CLAIMS

1. A system for facilitating development, testing, and deployment of digital reality applications, the system comprising:

at least one server comprising memory and at least one processor, the memory storing one or more digital reality applications and a persistent virtual world system comprising at least one virtual replica of a corresponding real object, wherein the virtual 3D world coordinates and virtual properties of the virtual replicas are based on the 3D world coordinates and properties of the real objects; and

at least one user device connected to the server via a network and configured to access the persistent virtual world system,

wherein the persistent virtual world system is configured to allow one or more users to view and interact with the one or more digital reality applications in a merged reality comprising a real world layer, a virtual world layer configured on top of the real world layer, and one or more digital reality application layers configured on top of the virtual world layer, wherein the memory stores an application development environment module configured to enable access to the persistent virtual world system for developing the one or more digital reality applications, and an application management environment module configured to enable access to the persistent virtual world system for receiving, managing and deploying one or more developed digital reality applications,

wherein the application development environment module comprises a settings sub-module configured to specify positional or areal location and space, time, and target user parameter settings of the one or more digital reality applications or one or more digital application layers with respect to the persistent virtual world system,

wherein the settings sub-module is configured to attach one or more positional digital reality applications to one or more virtual replicas existing in the persistent virtual world system or to empty locations of the persistent virtual world system not linked to a specific virtual replica, or to attach one or more areal digital reality application services to one or more geographic areas of the persistent virtual world system not linked to a specific virtual replica.

2. The system of claim 1, wherein the application development environment module further comprises a testing sub-module configured to test the one or more digital reality applications in a development space, in a virtual world final positional or areal location in virtual reality through the persistent virtual world system, and in the real world final positional or areal location in augmented reality through the persistent virtual world system, and wherein the application management environment module further comprises an application management testing sub-module configured to test the one or more digital reality applications developed and test deployed via the application development environment module.

3. The system of claim 1, wherein the settings sub-module is further configured to enable an adaptive characteristics configuration of the one or more digital reality applications.

4. The system of claim 1, wherein the system is configured for processing and provisioning of the one or more digital reality applications based on proximity of the at least one user device to the one or more digital reality applications, and wherein the provisioning and processing are server-based, client-based, or combinations thereof.

5. The system of claim 4, wherein the server is configured to compute and composite media content of a plurality of digital reality applications in a field of view or wide view of the one or more users and transmit the computed and composited media content to the at least one user device where the at least one user device is in proximity to the plurality of digital reality applications.

6. The system of claim 1, wherein the one or more digital reality applications are configured to filter through and process a plurality of elements of the virtual world layer comprising virtual replicas and purely virtual objects that are relevant to the one or more digital reality applications.

7. The system of claim 1, wherein the persistent virtual world system comprises a virtual 3D infrastructure including one or more virtual replicas, purely virtual objects, virtual corridors, positional digital reality applications, or areal digital reality application services, or combinations

thereof enabling spatial organization, behaviors, computational and logical interactions between each other and with elements of the real world layer through corresponding virtual replicas.

8. A method for facilitating development, testing, and deployment of digital reality applications, the method comprising:

providing, by at least one server comprising memory and at least one processor, one or more digital reality applications and a persistent virtual world system comprising at least one virtual replica of a corresponding real object, wherein the virtual 3D world coordinates and virtual properties of the virtual replicas are based on the 3D world coordinates and properties of the real objects; and

receiving, by the at least one server, input from at least one user device accessing the persistent virtual world system,

wherein the at least one user device is connected to the at least one server via a network, and wherein the persistent virtual world system allows one or more users to view and interact with the one or more digital reality applications in a merged reality comprising a real world layer, a virtual world layer configured on top of the real world layer, and one or more digital reality application layers configured on top of the virtual world layer,

wherein the input is related to development of the one or more digital reality applications, and wherein the development is performed in an application development environment module stored in the memory, and wherein management of the one or more digital reality applications is performed in an application management environment module,

wherein the application development environment module comprises a settings sub-module configured to specify positional or areal location and space, time, and target user parameter settings of the one or more digital reality applications or one or more digital application layers with respect to the persistent virtual world system,

wherein the settings sub-module is configured to attach the one or more digital reality applications to one or more virtual replicas existing in the persistent virtual world system or to empty locations of the persistent virtual world system not linked to a specific virtual replica, or to attach one or more areal digital reality application services to one or more geographic areas of the persistent virtual world system not linked to a specific virtual replica.

9. The method of claim 8, wherein the input is related to development of the one or more digital reality applications, and wherein the development comprises setting up application configuration, testing the one or more digital reality applications in a development space, and carrying out further testing in augmented and virtual reality final locations.

10. The method of claim 8, wherein the application development environment module comprises a testing sub-module configured to test the one or more digital reality applications in a development space, in a virtual world final positional or areal location in virtual reality through the persistent virtual world system, and in the real world final positional or areal location in augmented reality through the persistent virtual world system, and wherein the application management environment module further comprises an application management testing sub-module configured to test the one or more digital reality applications developed and test deployed via the application development environment module.

11. The method of claim 8 further comprising processing and provisioning the one or more digital reality applications, wherein the processing and provisioning are based on proximity of the at least one user device to the one or more digital reality applications, and wherein the provisioning and processing are server-based, client-based, or combinations thereof.

12. The method of claim 11 further comprising, where the at least one user device is in proximity to a plurality of positional digital reality applications or areal digital reality application services:

computing and compositing media content of the plurality of positional digital reality applications or areal digital reality application services in a field of view or wide view of the one or more users; and

transmitting the computed and composited media content to the at least one user device.

13. The method of claim 8 wherein the at least one server implements software tools to facilitate the following actions:

sharing the one or more digital reality applications with an application administrator;

testing, by the application administrator, the one or more digital reality applications for compliance;

approving or rejecting the one or more digital reality applications;

sending, if required, application adjustment requests to an application developer;

adjusting by the application developer, if required, the one or more digital reality application; and

deploying by the application administrator, the one or more digital reality applications into an online application library from the application management environment module.

14. One or more non-transitory computer readable-media having stored thereon instructions configured to cause a server computer system comprising memory and at least one processor to perform a method for facilitating development, testing, and deployment of digital reality applications, comprising the steps of:

providing one or more digital reality applications and a persistent virtual world system comprising at least one virtual replica of a corresponding real object, wherein the virtual 3D world coordinates and virtual properties of the virtual replicas are based on the 3D world coordinates and properties of the real objects; and

receiving input from at least one user device accessing the persistent virtual world system, wherein the at least one user device is connected to the at least one server via a network, and wherein the persistent virtual world system allows one or more users to view and interact with the one or more digital reality applications in a merged reality comprising a real world layer, a virtual world layer configured on top of the real world layer, and one or more digital reality application layers configured on top of the virtual world layer,

wherein the input is related to development of the one or more digital reality applications, and wherein the development is performed in an application development environment module stored in the memory, and wherein management of the one or more digital reality applications is performed in an application management environment module,

wherein the application development environment module comprises a settings sub-module configured to specify positional or areal location and space, time, and target user parameter settings of the one or more digital reality applications or one or more digital application layers with respect to the persistent virtual world system,

wherein the settings sub-module is configured to attach the one or more digital reality applications to one or more virtual replicas existing in the persistent virtual world system or to empty locations of the persistent virtual world system not linked to a specific virtual replica, or to attach one or more areal digital reality application services to one or more geographic areas of the persistent virtual world system not linked to a specific virtual replica.