1. A computer-implemented method for assigning a device fingerprint to a target device, comprising:

acquiring (102: 202) first attributes of the target device, the first attributes including at least one browser plug-in;

determining (204) changes of the first attributes based on a plurality of state transition vectors over a period of time;

determining (206) change probabilities for the state transition vectors;

comparing (208) each of the first attributes with each of second attributes of at least one second device having a device fingerprint stored in a device library, the first attributes corresponding to the second attributes;

determining (210) a first state transition vector from the state transition vectors for each of the first attributes based on the comparison;

giving a first change probability to each of the first attributes based on the determined first state transition vector;

calculating (104; 212) a correlation value with respect to the first attributes of the target device and the second attributes of at least one second device wherein the correlation value is calculated based on the first change probability;

if the correlation value is greater than or equal to a pre-determined threshold value, assigning (108; 216) the device fingerprint of the at least one second device to the target device; and

if the correlation value is smaller than the pre-determined threshold value, storing (110; 218) the first attributes of the target device to the device library and assigning a new device fingerprint to the target device.

2. The method according to claim 1, wherein the state transition vectors include one or more of installation, uninstallation, never uninstalled, no change after installation, upgrade, or downgrade.

3. The method according to claim 1 or claim 2, wherein the new device fingerprint includes a device identification of the target device.

4. An apparatus for assigning a device fingerprint to a target device, comprising:

one or more processors; and

a memory device configured to store instructions executable by the one or more processors,

wherein the one or more processors are configured to perform the method of any of the preceding claims.

5. A computer-readable storage medium storing instructions, which, when executed by a computer, cause the computer to perform the method of any of claims 1 to 3.