

## CLAIMS

What is claimed is:

1. A computer-implemented login method, ~~wherein the method comprises:~~  
~~displaying (210) dynamic information for login to a user, the dynamic information~~  
~~comprising:~~

~~generating dynamic information for login, comprising randomly generating~~  
~~information of a plurality of color changes based on a random combination~~  
~~including plurality of colors to obtain a random combination of changes in color~~  
~~and/or randomly generating a plurality of information indicating changes in blink~~  
~~length based on a plurality of blink lengths to obtain a random combination of~~  
~~changes in blink length, the dynamic information for login comprising the random~~  
~~combination of changes in color or the random combination of changes in blink~~  
~~length;~~

~~displaying (210) the dynamic information for login to a user;~~

~~receiving (220) a first EEG signal that is generated by the user based on the~~  
~~displayed dynamic information and that is monitored by a monitoring device (11), and~~  
~~a unique identification signal of the first EEG signal of the user, wherein the unique~~  
~~identification signal of the first EEG signal of the user is a user-specific unique EEG~~  
~~feature code that comprises a EEG feature code that is unique to the user and enables~~  
~~to effectively identify the user among a plurality of users;~~

~~matching (230) the first EEG signal with a second EEG signal that corresponds~~  
~~to the displayed dynamic information for the user and that is obtained based on pre-~~  
~~collected EEG signals of the user stored in a login authentication library, wherein the~~  
~~login authentication library stores pre-collected EEG signals generated by users based~~  
~~on various dynamic information, wherein the matching the first EEG signal with the~~  
~~second EEG signal comprises:~~

~~matching the unique identification signal of EEG of the first EEG signal user~~  
~~in an identity authentication library, wherein pre-collected unique identification~~  
~~signals information of EEG signals that correspond to different the plurality of users~~  
~~are is stored in the identity authentication library;~~

~~identifying a target user that corresponds to the matched unique identification~~  
~~signal of EEG of the first EEG signal user in the identity authentication library;~~

obtaining ~~the~~ second EEG signal ~~by obtaining an EEG signal of the target user~~ that corresponds to the ~~target user with regard to the displayed~~ dynamic information ~~from for login, comprising obtaining the login authentication library, wherein the second~~ EEG signal ~~that corresponds to of~~ the target user ~~is obtained~~ based on pre-collected EEG signals of the target user stored in ~~the a login authentication library that correspond to the dynamic information for login, wherein the~~ login authentication library; ~~and stores pre-collected EEG signals of each of the plurality of users collected from each of the plurality of users in response to the display of each of the plurality of colors or the display of each of the plurality of blink lengths, respectively;~~

matching (230) the first EEG signal with the second EEG signal; and

logging in (240) when the first EEG signal successfully matches the second EEG signal.

2. The method according to claim 1, wherein the pre-collected EEG signals in the login authentication library are obtained through machine learning training.

3. The method according to claim 1, wherein before the displaying dynamic information for login to a user, the method further comprises:

monitoring a current environment to determine whether the current environment affects normal generation of the EEG signal; and

the displaying dynamic information for login to a user comprises:

displaying the dynamic information for login to the user when the current environment does not affect the normal generation of the EEG signal.

4. The method according to claim 3, wherein the monitoring a current environment to determine whether the current environment affects normal generation of the EEG signal comprises:

monitoring noise decibels of the current environment;

monitoring whether the noise decibels in the current environment reach a threshold; and

determining that the current environment does not affect the normal generation of the EEG signal when the noise decibels of the current environment do not reach the threshold.

5. The method according to claim 1, wherein the displaying dynamic information for login to ~~the~~a user comprises:

displaying the dynamic information for login to the user when a notification that a current environment does not affect the normal generation of the EEG is received from the monitoring device.

6. The method according to claim 1, wherein the method further comprises:

collecting biometric information of the user when the first EEG signal fails to match the second EEG signal; and

logging in based on the biometric information of the user.

7. The method according to claim 6, wherein before the collecting biometric information of the user, the method further comprises:

counting a number of EEG matching failures; and

the collecting biometric information of the user comprises:

collecting the biometric information of the user when the number of EEG matching failures reaches a threshold.

8. The method according to claim 6 or 7, wherein the biometric information comprises:

at least one of a fingerprint, a palm print, an iris, an eye print, a face, or a sound wave.

9. An electronic device (11, 12), comprising:

a processor; and

a memory, configured to store instructions that can be executed by the processor;  
wherein the processor is configured to perform a method according to any one of the preceding claims.

10. One or more computer-readable media storing a plurality of instructions, which, when executed by a computing system (11, 12), cause the computing system (11, 12) to perform the method according to any of claims 1 to 8.