CLAIMS

1. A method for generating lyrics, comprising:

acquiring lyrics of a target song and an audio file of the target song;

determining a Chinese character among a plurality of characters in the lyrics as a character to be annotated;

identifying pronunciations of the plurality of characters according to audio clips corresponding to the plurality of characters in the audio file;

determining a candidate pronunciation of the character to be annotated from the pronunciations of the plurality of characters according to the character to be annotated among the plurality of characters, or determining an intermediate pronunciation of the character to be annotated from the pronunciations of the plurality of characters according to the character to be annotated among the plurality of characters, and identifying at least two candidate pronunciations of the character to be annotated according to the intermediate pronunciation;

if the character to be annotated has one candidate pronunciation, determining the candidate pronunciation as a corresponding pronunciation of the character to be annotated in the target song;

if the character to be annotated has at least two candidate pronunciations, determining a candidate pronunciation semantically matching the character to be annotated as the corresponding pronunciation of the character to be annotated in the target song; and

generating a first lyric file of the target song according to the plurality of characters and the corresponding pronunciation of the character to be annotated in the target song.

2. The method according to claim 1, wherein if the character has at least two candidate pronunciations, determining the candidate pronunciation semantically matching the character as the corresponding pronunciation of the character to be annotated in the target song comprises:

for each candidate pronunciation, looking up an intermediate character corresponding to each candidate pronunciation from a first dictionary engine, and looking up a semantic meaning of the intermediate character from a second dictionary engine, the

first dictionary engine comprising a plurality of candidate pronunciations and the intermediate characters corresponding to the plurality of candidate pronunciations, and the second dictionary engine comprising a plurality of intermediate characters and a plurality of semantic meanings corresponding to the plurality of intermediate characters; and

selecting, from the at least two candidate pronunciations, a candidate pronunciation of which the semantic meaning of the intermediate character matches the semantic meaning of the character to be annotated according to the semantic meaning of the character to be annotated, and determining the selected candidate pronunciation as the corresponding pronunciation of the character to be annotated in the target song.

3. The method according to claim 1, wherein acquiring the lyrics of the target song and the audio file of the target song comprises:

acquiring a second lyric file of the target song, the second lyric file comprising the lyrics of the target song and display times of the plurality of characters of the lyrics;

establishing a first array and a third array, writing the plurality of characters into the first array, writing the display times of the plurality of characters into the third array, and determining the plurality of characters in the first array as the lyrics of the target song; and

acquiring an original audio file of the target song, extracting audio clips in a human voice band in the original audio file, and generating the audio file.

4. The method according to claim 3, wherein generating the first lyric file of the target song according to the corresponding pronunciations of the plurality of characters and the character to be annotated in the target song comprises:

establishing a second array, and writing the corresponding pronunciation of the character to be annotated in the target song into the second array;

when a target word exists in the lyrics, determining a display time of the target word according to display times of at least two adjacent characters to be annotated comprised in the target word, the target word comprising at least two adjacent characters to be

annotated, and the number of the comprised characters to be annotated being not equal to the number of pronunciations of the target word;

writing the display time of the target word into the third array; and

adding the first array, the second array, and the third array to the first lyric file, wherein

the manner of determining the display time of the target word is as follows: merging the display times of at least two adjacent characters to be annotated included in the target word, and determining the merged display time as the display time of the target word.

5. The method according to claim 1, wherein generating the first lyric file of the target song according to the corresponding pronunciations of the plurality of characters and the character to be annotated in the target song comprises:

establishing the second array, and writing the corresponding pronunciation of the character to be annotated in the target song into the second array; and

adding the first array and the second array to the first lyric file, the first array being configured to store the plurality of characters of the lyrics.

6. A method for displaying lyrics, wherein the method is applied to a terminal and comprises:

when a lyric display instruction is received, acquiring a first lyric file of a target song, the lyric display instruction being configured to display lyrics of the target song, wherein the first lyric file is generated by: determining a Chinese character among a plurality of characters in the lyrics as a character to be annotated; identifying pronunciations of the plurality of characters according to audio clips corresponding to the plurality of characters in the audio file; determining a candidate pronunciation of the character to be annotated from the pronunciations of the plurality of characters according to the character to be annotated among the plurality of characters, or determining an intermediate pronunciation of the character to be annotated from the pronunciations of the plurality of characters according to the character to be annotated among the plurality of characters, and identifying at least two candidate pronunciations of the character to be annotated according to the intermediate pronunciation;

acquiring, from the first lyric file, the lyrics of the target song and a corresponding pronunciation of a character to be annotated among a plurality of characters of the lyrics in the target song;

displaying the plurality of characters of the lyrics; and

in displaying the character to be annotated, annotating, at a target position of the character to be annotated, the corresponding pronunciation of the character to be annotated in the target song, the target position being above the character to be annotated.

