

WHAT IS CLAIMED IS:

1. An adapter for converting a dumb charger into a smart charger, comprising:
 - a first input interface for interconnecting the adapter with a first charging connector of a charger;
 - 5 a second input interface for interconnecting the adapter with a second charging connector of an electric device;
 - a wireless communications interface for providing wireless connectivity to the adapter, the wireless connectivity initiated responsive to connection of the first input interface with the first charging connector of the charger; and
 - 10 control circuitry interconnecting the first input interface with the second input interface via a signaling connection for providing communications between the first input interface and the second input interface, the control circuitry further providing a power connection for selectively providing a charging signal from the first input interface to the second input interface responsive to commands received over the
 - 15 wireless communications interface and the signaling connection.
2. The adapter of Claim 1, wherein the control circuitry further includes a simulator control unit for controlling the communications between the first input interface and the second input interface responsive to control signals received from the wireless
- 20 communications interface.
3. The adapter of Claim 2, wherein the simulator control unit further performs an electric device charging termination sequence to discontinue charging of the electric device responsive to commands received over the wireless communications interface.
- 25 4. The adapter of Claim 2, wherein the control circuitry further includes a power sensing and control unit for controlling the power connection between the first interface and the second interface responsive to control signals received from the simulator control unit.
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5. The adapter of Claim 1, wherein the control circuitry further includes a power sensing and control unit for charging a rechargeable battery for providing power to the adapter using at least one of inductive charging.
- 5 6. The adapter of Claim 5, wherein the rechargeable battery is a removable battery.
7. The adapter of Claim 1, wherein the control circuitry further includes a remote control unit for controlling operation of the adapter responsive to control signals received from a remote server via the wireless communications interface.
- 10 8. The adapter of Claim 1, wherein the control circuitry simulates operation of the charger to the electric device responsive to connection of the electric device to the second input interface.
- 15 9. The adapter of Claim 1, wherein the control circuitry registers the charger with a remote server via the wireless communications interface responsive to connection of the charger to the first input interface.
- 20 10. The adapter of Claim 1, wherein the adapter enters a standby mode upon completion of a registration process and enters a charging mode responsive to connection of the electric device to the second input interface.
11. A method for converting a dumb charger into a smart charger, comprising:
detecting connection of an adapter with a first charging connector of a charger
25 at a first input interface;
detection connection of the adapter with a second charging connector of an electric device at a second input interface;
providing wireless connectivity to the adapter responsive to detection of connection of the first input interface with the first charging connector of the charger
30 via a wireless communications link;
interconnecting the first input interface with the second input interface via a signaling connection for providing communications between the first input interface and the second input interface; and

selectively providing a power connection between the first input interface and the second input interface for selectively providing a charging signal from the first input interface to the second input interface responsive to commands received over the wireless communications interface and the signaling connection.

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12. The method of Claim 11 further comprising controlling the communications between the first input interface and the second input interface responsive to control signals received from the wireless communications interface.

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13. The method of Claim 12 further comprising:
receiving commands over the wireless communications interface; and
performing an electric device charging termination sequence to discontinue charging of the electric device responsive to the commands received over the wireless communications interface.

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14. The method of Claim 11, further comprising controlling the power connection between the first interface and the second interface.

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15. The method of Claim 11 further comprising charging a rechargeable battery, for providing power to the adapter using at least one of capacitive or inductive charging.

16. The method of Claim 15, wherein the rechargeable battery is a removable battery.

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17. The method of Claim 11 further comprising controlling operation of the adapter responsive to control signals received from a remote server via the wireless communications interface.

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18. The method of Claim 11 further comprising:
detecting connection of the electric device to the second input interface; and
simulating operations of the charger to the electric device responsive to detection of connection of the electric device to the second input interface.

19. The method of Claim 11 further comprising:
detecting connection of the charger to the first input interface; and

registering the charger with a remote server via the wireless communications interface responsive to detection of the connection of the charger to the first input interface.

- 5 20. The method of Claim 11 further comprising:
 entering the adapter into a standby mode upon completion of a registration
 process;
 detecting connection of the electric device to the second input interface; and
 entering the adapter into a charging mode responsive to connection of the
10 electric device to the second input interface.

21. A system, comprising:
 a plurality of adapters for converting a dumb charger into a smart charger
 having remote network communications connectivity and control, each of the
15 plurality of adapters plugged into a charging connector of an associate charger, each
 of the adapters comprising:
 a first input interface for interconnecting the adapter with a first
 charging connector of a charger;
 a second input interface for interconnecting the adapter with a second
20 charging connector of an electric device;
 a wireless communications interface for providing wireless
 connectivity to the adapter, the wireless connectivity initiated responsive to
 connection of the first input interface with the first charging connector of the
 charger; and
25 control circuitry interconnecting the first input interface with the
 second input interface via a signaling connection for providing
 communications between the first input interface and the second input
 interface, the control circuitry further providing a power connection for
 selectively providing a charging signal from the first input interface to the
30 second input interface responsive to commands received over the wireless
 communications interface and the signaling connection; and
 a control server remotely located from and connected to each of the plurality
 of adapters via the wireless communications links wherein the control server controls
 validation of users attempting to charge the electric device and controls the charging

of the electric device using commands sent to the plurality of adapters via the wireless communications links.

5 22. The system of Claim 21, wherein the control circuitry simulates operation of the charger to the electric device responsive to connection of the electric device to the second input interface.

10 23. The system of Claim 21, wherein the control circuitry registers the charger with the central server via the wireless communications interface responsive to connection of the charger to the first input interface.

15 24. The system of Claim 21, wherein each of the plurality of adapters enter a standby mode upon completion of a registration process with the central server and enters a charging mode responsive to connection of the electric device to the second input interface.

25. A system comprising
a plurality of adapters for converting a dumb charger within a mobile charging station into a smart charger within the mobile charging station having remote network communications connectivity and control, each of the plurality of adapters plugged into a charging connector of an associate charger of the mobile charging station, each of the adapters comprising:

20 a first input interface for interconnecting the adapter with a first charging connector of a charger within the mobile charging station;

25 a second input interface for interconnecting the adapter with a second charging connector of an electric vehicle;

30 a wireless communications interface for providing wireless connectivity to the adapter, the wireless connectivity initiated responsive to connection of the first input interface with the first charging connector of the charger within the mobile charging station; and

control circuitry interconnecting the first input interface with the second input interface via a signaling connection for providing communications between the first input interface and the second input interface, the control circuitry further providing a power connection for selectively providing a charging signal from the first input

interface to the second input interface responsive to commands received over the wireless communications interface and the signaling connection; and

5 a control server remotely located from and connected to each of the plurality of adapters via the wireless communications links, the control server further including an artificial intelligence system (AIS) to manage the mobile charging stations over a wireless connection and to provide dynamic scheduling of a charging rendezvous between the electric vehicle and the mobile charging station, wherein the control server controls validation of users attempting to charge the electric vehicle and controls the charging of the electric vehicle using commands sent to the plurality of
10 adapters via the wireless communications links.