

CLAIMS

1. An application upgrade method, comprising:

obtaining usage data of an application on a terminal in respect of a preset time period;

determining an upgrade mode of the application according to the usage data; and

if a new version of the application is detected, upgrading the application according to the upgrade mode;

wherein the usage data comprises usage frequency, consumed network traffic, and consumed power; and

the step of determining an upgrade mode of the application according to the usage data comprises:

performing a weighted calculation on the usage frequency, the consumed network traffic, and the consumed power to obtain an upgrade evaluation value of the application; and

according to a preset threshold interval where the upgrade evaluation value is located, determining an upgrade mode corresponding to the threshold interval as an upgrade mode of the application, wherein upgrade modes corresponding to different threshold intervals have different priorities;

wherein the step of performing a weighted calculation on the usage frequency, the consumed network traffic, and the consumed power to obtain an upgrade evaluation value of the application comprises:

calculating the upgrade evaluation value according to the following formula:

$$P = fx + \frac{t_0}{t} y + \frac{q_0}{q} z$$

wherein P is the upgrade evaluation value, f is the usage frequency, x is a preset frequency weight corresponding to the usage frequency, t_0 is network traffic consumed by the application during the preset time period, t is total network traffic consumed by the terminal during the preset time period, y is a preset traffic weight corresponding to the network traffic consumed by the application, q_0 is power consumed by the application during the preset time period, q is total power consumed by the terminal during the preset time period, z is a preset power weight corresponding to the power consumed by the application, and $x + y + z = 1$.

2. The application upgrade method according to claim 1, wherein the upgrade mode comprises a first priority mode, a second priority mode, and a third priority mode; the first priority mode is to automatically download an installation package and perform automatic upgrade and installation; the second priority upgrade mode is to automatically download the installation package, and perform upgrade and installation after a message of user confirmation for installation is received; and the third priority upgrade mode is to download the installation package after the message of user confirmation for installation is received and perform upgrade and installation; the determining, according to a preset threshold interval where the upgrade evaluation value is located, an upgrade mode corresponding to the threshold interval as an upgrade mode of the application comprises:

if the upgrade evaluation value is greater than a preset first threshold, determining the upgrade mode as the first priority mode;

if the upgrade evaluation value is less than or equal to the first threshold and greater than a preset second threshold, determining the upgrade mode as the second priority mode, wherein the first threshold is greater than the second threshold; and

if the upgrade evaluation value is less than or equal to the second threshold, determining the upgrade mode as the third priority mode.

3. The application upgrade method according to claim 2, wherein if the upgrade mode is the first priority mode, the upgrading, if a new version of the application is detected, the application according to the upgrade mode comprises: if a new version of the application is detected, automatically downloading an installation package of the new version;

obtaining usage time of the application during the preset time period;

determining a commonly used time period of the user for the application by analyzing the usage time;

determining, according to the commonly used time period, a time for automatic upgrade and installation, so that the time for automatic upgrade and installation avoids the commonly used time period; and

automatically performing upgrade and installation within the time for automatic upgrade and installation.

4. An application upgrade apparatus, comprising:

an acquisition unit, configured to obtain usage data of an application on a terminal in respect of a preset time period;

a matching unit, configured to determine an upgrade mode of the application according to the usage data; and

an upgrade unit, configured to upgrade, if a new version of the application is detected, the application according to the upgrade mode;

wherein the usage data comprises usage frequency, consumed network traffic, and consumed power, and the matching unit comprises:

a weighted calculation subunit, configured to perform a weighted calculation on the usage frequency, the consumed network traffic, and the consumed power to obtain an upgrade evaluation value of the application; and

an upgrade mode determining subunit, configured to determine, according to a preset threshold interval where the upgrade evaluation value is located, an upgrade mode corresponding to the threshold interval as an upgrade mode of the application, wherein upgrade modes corresponding to different threshold intervals have different priorities;

wherein the weighted calculation subunit is specifically configured to: calculate the upgrade evaluation value according to the following formula:

$$P = fx + \frac{t_0}{t}y + \frac{q_0}{q}z$$

wherein P is the upgrade evaluation value, f is the usage frequency, x is a preset frequency weight corresponding to the usage frequency, t_0 is network traffic consumed by the application during the preset time period, t is total network traffic consumed by the terminal during the preset time period, y is a preset traffic weight corresponding to the network traffic consumed by the application, q_0 is power consumed by the application during the preset time period, q is total power consumed by the terminal during the preset time period, z is a preset power weight corresponding to the power consumed by the application, and $x + y + z = 1$.

