

METHOD, MEDIUM AND DEVICE FOR TYPESETTING CONTENTS OF E-BOOKS

TECHNICAL FIELD

The present invention relates to the technical field of e-books, particularly relates to a method, a medium and a device for typesetting contents of e-books.

BACKGROUND ART

With the rapid development of the technology era of mobile Internet, online reading materials are more and more favored by the masses. At present, most e-books are displayed in a pure text form, and a function of inserting information such as pictures, bubbles and the like into the content of a single chapter is not perfect, as a result, users can only read texts in e-books, and cannot see illustrations and comment interactions. As a result, the function of mobile e-readers is single, and authors of e-books cannot see feedbacks given by readers, thereby interrupting the interaction between the authors and the readers and between the readers.

SUMMARY

In view of the deficiencies of the prior art, the present invention aims to provide a method, a medium and a device for typesetting contents of e-books.

In order to achieve the above purpose, the present invention adopts the following technical solution:

a method for typesetting contents of e-books is specifically implemented as follows:

when a user reads an e-book on an electronic device, first, pulling a chapter content of the e-book and configuration information corresponding to the chapter content from a specified data server by the electronic device, and storing the chapter content and the configuration information in a local disk; wherein the configuration information comprises a specific content to be inserted and behind which paragraph of the chapter content the specific content will be inserted; and the specific content is a picture (pictures) to be inserted between paragraphs or comment information to be displayed at the end of some paragraph; and

acquiring the chapter content from the local disk of the electronic device by a processor of the electronic device and storing the chapter content in a model array A of a buffer pool, traversing whether there is any configuration information corresponding to the current chapter content in a folder corresponding to the local disk of the electronic device, if any, reading the configuration information into a model array B of the buffer pool to carry out pre-typesetting with the chapter content, and after the pre-typesetting is implemented, displaying a pre-typeset result on a screen of the electronic device;

wherein, acquiring the chapter content from the local disk of the electronic device by

a processor of the electronic device and storing the chapter content in a model array A of a buffer pool is specifically implemented as follows:

cutting the acquired chapter content in paragraphs so as to divide the chapter content into a plurality of paragraph contents, and storing the plurality of obtained paragraph contents in the model array A of the buffer pool in order, wherein the number of paragraphs obtained by cutting is the same as that of the paragraph contents stored in the model array A of the buffer pool; and

generating a unique identifier for each paragraph content, so that each paragraph content already has two values expressing its attributes at this point, one of which is a source text of the paragraph content and the other is the unique identifier generated for each paragraph, therefore, in the model array A, one attribute is used to store the source text of the paragraph content, and the other attribute is used to store the unique identifier of the paragraph content; and in the model array B, according to the configuration information corresponding to the chapter content, correlatively storing each specific content and the unique identifier of a corresponding paragraph content thereof;

the pre-typesetting is specifically implemented as follows:

traversing the model array B, finding a corresponding paragraph content in the model array A according to the unique identifier of a corresponding paragraph of each specific content, identifying the paragraph content as a configuration object, and correlatively storing corresponding configuration information generate a new model array, wherein the new model array stores each paragraph content in the chapter content and the configuration information thereof; and

traversing the new model array, and pre-typesetting each paragraph content and the specific content thereof to be configured in order; when a text of the paragraph content is drawn, drawing the content of the text directly in a set format; in the process of drawing, when the traversed paragraph content is the configuration object, extracting the specific content to be configured to insert behind the paragraph content, and then continuing to draw subsequent paragraph contents and the specific contents to be configured; and finally, displaying the pre-typeset result on the screen of the electronic device;

if the specific content to be configured is a picture, the proportion of the size of the picture to be rendered is acquired according to the corresponding configuration information, and a height of a picture display area is calculated according to the screen with a certain width of the electronic device; after the last byte of the paragraph content corresponding to the picture is drawn completely, and a next configuration area, that meets renderable conditions, of a current drawing line is calculated, wherein the configuration area is an area in which the picture will be displayed, and the picture is put into the configuration area; and then, the rest of the paragraph contents and the specific contents to be configured are continued to be drawn; and

if the specific content of the configuration information is comment information, a comment bubble containing the comment information is displayed at the end of the corresponding paragraph content: the height of the comment bubble is preset according to the font size of the comment information.

Further, the configuration information also includes a final display effect of the specific content on the screen of the electronic device and a response event after the user operates the area of the specific content.

