CLAIMS:

1. A computer implemented method of controlling an interactive hybrid environment representing a motorised sporting event at a track (8), the interactive hybrid environment including representations of real and virtual vehicles on the track (8), the method comprising:

receiving a stream of real sensor data, the real sensor data comprising:

a. real kinematic data of a real vehicle (12) on the track (8), the real kinematic data being captured by infra-red sensors (18) at the track (8) configured to detect infra-red radiation either emitted, reflected or transmitted from the real vehicle (12), wherein the detected infra-red radiation is processed to determine the kinematic data of the real vehicle (12), and

b. real control data regarding the control of the real vehicle (12) by a driver, the real control data being captured by vehicle sensors and obtained via telemetry systems from the real vehicle (12);

determining the position and kinematic behaviour of the representation of the real vehicle (12) within the interactive hybrid environment using the real kinematic data;

using the real control data and the real kinematic data to create a black box determination of the position of the real vehicle (12) on the track (8) based on the real control data, wherein a reference black box generator defines a transfer function of inputs to outputs for the black box determination;

receiving a stream of computer-generated control data which is obtained by user interaction with a computer presenting the interactive hybrid environment to the user and capturing the user inputs indicative of the control of the kinematic behaviour of the representation of the virtual vehicle (90) by the user; and

determining the position and kinematic behaviour of the representation of the virtual vehicle (90) within the interactive hybrid environment by using the black box determination and the computer-generated control data.

2. The computer implemented method of Claim 1, wherein the real sensor data comprises real kinematic data of a plurality of real vehicles on the track (8) and real control data regarding the control of each of the plurality of the real vehicles by a respective driver.

3. The computer implemented method of Claim 2, wherein the real sensor data of each real vehicle (12) of the plurality of the real vehicles includes a vehicle identifier.

4. The computer implemented method of Claim 2 or 3, wherein the stream of computer-generated control data comprises a plurality of streams of computer-generated data, each stream being generated by a different user interaction with a respective computer and capture of the respective user inputs.

5. The computer implemented method of Claim 4, wherein the stream of computer-generated control data of each of the plurality of streams of computer-generated data includes a computer device identifier.

6. The computer implemented method of any of Claims 2 to 4, wherein the plurality of real vehicles is less than the plurality of streams of computer-generated data streams and the method further comprises linking a subset of the plurality of representations of virtual vehicles with a representation of one real vehicle to create a linked representation.

7. The computer implemented method of Claim 6, further comprising using the linked representation to represent the subset of the plurality of representations of virtual vehicles within the

interactive hybrid environment whilst the position of the virtual vehicle (90) of the subset is within tolerance limits of the real vehicle (12).

8. The computer implemented method of Claim 6 or 7, wherein the plurality of computer-generated data streams is a plurality of times larger than the plurality of real vehicles and the linking step comprises linking each of the plurality of computer-generated data to the plurality of representations of real vehicles in an even distribution.

9. The computer implemented method of Claim 6 or 7, wherein the plurality of computer-generated data streams is a plurality of times larger than the plurality of real vehicles and the linking step comprises linking each of the plurality of computer-generated data to the plurality of representations of real vehicles in a logarithmic distribution.

10. The computer implemented method of any of Claims 1 to 9, further comprising:

updating the interactive hybrid environment with new positions of the representations of the real and virtual vehicles as determined by the received real sensor data and computer-generated data;

generating the updated interactive hybrid environment; and

broadcasting the updated interactive hybrid environment from a central server to a plurality of remotely located computers.

11. The computer implemented method of any of Claims 1 to 9, further comprising:

broadcasting the black box determination and the real sensor data from a central server to a plurality of remotely located computers;

generating the interactive hybrid environment at each remotely located computer;

updating the interactive hybrid environment with new positions of the representations of the real and virtual vehicles as determined by the received real sensor data and computer-generated data; and

transmitting the new positions of the representations of the virtual vehicles to the central server.

12. The computer implemented method of any of Claims 1 to 11, further comprising varying the association between the computer-generated control data and the resultant position of the virtual vehicle (90) using an artificial intelligence engine, which references the black box determination.

13. The computer implemented method of any of Claims 1 to 12, wherein the received real kinematic data comprises longitudinal positional data with respect to the track (8), lateral positional data with respect to the track (8) and vehicle orientation data with respect to the track (8).

14. The computer implemented method of any of Claims 1 to 13, wherein the real control data comprises one or more of steering wheel position, accelerator position, braking pedal position and gear selection of the real vehicle (12).

15. The computer implemented method of any of Claims 1 to 14, further comprising retrieving the real sensor data from a data store which has stored copy of the real sensor data as the real sensor data was generated.

16. The computer implemented method of any of Claims 1 to 14, wherein the receiving step comprises receiving the real sensor data substantially in real time as the sporting event is occurring.

17. The computer implemented method of any of Claims 1 to 16, wherein the stream of real sensor data has a sampling rate of at least 25Hz and the position of the real vehicle (12) at a point in time is captured and provided to the interactive hybrid environment within 40 milliseconds of being captured.