5. The application upgrade apparatus according to claim 4, wherein the upgrade mode comprises a first priority mode, a second priority mode, and a third priority mode; the first priority mode is to automatically download an installation package and perform automatic upgrade and installation; the second priority upgrade mode is to automatically download the installation package, and perform upgrade and installation after a message of user confirmation for installation is received; and the third priority upgrade mode is to download the installation package after the message of user confirmation for installation is received and perform upgrade and installation;

the upgrade mode determining subunit is specifically configured to:

if the upgrade evaluation value is greater than a preset first threshold, determine the upgrade mode as the first priority mode;

if the upgrade evaluation value is less than or equal to the first threshold and greater than a preset second threshold, determine the upgrade mode as the second priority mode, wherein the first threshold is greater than the second threshold; and

if the upgrade evaluation value is less than or equal to the second threshold, determining the upgrade mode as the third priority mode.

6. The application upgrade apparatus according to claim 4, wherein if the upgrade mode is the first priority mode, the upgrade unit comprises:

a download subunit, configured to automatically download, if a new version of the application is detected, an installation package of the new version;

a usage time acquisition subunit, configured to obtain usage time of the application during the preset time period;

a commonly used time period analysis subunit, configured to determine a commonly used time period of the user for the application by analyzing the usage time;

an upgrade time determining subunit, configured to determine, according to the commonly used time period, a time for automatic upgrade and installation, so that the time for automatic upgrade and installation avoids the commonly used time period; and

an upgrade and installation subunit, configured to automatically perform upgrade and installation within the time for automatic upgrade and installation.

7. A terminal device, comprising a memory, a processor, and a computer readable instruction stored in the memory and executable on the processor, wherein when the processor executes the computer readable instruction, the following steps are implemented:

obtaining usage data of an application on a terminal in respect of a preset time period;

determining an upgrade mode of the application according to the usage data; and

if a new version of the application is detected, upgrading the application according to the upgrade mode;

wherein the usage data comprises usage frequency, consumed network traffic, and consumed power; and the determining an upgrade mode of the application according to the usage data comprises:

performing a weighted calculation on the usage frequency, the consumed network traffic, and the consumed power to obtain an upgrade evaluation value of the application; and

according to a preset threshold interval where the upgrade evaluation value is located, determining an upgrade mode corresponding to the threshold interval as an upgrade mode of the application, wherein upgrade modes corresponding to different threshold intervals have different priorities;

wherein the performing a weighted calculation on the usage frequency, the consumed network traffic, and the consumed power to obtain an upgrade evaluation value of the application comprises:

calculating the upgrade evaluation value according to the following formula:

$$P = fx + \frac{t_0}{t}y + \frac{q_0}{q}z$$

wherein P is the upgrade evaluation value, f is the usage frequency, x is a preset frequency weight corresponding to the usage frequency, t_0 is network traffic consumed by the application during the preset time period, t is total network traffic consumed by the terminal during the preset time period, y is a preset traffic weight corresponding to the network traffic consumed by the application, q_0 is power consumed by the application during the preset time period, q is total power consumed by the terminal during the preset time period, z is a preset power weight corresponding to the power consumed by the application, and $x + y + z = 1$.

8. The terminal device according to claim 7, wherein the upgrade mode comprises a first priority mode, a second priority mode, and a third priority mode; the first priority mode is to automatically download an installation package and perform automatic upgrade and installation; the second priority upgrade mode is to automatically download the installation package, and perform upgrade and installation after a message of user confirmation for installation is received; and the third priority upgrade mode is to download the installation package after the message of user confirmation for installation is received and perform upgrade and installation; the determining, according to a preset threshold interval where the upgrade evaluation value is located, an upgrade mode corresponding to the threshold interval as an upgrade mode of the application comprises:

if the upgrade evaluation value is greater than a preset first threshold, determining the upgrade mode as the first priority mode;

if the upgrade evaluation value is less than or equal to the first threshold and greater than a preset second threshold, determining the upgrade mode as the second priority mode, wherein the first threshold is greater than the second threshold; and

if the upgrade evaluation value is less than or equal to the second threshold, determining the upgrade mode as the third priority mode.