Further, the way to generate a unique identifier for each paragraph content is a MD5 encryption method, that is, each paragraph content is subjected to MD5 hashing, so that a unique hash value of each paragraph content is obtained as the unique identifier thereof.

Further, when the content to be configured is a picture, during pre-typesetting, a parent view that may interact with a user response is placed in the configuration area in which the picture is displayed to undertake the picture, and after the user clicks on the parent view, a preset response event is executed.

Further, when the content to be configured is comment information, during pre-typesetting, after the paragraph content corresponding to the comment bubble to be configured is drawn completely, a view control that can interact with the user response is drawn directly in the area behind the end of the paragraph or the next line of the paragraph content, then a corresponding comment bubble is drawn in the view control, and after the user clicks on the area of the comment bubble, the behavior of the user is responded to according to the preset response event.

The present invention also provides a computer readable storage medium in which a computer program is stored, and when the computer program is executed by a processor according to the above-mentioned method.

The present invention also provides an electronic device including a memory configured to store a computer program, and a processor configured to implement the above-mentioned method.

The present invention has the beneficial effects that: according to the method disclosed by the present invention, in the case of detecting an operation of triggering the typesetting of a chapter, text data of the chapter and configuration information of pictures and comment bubbles at the ends of paragraphs that should be displayed in the chapter may be acquired to carry out pre-typesetting processing; the configuration information is acquired to analyze the data such as texts, pictures, bubbles and the like; the position of each portion that should be displayed on the electronic device is calculated so as to generate an initial typesetting result; and a target typesetting result is generated based on the initial typesetting result, thereby achieving an effect of inserting pictures or bubble information obtained in a configuration file of the chapter into a specific position during the process of typesetting pure text contents, enriching the contents of e-books and improving the user experience in interaction; and an effect of making the text alive and allowing displayed contents in the electronic

device to be not monotonous is achieved.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a schematic flowchart when a content to be configured is a picture according to an embodiment of the present invention;

FIG. 2 is a schematic flowchart when the content to be configured is comment information according to the embodiment of the present invention;

FIG. 3 is a sample graph of configuration of a picture according to the embodiment of the present invention; and

FIG. 4 is a sample graph of configuration of a comment bubble according to the embodiment of the present invention.

DETAILED DESCRIPTION OF THE EMBODIMENT

The following further describes the present invention with reference to the accompanying drawings. It should be stated that detailed implementations and specific operation processes are given in the embodiment based on the technical solution, but the scope of protection of the present invention is not limited to the embodiment.

The embodiment provides a method of typesetting contents of e-books, FIG. 1 shows a schematic flowchart when a content to be configured is a picture, and FIG.2 shows a schematic flowchart when the content to be configured is comment information. The method is specifically implemented as follows:

when a user reads an e-book on an electronic device, first, a chapter content of the e-book and configuration information corresponding to the chapter content is pulled from a specified data server by the electronic device, and stored in a local disk; wherein the configuration information includes a specific content to be inserted and behind which paragraph of the chapter content the specific content will be inserted. The specific content is a picture (pictures) to be inserted between paragraphs or comment information to be displayed at the end of some paragraph. In this embodiment, the configuration information may also include a final display effect of the specific content on the screen of the electronic device and a response event after the user operates the area of the specific content, for example, whether to perform corresponding interface turn and switching or to show users a prompt message, etc.

It should be noted that the configuration information corresponding to each chapter content of the e-book in the data server may be uploaded by authors or readers, and the data server updates the corresponding configuration information in real time. The data server may also perform necessary verification.

The chapter content is acquired from the local disk of the electronic device by a processor of the electronic device and stored in a model array A of a buffer pool, whether there is any configuration information corresponding to the current chapter content is traversed in a folder corresponding to the local disk of the electronic device,

if any, the configuration information is read into a model array B of the buffer pool to carry out pre-typesetting with the chapter content, and after the pre-typesetting is implemented, a pre-typeset result is displayed on a screen of the electronic device;

wherein, the chapter content is acquired from the local disk of the electronic device by a processor of the electronic device and stored in a model array A of a buffer pool is specifically implemented as follows:

the acquired chapter content is cut in paragraphs so as to divide the chapter content into a plurality of paragraph contents, and the plurality of obtained paragraph contents are stored in the model array A of the buffer pool in order, wherein the number of paragraphs obtained by cutting is the same as that of the paragraph contents stored in the model array A of the buffer pool. The purpose of doing so is not to affect the meaning of the original content, and not to allow the occurrence of a satiation where the content is missing when rendered on the screen of the electronic device.