18. The computer implemented method of any of Claims 1 to 16, wherein the stream of real sensor data has a sampling rate of at least 60Hz and the position of the real vehicle (12) at a point in time is captured and provided to the interactive hybrid environment within 16.7 milliseconds of being captured.

19. The computer implemented method of any of Claims 1 to 18, further comprising using stored data models to generate the interactive hybrid environment.

20. The computer implemented method of any of Claims 1 to 19, further comprising receiving a stream of video data from the real vehicle (12) and including the stream of video data in the interactive hybrid environment.

21. The computer implemented method of any of Claims 1 to 20, further comprising receiving a stream of audio data from the real vehicle (12) and including the stream of video data in the interactive hybrid environment.

22. The computer implemented method of Claim 2 or any of Claims 3 to 21 as dependent on Claim 2, further comprising linking the representation of one of the virtual vehicles of the plurality of virtual vehicles to a representation of one of the real vehicles of the plurality of real vehicles at a point in time when the position of the representation of the virtual vehicle (90) is within a predetermined threshold of the position of the representation of the real vehicle (12) and using the representation of the real vehicle (12) as the representation of the virtual vehicle (90) in the interactive hybrid environment.

23. The computer implemented method of Claim 22 as dependent on Claim 20 or 21, wherein the linking step activates the provision of the received stream of audio or video data from the real vehicle (12) to the computer presenting the interactive hybrid environment to the user.

24. The computer implemented method of Claim 22 or 23, further comprising unlinking the representation of one of the virtual vehicles of the plurality of virtual vehicles with the representation of one of the real vehicles of the plurality of real vehicles at a point in time when the position of the representation of the virtual vehicle (90) is outside the predetermined threshold of the position of the representation of the real vehicle (12) and presenting the representation of the virtual vehicle (90) separately to the representation of the real vehicle (12) within the interactive hybrid environment.

25. The computer implemented method of any of Claims 22 to 24, further comprising providing details of any virtual vehicle linked to a representation of the real vehicle to a remotely located third party computer.

26. The computer implemented method of Claim 2 or any of Claims 3 to 25 as dependent on Claim 2, wherein each real vehicle has a set of performance characteristics and the method further comprises determining the closest positioned representation of a real vehicle (12) of the plurality of real vehicles to the representation of the virtual vehicle (90) and adopting the set of performance characteristics of the closest representation of the real vehicle (12) as the performance characteristics of the virtual vehicle (90).

27. The computer implemented method of any of Claims 1 to 26, further comprising capturing a positional data of the real vehicle (12) on the track (8) using said infra-red sensors (18), converting the positional data over time into the stream of real kinematic data and transmitting the same in real time to a central server.

28. The computer implemented method of Claim 27, wherein the capturing step comprises capturing the positional data using groups of sensors (16) monitoring different portions of the track (8), wherein each sensor in each group of sensors (16) detects infra-red radiation either emitted, reflected or transmitted from the one or more vehicles operating on the track (8) within a field of view (FOV) of the sensor.

29. The computer implemented method of Claim 28, further comprising processing the infra-red radiation detected by the infra-red sensor to determine kinematic data of the one or more real vehicles operating on the track.

30. A computer system (4) for controlling an interactive hybrid environment representing a motorised sporting event at a track (8), the interactive hybrid environment including representations of real and virtual vehicles on the track (8), the system comprising:

a receiver for receiving a stream of real sensor data, the real sensor data comprising real kinematic data of a real vehicle (12) on the track (8) and real control data regarding the control of the real vehicle (12) by a driver, the real kinematic data being captured by infra-red sensors (18) at the track (8) configured to detect infra-red radiation either emitted, reflected or transmitted from the real vehicle (12), wherein the detected infra-red radiation is processed to determine the kinematic data of the real vehicle (12), and the real control data being captured by vehicle sensors and obtained via telemetry systems from the real vehicle (12);

a virtual race command processor (40) configured to receive a stream of computer-generated control data which is obtained by user interaction with a computer presenting the interactive hybrid environment to the user and capturing the user inputs indicative of the control of the kinematic behaviour of the representation of the virtual vehicle (90) by the user; and

a virtual race simulation engine (36) including:

a race simulation output engine (114) for determining the position and kinematic behaviour of the representation of the real vehicle (12) within the interactive hybrid environment using the real kinematic data;

a reference black box model generator (110) configured to use the real control data and the real kinematic data to create a black box determination of the position of the real vehicle (12) on the track (8) based on the real control data, wherein the reference black box model generator defines a transfer function of inputs to outputs; and

a gaming black box implementing engine (112) configured to determine the position and kinematic behaviour of the representation of the virtual vehicle (90) within the interactive hybrid environment by using the black box determination and the computer-generated control data.

31. The computer system of Claim 30, further comprising an artificial intelligence engine which is configured to vary the association between and the resultant position of the virtual vehicle (90).

32. The computer system of Claim 31, wherein the artificial intelligence engine is configured to broaden thresholds required of the received computer-generated control data to generate a given position of the virtual vehicle (90).