7. The method according to claim 6, wherein the first lyric file further comprises display times of the plurality of characters; and correspondingly, displaying the plurality of characters of the lyrics comprises:

highlighting a currently played target word in the plurality of characters according to a display time of the target word in the plurality of characters; and

highlighting a currently played character among characters other than the target word according to a display time of each character other than the target word among the plurality of characters, wherein

the target word comprises at least two adjacent characters to be annotated, and the number of the comprised characters to be annotated is not equal to the number of pronunciations of the target word; and the display time of the target word is a merged display time of display times of at least two adjacent characters to be annotated comprised in the target word.

8. The method according to claim 7, wherein in displaying the character to be annotated, annotating, at the target position of the character to be annotated, the corresponding pronunciation of the character to be annotated in the target song comprises:

in displaying the character to be annotated, highlighting the currently played character to be annotated and the corresponding pronunciation of the currently played character to be annotated in the target song.

9. An apparatus for generating lyrics, comprising:

an acquisition module configured to acquire lyrics of a target song and an audio file of the target song;

a determination module configured to determine a Chinese character among a plurality of characters in the lyrics as a character to be annotated; identify pronunciations of the plurality of characters according to audio clips corresponding to the plurality of characters in the audio file; determine a candidate pronunciation of the character to be annotated from the pronunciations of the plurality of characters according to the character to be annotated among the plurality of characters, or determine an intermediate pronunciation of the character to be annotated from the pronunciations of the plurality of characters according to the character to be annotated among the plurality of characters, and identify at least two candidate pronunciations of the character to be annotated according to the intermediate pronunciation;

the determination module being further configured to, if the character to be annotated has one candidate pronunciation, determine the candidate pronunciation as a corresponding pronunciation of the character to be annotated in the target song;

the determination module being further configured to, if the character to be annotated has at least two candidate pronunciations, determine a candidate pronunciation semantically matching the character as the corresponding pronunciation of the character to be annotated in the target song; and

a generation module configured to generate a first lyric file of the target song according to the corresponding pronunciations of the plurality of characters and the character to be annotated in the target song.

10. The apparatus according to claim 9, wherein the determination module comprises:

a lookup unit configured to, for each candidate pronunciation, look up an intermediate character corresponding to each candidate pronunciation from a first dictionary engine, and look up a semantic meaning of the intermediate character from a second dictionary engine, the first dictionary engine comprising a plurality of candidate pronunciations and intermediate characters corresponding to the plurality of candidate pronunciations, and the second dictionary engine comprising a plurality of intermediate

characters and a plurality of semantic meanings corresponding to the plurality of intermediate characters; and

a selection unit configured to select, from the at least two candidate pronunciations, the candidate pronunciation of which the semantic meaning of the intermediate character matches the semantic meaning of the character to be annotated according to the semantic meaning of the character to be annotated, and determine the selected candidate pronunciation as the corresponding pronunciation of the character to be annotated in the target song.

11. An apparatus for displaying lyrics, which is applied to a terminal and comprises:

an acquisition module configured to, when a lyric display instruction is received, acquire a first lyric file of a target song, the lyric display instruction being configured to display lyrics of the target song, wherein the first lyric file is generated by: determining a Chinese character among a plurality of characters in the lyrics as a character to be annotated; identifying pronunciations of the plurality of characters according to audio clips corresponding to the plurality of characters in the audio file; determining a candidate pronunciation of the character to be annotated from the pronunciations of the plurality of characters according to the character to be annotated among the plurality of characters, or determining an intermediate pronunciation of the character to be annotated from the pronunciations of the plurality of characters according to the character to be annotated among the plurality of characters, and identifying at least two candidate pronunciations of the character to be annotated according to the intermediate pronunciation;

the acquisition module being further configured to acquire, from the first lyric file, the lyrics of the target song and a corresponding pronunciation of a character to be annotated among a plurality of characters of the lyrics in the target song;

a display module configured to display the plurality of characters of the lyrics; and

an annotating module configured to, in displaying the character to be annotated, mark, at a target position of the character to be annotated, the corresponding pronunciation of the character to be annotated in the target song, the target position being above the character to be annotated.

12. An electronic device, comprising a processor and a memory, at least one instruction being stored in the memory, and loaded and executed by the processor to implement the operations executed by the method for generating lyrics according to any one of claims 1 to 5, or the method for displaying lyrics according to any one of claims 6 to 8.

13. A computer readable storage medium, at least one instruction being stored in the storage medium, and loaded and executed by a processor to implement the operations of the method for generating lyrics according to any one of claims 1 to 5, or the method for displaying lyrics according to any one of claims 6 to 8.