CLAIMS

What is claimed is:

1. A mobile device, comprising:

a housing;

a mobile device processor in the housing, the mobile device processor coupled to a memory module and configured to run a software application; and

a virtual controller module;

wherein a side portion of the housing is configured to be removably coupleable to a first hardware gaming controller configured to be manipulated by a user's left thumb and/or fingers to generate a left controller input,

wherein an opposing side portion of the housing is configured to be removably coupleable to a second hardware gaming controller configured to be manipulated by a user's right thumb and/or fingers to generate a right controller input;

wherein the virtual controller module is configured to combine the left controller input and the right controller input to form a single controller input representation for providing to the software application.

2. The mobile device of claim 1, wherein the mobile device processor is configured to receive the left controller input and the right controller input as distinct data packets.

3. The mobile device of claim 2, wherein each of the data packets corresponding to the left controller input and the right controller input comprises a respective identifier to identify the corresponding data packet as being from the first hardware gaming controller or the second hardware gaming controller.

4. The mobile device of claim 1, wherein an operating system running on the mobile device processor is configured to receive the left controller input and the right controller input as distinct data packets; and wherein the virtual controller module is configured for operation on the operating system.

5. The mobile device of claim 4, wherein a device driver running on the mobile device processor is configured to receive the left controller input and the right controller input as distinct data packets, for interpreting the data packets for communication with the operating system.

6. A gaming controller for a mobile device, comprising:

a first hardware gaming controller comprising a first programmable controller and at least one input switch, the at least one input switch of the first hardware gaming controller configured to be manipulated by a user's left thumb and/or fingers to generate a left controller input with the first programmable controller; and

a second hardware gaming controller comprising a second programmable controller and at least one input switch, the at least one input switch of the second hardware gaming controller configured to be manipulated by a user's right thumb and/or fingers to generate a right controller input with the second programmable controller;

wherein the first hardware gaming controller is configured to be removably coupleable to a side portion of a housing of a mobile device, and the second hardware gaming controller is configured to be removably coupleable to an opposing side portion of the housing of the mobile device, the mobile device configured to run a software application,

wherein the left controller input and the right controller input are combinable using a virtual controller module to form a virtual gaming controller with a single controller input representation for providing to the software application.

7. The gaming controller of claim 6, wherein the first hardware gaming controller comprises a serial bus connection coupling the first programmable controller to the mobile device and the second hardware gaming controller comprises a separate serial bus connection coupling the second programmable controller to the mobile device.

8. The gaming controller of claim 6, wherein the first hardware gaming controller comprises a first wireless transceiver coupled to the first programmable controller and the second hardware gaming controller comprises a second wireless

transceiver coupled to the second programmable controller, for establishing a wireless data coupling.

9. The gaming controller of claim 6, wherein the first hardware gaming controller and the second hardware gaming controller are configured to establish separate wireless data couplings to the mobile device.

10. The gaming controller of claim 6, wherein a wireless data coupling is configured to be established between the first programmable controller in the first hardware gaming controller and the second programmable controller in the second hardware gaming controller.

11. The gaming controller of claim 6, wherein any one of the first hardware gaming controller or the second hardware gaming controller comprises a serial bus connection to the mobile device.

12. The gaming controller of claim 11, wherein any one of the first hardware gaming controller or the second hardware gaming controller further establishes a wireless data coupling to the mobile device.

13. The gaming controller of claim 8, wherein the wireless data coupling is any one of a Bluetooth connection, a Wireless Universal Serial Bus (WUSB) connection, a radio frequency connection, or an infrared data connection.

14. The gaming controller of claim 6, further comprising a data coupling between the first programmable controller in the first hardware gaming controller and the second programmable controller in the second hardware gaming controller; wherein the virtual controller module is configured for operation on any one of the first programmable controller or the second programmable controller.

15. The gaming controller of claim 6, wherein the left controller input and the right controller input are distinct data packets.

16. The gaming controller of claim 15, wherein each of the data packets corresponding to the left controller input and the right controller input comprises a respective identifier to identify the corresponding data packet as being from the first hardware gaming controller or the second hardware gaming controller.

17. The gaming controller of claim 6, wherein each of the first hardware gaming controller and the second hardware gaming controller is mechanically securable to a respective side portion of the housing of the mobile device.

18. A non-transitory computer-readable medium comprising instructions which, when executed by a processor, causes the processor to perform a method of operating a gaming controller, the method comprising:

receiving a left controller input generated by a first programmable controller in a first hardware gaming controller through a data coupling between the first hardware gaming controller and the mobile device, the first hardware gaming controller configured to be manipulated by a user's left thumb and/or fingers;

receiving a right controller input with a second programmable controller in a second hardware gaming controller through a data coupling between the first hardware gaming controller and the mobile device, the second hardware gaming controller configured to be manipulated by a user's right thumb and/or fingers;

combining the left controller input and the right controller input to form a single controller input representation; and

providing the single controller input representation to a software application operating on a mobile device processor in the mobile device.

19. The non-transitory computer-readable medium of claim 18, wherein the method further comprises:

receiving the left controller input and right controller input as distinct data packets, by the mobile device processor in the mobile device.

20. The non-transitory computer-readable medium of claim 19, wherein each of the data packets corresponding to the left controller input and the right controller input comprises a respective identifier to identify the corresponding data packet as being from the first hardware gaming controller or the second hardware gaming controller.