A unique identifier is generated for each paragraph content. More specifically, in this embodiment, the way to generate a unique identifier for each paragraph content is a MD5 encryption method, that is, each paragraph content is subjected to MD5 hashing, so that a unique hash value of each paragraph content is obtained as the unique identifier thereof.

After a unique identifier is generated for each paragraph content, each paragraph content already has two values expressing its attributes at this point, one of which is a source text of the paragraph content and the other is the unique identifier generated for each paragraph, therefore, in the model array A, one attribute is used to store the source text of the paragraph content, and the other attribute is used to store the unique identifier of the paragraph content; and in the model array B, according to the configuration information corresponding to the chapter content, each specific content and the unique identifier of a corresponding paragraph content thereof are correlatively stored;

the pre-typesetting is specifically implemented as follows:

traversing the model array B, finding a corresponding paragraph content in the model array A according to the unique identifier of a corresponding paragraph of each specific content, identifying the paragraph content as a configuration object, and correlatively storing corresponding configuration information generate a new model array, where the new model array stores each paragraph content in the chapter content and the configuration information thereof; and

traversing the new model array, and pre-typesetting each paragraph content and the specific content thereof to be configured in order; when a text of the paragraph content is drawn, drawing the content of the text directly in a set format; in the process of drawing, when the traversed paragraph content is the configuration object, extracting the specific content to be configured to insert behind the paragraph content, and then continuing to draw subsequent paragraph contents and the specific contents to be configured; and finally, displaying the pre-typeset result on the screen of the

electronic device.

Specifically, if the specific content to be configured is a picture, the proportion of the size of the picture to be rendered is acquired according to the corresponding configuration information, and a height of a picture display area is calculated according to the screen with a certain width of the electronic device; after the last byte of the paragraph content corresponding to the picture is drawn completely, a next configuration area, that meets renderable conditions, of a current drawing line is calculated, and the picture is put into the configuration area, wherein the configuration area is an area in which the picture will be displayed; and the rest of the paragraph contents and the specific contents to be configured are continued to be drawn. As shown in FIG. 3, a parent view that may interact with a user response may be placed in the configuration area in which the picture is displayed to undertake the picture. The purpose of doing so is to be capable of adding some responses that interact with users on the configured picture, so that after the responses are clicked on, the preset response events are executed, which enriches the usability of e-book readers, thereby further improving the user experience in reading.

if the specific content of the configuration information is comment information, a comment bubble containing the comment information is displayed at the end of the corresponding paragraph content, as shown in FIG. 4; the height of the comment bubble is preset according to the font size of the comment information; and during pre-typesetting, after the paragraph content corresponding to the comment bubble to be configured is drawn completely, a view control that can interact with the user response is drawn directly in an area behind the end of the paragraph (in the case that the comment bubble can be accommodated in the current line) or the next line of the paragraph content, then a corresponding comment bubble is drawn in the view control, and after the user clicks on the area of the comment bubble, the behavior of the user is responded to according to the preset response event.

In the embodiment, a manufacturer's e-book reading application can be integrated in the electronic device and runs. The electronic device, after obtaining electronic file contents of an e-book, may carry out decompression processing on an e-book file to obtain a code file of a standard typesetting style in the e-book file, and load the code file into the standard typesetting style on the e-book reading application of the electronic device to display. The electronic device may recognize the standard typesetting style displayed on the e-book reading application through image recognition technologies and the like, and then obtain the standard typesetting style of the e-book on the e-book reading application of the electronic device.

In the embodiment, an operation of triggering the typesetting of a chapter is an operation of carrying out triggering processing on some chapter of an e-book. The e-book in the embodiment may be a digital version of a formal book, or an informal book that should contain digital reading contents with separate chapters. Target chapter data is text data of a target chapter corresponding to the operation of triggering the typesetting of a chapter and configuration data that should be inserted.

The data format of the target chapter data is consistent with the editing format of the e-book.

For those skilled in the art, various corresponding changes and deformations may be given based on the above-mentioned technical solution and conception, and all these changes and deformations should be included in the scope of protection of the Claims of the present invention.

