

CLAIMS

1. A computing device (120; 500; 600) for supporting an Augmented-Reality, AR, software application, the computing device comprising
5 processing means (125) being operative to:
for each one of at least two candidate physical locations (131, 132; 231, 232) for placing a current virtual object (104; 204), where the current virtual object appears to be placed when overlaid onto a video sequence capturing a physical scene (100; 200) in the surroundings of a user (110) of
10 the AR software application:
determine an expected physical location to which the user moves, or where the user remains, in response to displaying (123; 223) the physical scene and the overlaid current virtual object to the user, and evaluate a value of an attribute which is related to a
15 performance of a wireless connection utilized by the AR software application, and which is spatially dependent in the surroundings of the user, at the expected physical location, and
select the physical location for placing the current virtual object from the at least two candidate physical locations based on a superior
20 performance of the wireless connection for the selected physical location.
2. The computing device according to claim 1, wherein the expected physical location to which the user moves, or where the user remains, in response to displaying the physical scene and the overlaid current virtual
25 object to the user is within a predetermined range of the candidate physical location.
3. The computing device according to claim 1, wherein the expected physical location to which the user moves, or where the user remains, in

response to displaying the physical scene and the overlaid current virtual object to the user is determined based on a type of the current virtual object.

4. The computing device according to claim 3, wherein the expected
5 physical location to which the user moves, or where the user remains, in
response to displaying the physical scene and the overlaid current virtual
object to the user is determined based on information pertaining to expected
behavior of users of the AR software application in response to displaying a
virtual object of the same type as the current virtual object to the users.

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5. The computing device according to claim 3, wherein the expected
physical location to which the user moves, or where the user remains, in
response to displaying the physical scene and the overlaid current virtual
object to the user is determined based on a learned behavior of the user in
15 response to previously displayed virtual objects of the same type as the
current virtual object.

6. The computing device according to any one of claims 1 to 5, the
processing means (125) being further operative to retrieve, from a database
20 (703; 804), one or more values of the spatially-dependent attribute as a
function of a physical location in the surroundings of the user.

7. The computing device according to any one of claims 1 to 6, the
processing means (125) being further operative to store, in a database (703;
25 804), measured values of the spatially-dependent attribute as a function of
physical location.

8. The computing device according to claim 6 or 7, wherein the
database is maintained by any one of: the computing device, a Radio Access
30 Network, RAN, node, and an Operations Support Systems, OSS, node.

9. The computing device according to any one of claims 1 to 8,
wherein the spatially-dependent attribute is any one of: a signal strength, a
data rate, a bandwidth, an error rate, a retransmission rate, and a latency, of
5 the wireless connection.

10. The computing device according to any one of claims 1 to 9,
wherein the superior performance of the wireless connection utilized by the
AR software application is characterized by one or more of: high signal-
10 strength, high data-rate, high bandwidth, low error-rate, low retransmission-
rate, and low latency, of the wireless connection.

11. The computing device according to any one of claims 1 to 10, the
processing means (125) being further operative to overlay the current virtual
15 object onto the video sequence capturing the physical scene, such that the
overlaid current virtual object appears to be placed at the selected physical
location.

12. The computing device according to claim 11, the processing
20 means (125) being further operative to display the video sequence (123; 223)
capturing the physical scene and the overlaid current virtual object to the
user.

13. The computing device according to any one of claims 1 to 12,
25 wherein the video sequence is captured by a camera (121) worn by the user,
such that a field-of-view (122) of the camera is correlated with a physical
location and orientation of the user.

14. The computing device according to any one of claims 1 to 13,
30 wherein the display (124) is worn by the user.

15. The computing device according to any one of claims 1 to 14,
being any one of: a gaming server (600) hosting the AR software application,
a virtual-reality headset (120), a head-mounted display (120), a mobile phone
5 (500), a smartphone (500), a mobile terminal (500), a personal computer, a
laptop, a tablet, and a gaming console.

16. A method (900) of supporting an Augmented-Reality, AR, software
application, the method being performed by a computing device and
10 comprising:

for each one (902, 905) of at least two candidate physical locations
(131, 132; 231, 232) for placing a current virtual object (104; 204), where the
current virtual object appears to be placed when overlaid onto a video
sequence capturing a physical scene (100; 200) in the surroundings of a user
15 (110) of the AR software application:

determining (903) an expected physical location to which the
user moves, or where the user remains, in response to displaying
(123; 223) the physical scene and the overlaid current virtual object to
the user, and evaluating (904) a value of an attribute which is related
20 to a performance of a wireless connection utilized by the AR software
application, and which is spatially dependent in the surroundings of
the user, at the expected physical location, and
selecting (906) the physical location for placing the current virtual
object from the at least two candidate physical locations based on a superior
25 performance of the wireless connection for the selected physical location.

17. A computer program (704) comprising computer-executable
instructions for causing a device to perform the method according to claim
16, when the computer-executable instructions are executed on a processing
30 unit (702) comprised in the device.

18. A computer program product comprising a computer-readable storage medium (703), the computer-readable storage medium having the computer program (704) according to claim 17 embodied therein.