

CLAIMS

We claim:

1. A virtual reality system, comprising:

one or more virtual reality components, wherein the one or more virtual reality components comprise a virtual reality headset;

one or more position tracking sensors, wherein the position tracking sensors identify a relative location of the user with respect to a physical space; and

computer executable instructions of a design program loaded into memory and processed at a central processing unit to cause the virtual reality system to display a three-dimensional view of an architectural design to a user through the one or more virtual reality components, the computer-executable instructions including instructions that are executable to cause the virtual reality system to perform at least the following:

access an architectural design file that includes an architectural design that is renderable to create a three-dimensional image of the architectural design;

receive a communication from the one or more position tracking sensors, wherein the communication comprises an indication of a relative direction that the virtual reality headset is facing;

render at least a portion of an architectural design file, wherein the rendered portion of the architectural design file comprises a three-dimensional image that corresponds with the relative direction that the virtual reality headset is facing; and

transmit to the virtual reality headset the rendered portion of the architectural design file.

2. The virtual reality system as recited in claim 1, wherein the computer-executable instructions further include instructions that are executable to cause the virtual reality system to:

identify a first bookmark within the architectural design file;

with the first bookmark comprising a pre-determined position and view within the architectural design file;

wherein the first bookmark corresponds with the relative direction that the virtual headset is facing.

3. The virtual reality system as recited in claim 2, wherein the computer-executable
5 instructions further include instructions that are executable to cause the virtual reality system to:

identify a second bookmark within the architectural design file; and

transmit to the virtual reality headset a rendered portion of the architectural design
file that corresponds with the second bookmark.

10 4. The virtual reality system as recited in claim 3, wherein the computer-executable
instructions further include instructions that are executable to cause the virtual reality system to:

transition a user's view within the virtual reality headset directly from the first
bookmark to the second bookmark when receiving a communication associated with
changing the user's physical position from the first bookmark to the second bookmark.

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5. The virtual reality system as recited in claim 1, wherein the computer-executable
instructions further include instructions that are executable to cause the virtual reality system to:

identify through the one or more position tracking sensors that the user has
changed physical positions;

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render a corresponding change for the user within the three-dimensional view of
the architectural design; and

transmit the corresponding change to the virtual reality headset.

6. The virtual reality system as recited in claim 5, wherein identifying through the one or more position tracking sensors that the user has changed physical positions comprises determining a change in at least one of:

a direction in which the user has moved;

5 a direction that the user is facing;

a tilt of the user's head; and

a position of the user's head.

7. The virtual reality system as recited in claim 6, wherein determining the change in the
10 position of the user's head comprises determining that the user is in a crouched position.

8. The virtual reality system as recited in claim 7, wherein the at least a portion of the architectural design file is rendered such that a view of the user is from a perspective of a crouched position in response to determining that the user is in the crouched position.

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9. A method, implemented at a computer system that includes one or more processors, for displaying a three-dimensional view of an architectural design to a user through one or more virtual reality components, the method comprising:

20 accessing an architectural design file that includes an architectural design that is renderable to create a three-dimensional image of the architectural design;

receiving a communication from one or more position tracking sensors, wherein the communication comprises an indication of a relative direction that a virtual reality headset is facing;

25 rendering at least a portion of the architectural design file, wherein the rendered portion of the architectural design file comprises a three-dimensional image that corresponds with the relative direction that the virtual reality headset is facing; and

transmitting to the virtual reality headset the rendered portion of the architectural design file.

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

identifying a first bookmark within the architectural design file, the first bookmark comprising both a pre-determined position and a view within the architectural design file, wherein the first bookmark corresponds with the relative direction that the virtual headset is facing.

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

identifying a second bookmark within the architectural design file, the second bookmark comprising a second pre-determined position and a second view within the architectural design file; and

transmitting to the virtual reality headset a rendered portion of the architectural design file that corresponds with the second bookmark.

12. The method as recited in claim 11, further comprising:

transitioning a user's view within the virtual reality headset directly from the first bookmark to the second bookmark when receiving a communication associated with changing the user's physical position from the first bookmark to the second bookmark.

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

identifying through the one or more position tracking sensors that the user has changed physical positions;

rendering a corresponding change for the user within the three-dimensional view of the architectural design; and

transmitting the corresponding change to the virtual reality headset.

14. The method as recited in claim 13, wherein identifying through the one or more position tracking sensors that the user has changed physical positions comprises determining a change in at least one of:

a direction in which the user has moved;

5 a direction that the user is facing;

a tilt of the user's head; and

a position of the user's head.

15. The method as recited in claim 14, wherein determining the change in the position of the user's head comprises determining that the user is in a crouched position.

16. The method as recited in claim 15, wherein the at least a portion of the architectural design file is rendered such that a view of the user is from a perspective of a crouched position in response to determining that the user is in the crouched position.

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17. A computer program product comprising one or more computer-readable storage devices having stored thereon one or more computer-executable instructions that are executable by one or more processors of a virtual reality system to cause the virtual reality system to display a three-dimensional view of an architectural design to a user through one or more virtual reality components, the computer-executable instructions including instructions that are executable to cause the virtual reality system to perform at least the following:

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access an architectural design file that includes an architectural design that is renderable to create a three-dimensional image of the architectural design;

25 receive a communication from one or more position tracking sensors, wherein the communication comprises an indication of a relative direction that a virtual reality headset is facing;

render at least a portion of an architectural design file, wherein the rendered portion of the architectural design file comprises a three-dimensional image that corresponds with the relative direction that the virtual reality headset is facing; and

transmit to the virtual reality headset the rendered portion of the architectural design file.

18. The computer program product as recited in claim 17, wherein the computer-executable instructions further include instructions that are executable to cause the virtual reality system to:

identify a first bookmark within the architectural design file, the first bookmark comprising both a pre-determined position and a view within the architectural design file, wherein the first bookmark corresponds with the relative direction that the virtual headset is facing.

19. The computer program product as recited in claim 18, wherein the computer-executable instructions further include instructions that are executable to cause the virtual reality system to:

identify a second bookmark within the architectural design file, the second bookmark comprising a second pre-determined position and a second view within the architectural design file; and

transmit to the virtual reality headset a rendered portion of the architectural design file that corresponds with the second bookmark.

20. The computer program product as recited in claim 19, wherein the computer-executable instructions further include instructions that are executable to cause the virtual reality system to:

transition a user's view within the virtual reality headset directly from the first bookmark to the second bookmark when receiving a communication associated with changing the user's physical position from the first bookmark to the second bookmark.