second independently executable software object automatically modifying one or more characteristics associated with the second independent space;

calculating structural integrity requirements for the architectural component, wherein calculating the structural integrity requirements includes accounting for the structural support provided by at least a first timber framework associated with the first independent space and a second timber framework associated with the second independent space; and

based upon the calculated structural integrity requirements, automatically incorporating into the first timber framework and the second timber framework support features.