CLAIMS

1. A method, performed by at least one computer, the method comprising:

receiving a communication from an application program executing on a client device different from the at least one computer;

identifying from the communication an asserted identity of the application program; and

verifying the asserted identity of the application program at least in part by:

interacting with the client device to obtain additional information about the application program; and

determining whether the additional information about the application program is consistent with the asserted identity of the application program.

2. The method of claim 1, wherein interacting with the client device comprises:

providing, to the client device, a software program that, when executed by the client device, collects the additional information about the application program; and

receiving, from the client device, the additional information.

3. The method of claim 2 or any other preceding claim,

wherein the software program, when executed by the client device, is configured to collect information about at least one capability of the application program;

wherein receiving the additional information from the client device comprises receiving the collected information about the at least one capability of the application program; and

wherein determining whether the additional information about the application program is consistent with the asserted identity of the application program comprises:

obtaining information about at least one corresponding capability of application programs having the asserted identity; and

comparing the collected information about the at least one capability of the application program with the information about at least one corresponding capability of application programs having the asserted identity.

4. The method of claim 2 or any other preceding claim, wherein the software program, when executed by the client device, is configured to determine whether the application program is able to recognize an object that application programs having the asserted identity are able to recognize.

5. The method of claim 2 or any other preceding claim, wherein the software program is a JAVASCRIPT program.

6. The method of claim 1 or any other preceding claim, wherein the interacting is performed in response to receiving the communication.

7. The method of claim 1 or any other preceding claim, wherein the asserted identity of the application program is an identity of a web browser application program.

8. A method, performed by at least one computer, the method comprising:

receiving a communication from a client device different from the at least one computer;

identifying from the communication an asserted type of the client device; and

verifying the asserted type of the client device at least in part by:

interacting with the client device to obtain additional information about the client device; and

determining whether the additional information about the client device is consistent with the asserted type of the client device.

9. The method of claim 8,

wherein interacting with the client device comprises interacting with the client device to measure an amount of time it takes the client device to perform a task; and

wherein the determining comprises determining whether the measured amount of time it takes the client device to perform the task is consistent with how long it takes client devices having the asserted type to perform the task.

10. The method of claim 9 or any other preceding claim, wherein interacting with the client device to measure the amount of time it takes the client device to perform a task comprises:

providing a software program to the client device for execution by the client device;

measuring an amount of time it takes the client device to execute the software program.

11. The method of claim 10 or any other preceding claim,

wherein providing the software program further comprises providing, to the client device, at least one input to the software program, and

wherein measuring the amount of time it takes the client device to execute the software program comprises measuring how long it takes the client device to use the software to generate at least one output based on the at least one input.

12. The method of claim 11 or any other preceding claim, further comprising:

receiving the at least one output from the client device; and

verifying that the at least one output is accurate.

13. The method of claim 10 or any other preceding claim, wherein providing the software program further comprises providing, to the client device, a software program comprising a serial cumulative calculation challenge for execution by the client device.

14. The method of claim 10 or any other preceding claim, wherein providing the software program further comprises providing, to the client device, a software program comprising a parallel checkpoints calculation challenge for execution by the client device.

15. The method of claim 10 or any other preceding claim, wherein providing the software program further comprises providing, to the client device, a software program comprising a neural network calculation challenge for execution by the client device.

16. The method of claims 10 or any other preceding claim, wherein providing the software program further comprises providing, to the client device, a software program comprising a graphics processing unit calculation challenge for execution by the client device.

17. The method of claim 9 or any other preceding claim, wherein determining whether the measured amount of time it takes the client device to perform the task is consistent with how long it takes client devices having the asserted type to perform the task comprises:

accessing information indicating a range of expected execution times, associated with the task, for a population of client devices having the asserted type; and

comparing the measured amount of time with the range of expected execution times.

18. The method of claim 8 or any other preceding claim,

wherein the communication indicates that the client device is asserted to be a mobile device of a certain type,

wherein interacting with the client device comprises determining an amount of time it takes the client device to perform a task, and

wherein determining whether the asserted type of the client device is consistent with the additional information about the client device comprises determining whether the amount of time it takes the client device to perform the task is consistent with how long it takes mobile devices of the certain type to perform the task.

19. The method of claim 8 or any other preceding claim, wherein interacting with the client device to obtain the additional information about the application program is performed in response to receiving the communication from the client device.

20. The method of claim 8 or any other preceding claim, further comprising:

identifying from the communication a request to access a webpage; and

when it is determined that the additional information about the client device is consistent with the asserted type of the client device, granting the client device access to the webpage.

21. A system, comprising:

at least one computer;

at least one non-transitory computer-readable medium storing processor-executable instructions that, when executed by the at least one computer, cause the at least one computer to perform the method of any of claims 1-20.

22. At least one non-transitory computer-readable medium storing processor-executable instructions that, when executed by at least one computer, cause the at least one computer to perform the method of any of claims 1-20.