CLAIMS

1. A method for typesetting contents of e-books, the method being specifically implemented as follows:

when a user reads an e-book on an electronic device, first, pulling a chapter content of the e-book and configuration information corresponding to the chapter content from a specified data server by the electronic device, and storing the chapter content and the configuration information in a local disk; where the configuration information comprises a specific content to be inserted and behind which paragraph of the chapter content the specific content will be inserted; and the specific content is a picture (pictures) to be inserted between paragraphs or comment information to be displayed at the end of some paragraph; and

acquiring the chapter content from the local disk of the electronic device by a processor of the electronic device and storing the chapter content in a model array A of a buffer pool, traversing whether there is any configuration information corresponding to the current chapter content in a folder corresponding to the local disk of the electronic device, if any, reading the configuration information into a model array B of the buffer pool to carry out pre-typesetting with the chapter content, and after the pre-typesetting is implemented, displaying a pre-typeset result on a screen of the electronic device;

where, acquiring the chapter content from the local disk of the electronic device by a processor of the electronic device and storing the chapter content in a model array A of a buffer pool is specifically implemented as follows:

cutting the acquired chapter content in paragraphs so as to divide the chapter content into a plurality of paragraph contents, and storing the plurality of obtained paragraph contents in the model array A of the buffer pool in order, where the number of paragraphs obtained by cutting is the same as that of the paragraph contents stored in the model array A of the buffer pool; and

generating a unique identifier for each paragraph content, so that each paragraph content already has two values expressing its attributes at this point, one of which is a source text of the paragraph content and the other is the unique identifier generated for each paragraph, therefore, in the model array A, one attribute is used to store the source text of the paragraph content, and the other attribute is used to store the unique identifier of the paragraph content; and in the model array B, according to the configuration information corresponding to the chapter content, correlatively storing each specific content and the unique identifier of a corresponding paragraph content thereof;

the pre-typesetting is specifically implemented as follows:

traversing the model array B, finding a corresponding paragraph content in the model array A according to the unique identifier of a corresponding paragraph of each specific content, identifying the paragraph content as a configuration object, and correlatively storing corresponding configuration information to generate a new

model array, where the new model array stores each paragraph content in the chapter content and the configuration information thereof; and

traversing the new model array, and pre-typesetting each paragraph content and the specific content thereof to be configured in order; when a text of the paragraph content is drawn, drawing the content of the text directly in a set format; in the process of drawing, when the traversed paragraph content is the configuration object, extracting the specific content to be configured to insert behind the paragraph content, and then continuing to draw subsequent paragraph contents and the specific contents to be configured; and finally, displaying the pre-typeset result on the screen of the electronic device;

if the specific content to be configured is a picture, the proportion of the size of the picture to be rendered is acquired according to the corresponding configuration information, and a height of a picture display area is calculated according to the screen with a certain width of the electronic device; after the last byte of the paragraph content corresponding to the picture is drawn completely, and a next configuration area, that meets renderable conditions, of a current drawing line is calculated, where the configuration area is an area in which the picture will be displayed, and the picture is put into the configuration area; and then, the rest of the paragraph contents and the specific contents to be configured are continued to be drawn; and

if the specific content of the configuration information is comment information, a comment bubble containing the comment information is displayed at the end of the corresponding paragraph content: the height of the comment bubble is preset according to the font size of the comment information.

2. The method according to Claim 1, wherein the configuration information also comprises a final display effect of the specific content on the screen of the electronic device and a response event after the user operates the area of the specific content.

3. The method according to Claim 1, wherein the way to generate a unique identifier for each paragraph content is a MD5 encryption method, that is, each paragraph content is subjected to MD5 hashing, so that a unique hash value of each paragraph content is obtained as the unique identifier thereof.

4. The method according to Claim 1, wherein when the content to be configured is a picture, during pre-typesetting, a parent view that may interact with a user response is placed in the configuration area in which the picture is displayed to undertake the picture, and after the user clicks on the parent view, a preset response event is executed.

5. The method according to Claim 1, wherein when the content to be configured is comment information, during pre-typesetting, after the paragraph content corresponding to the comment bubble to be configured is drawn completely, a view control that can interact with the user response is drawn directly in the area behind the end of the paragraph or the next line of the paragraph content, then a corresponding

comment bubble is drawn in the view control, and after the user clicks on the area of the comment bubble, the behavior of the user is responded to according to the preset response event.

6. A computer readable storage medium, wherein a computer program is stored in the computer readable storage medium, and when the computer program is executed by a processor, any one of the methods according to claims 1-5 is implemented.

7. An electronic device, comprising a memory configured to store a computer program, and a processor configured to implement any one of the methods according to Claims 1-5 when the computer program is executed.