9. The terminal device according to claim 8, wherein if the upgrade mode is the first priority mode, the upgrading, if a new version of the application is detected, the application according to the upgrade mode comprises:

if a new version of the application is detected, automatically downloading an installation package of the new version;

obtaining usage time of the application during the preset time period;

determining a commonly used time period of the user for the application by analyzing the usage time;

determining, according to the commonly used time period, a time for automatic upgrade and installation, so that the time for automatic upgrade and installation avoids the commonly used time period; and

automatically performing upgrade and installation within the time for automatic upgrade and installation.

10. A computer readable storage medium storing a computer readable instruction, wherein when the computer readable instruction is executed by at least one processor, the following steps are implemented:

obtaining usage data of an application on a terminal in respect of a preset time period;

determining an upgrade mode of the application according to the usage data; and

if a new version of the application is detected, upgrading the application according to the upgrade mode;

wherein the usage data comprises usage frequency, consumed network traffic, and consumed power; and the determining an upgrade mode of the application according to the usage data comprises:

performing a weighted calculation on the usage frequency, the consumed network traffic, and the consumed power to obtain an upgrade evaluation value of the application; and

according to a preset threshold interval where the upgrade evaluation value is located, determining an upgrade mode corresponding to the threshold interval as an upgrade mode of the application, wherein upgrade modes corresponding to different threshold intervals have different priorities;

wherein the performing a weighted calculation on the usage frequency, the consumed network traffic, and the consumed power to obtain an upgrade evaluation value of the application comprises:

calculating the upgrade evaluation value according to the following formula:

$$P = fx + \frac{t_0}{t}y + \frac{q_0}{q}z$$

wherein p is the upgrade evaluation value, f is the usage frequency, x is a preset frequency weight corresponding to the usage frequency, t_0 is network traffic consumed by the application during the preset time period, t is total network traffic consumed by the terminal during the preset time period, y is a preset traffic weight corresponding to the network traffic consumed by the application, q_0 is power consumed by the application during the preset time period, q is total power consumed by the terminal during the preset time period, z is a preset power weight corresponding to the power consumed by the application, and $x + y + z = 1$.

11. The computer readable storage medium according to claim 10, wherein the upgrade mode comprises a first priority mode, a second priority mode, and a third priority mode; the first priority mode is to automatically download an installation package and perform automatic upgrade and installation; the second priority upgrade mode is to automatically download the installation package, and perform upgrade and installation after a message of user confirmation for installation is received; and the third priority upgrade mode is to download the installation package after the message of user confirmation for installation is received and perform upgrade and installation; the determining, according to a preset threshold interval where the upgrade evaluation value is located, an upgrade mode corresponding to the threshold interval as an upgrade mode of the application comprises:

if the upgrade evaluation value is greater than a preset first threshold, determining the upgrade mode as the first priority mode;

if the upgrade evaluation value is less than or equal to the first threshold and greater than a preset second threshold, determining the upgrade mode as the second priority mode, wherein the first threshold is greater than the second threshold; and

if the upgrade evaluation value is less than or equal to the second threshold, determining the upgrade mode as the third priority mode.

12. The computer readable storage medium according to claim 11, wherein if the upgrade mode is the first priority mode, the upgrading, if a new version of the application is detected, the application according to the upgrade mode comprises:

if a new version of the application is detected, automatically downloading an installation package of the new version;

obtaining usage time of the application during the preset time period;

determining a commonly used time period of the user for the application by analyzing the usage time;

determining, according to the commonly used time period, a time for automatic upgrade and installation, so that the time for automatic upgrade and installation avoids the commonly used time period; and

automatically performing upgrade and installation within the time for automatic upgrade and installation.