Learning Story Marketing through Practical Experience of Story Creation System

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Abstract. This paper introduces an application for learning story marketing using a story creation system, Anime de Blog. Anime de Blog is an animation-based consumer-generated media (CGM) application. Users can create animated stories of affiliate advertising by simply inputting basic words using Anime de Blog. Through practical work experience of affiliate advertising on the Web by undergraduate students using Anime de Blog, students learned about an internet application, story marketing, and the concepts of affiliates and affiliate advertisements; they could also critically evaluate the application.

Keywords: Story Marketing, Learning, Story Creation Practice.

1 Introduction

Storytelling is the conveying of stories from person to person. Recently, storytelling has drawn much attention in a variety of areas. In particular, applications for marketing and management using storytelling have attracted much attention. In the area of medical care, there is a method of *narrative therapy* [1] in which patients receive psychological treatment by telling their own life story. In the area of developmental psychology, there have been studies on child development by examining the process by which children generate stories[2]. In the area of social psychology, there have been studies of people's *life stories* [3], which are a way of understanding human identity, life, and society by recording and analyzing the stories.

Narratology, which is related to storytelling study, is an interdisciplinary field. It denotes both the theory and the study of narrative and narrative structure and the ways that these affect our perception. It is related to pedagogy, developmental psychology, cognitive psychology, clinical psychology, sociology, and linguistic philosophy[4]. Storytelling also covers a broad area because it is closely related to basic human activities, such as talking, understanding, and communicating with each other. Naturally, interactive digital storytelling is expected to apply to a broad area.

This paper introduces an application for learning story marketing using a story creation system, Anime de Blog. Anime de Blog [5] is an animation-based consumer-generated media (CGM) application in which blogs with animation content can be created. The system can collect 3D animation and image data corresponding to words. The animations or image data are searched for and selected from shared

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consumer-generated databases using simple words. If users cannot find appropriate data, they can easily create new data using the provided animation editor, and they can upload the new data by entering related words. The system works with an animation database called Animebase, which stores 3D animation and image data corresponding to words. When an animation is uploaded by a user, the system applies the motion data of this model to other models and generates new animations, which are then stored in Animebase. Users can create animated stories of affiliate advertising by simply inputting basic words using Anime de Blog. Users learn story marketing through practical work.

In this paper, we introduce an attempt to provide practical work experience of affiliate advertising on the Web for undergraduate students using Anime de Blog.

2 Storytelling Application and Interactive Digital Storytelling

Recently, the utility of stories in the area of marketing or management has drawn much attention. In the area of marketing, stories are often used to develop the concept of a product and its catchphrase, brand identity [6][7], product development, and communication with customers in events and shops. *Narrative planning* [8] is when marketers express a brand concept using stories. Stories are often used for marketing because they have an emotional appeal, generate a deep understanding, shape the subconscious mind, and motivate actions.

Similarly, stories have also drawn attention in the area of management. For example, storytelling is used as a management strategy [9] that enables the effective transfer of knowledge in organizations. This is called a *narrative approach* [10]. Originally, it was pointed out that the criterion of whether a management strategy is well made or not depends on whether the management strategy is a story or not [11]. That is, management strategy should be a whole story. Therefore, there should be connections throughout the whole story, the storyline, and associated causes and effects. The aim of the story approach is to depart from the existing planned strategy and then to use the story as the methodology to attain the set goal by making individuals and the organization engage in the strategy in an innovative manner.

The methods for business skill development using stories are more common in business books. For example, there are methods using stories for persuasion [12], sales, negotiation, planning, presentation, and communication in a business setting [13]. Specifically, in the business setting of sales, and because persuasion needs to present emotional appeal, stories can be utilized for persuasion.

Interactive digital storytelling, which involves the digital presentation of storytelling using tools such as computers, has possibilities in the above areas. Interactive digital storytelling often involves the visual expression of stories because of recent developments in computer technology. Similarly, there are the media of comics and animation for presenting stories in a way that is understandable for everybody.

Scott McCloud used the term *sequential visual art* to describe animation and comics [14]. He suggested that space does for comics what time does for film (and animation). He also said that, “Comics are a language with a vocabulary involving a full

range of visual symbols" [15]. These visual media are easy to understand because of the expression of both visual symbols and languages. Animation is expressive and easy to understand intuitively because it involves direct movement. For easily understandable content creation, our system has been developed.

Illustration enhances incentives to learn [16] and promotes content understanding [17]. Screen images draw attention to content [18] [19] [20], facilitate learning [18], and enhance incentives to learn [21]. In interactive digital storytelling for learning, these effects are desirable. In addition, interactive digital storytelling for learning is desired to create stories easily without interrupting learning.

Drawing from scratch is the traditional way of generating animation. For example, animation can be created in this fashion using professional 3D computer graphics (3DCG) tools. Users require much effort, however, to master professional 3DCG tools, and because most of them are expensive, they are not suitable for novice users. This limits the users' creativity during trial-and-error learning for creating content.

In contrast, Anime de Blog enables novice users to create content using Animebase, in which 3D animation data, such as models and motions, are correlated with natural language data, such as subjects, predicates, and objects. Our system generates animation content by combining animation data and background graphics.

The related research area of text visualization includes many studies on visualizing certain objects from voice and text inputs [22][23][24]. Unlike these systems, our system focuses on story-like descriptions, such as who is doing what.

Some technologies combine content instead of creating it from scratch. Our previous work, Interactive e-Hon [25], is a media translation application that translates text into animation by linking animation data to words. Its main difficulty is that it requires the preparation of an enormous amount of animation data to match all the words that people are likely to use.

Scripting languages [26][27][28][29] are another technology for creating new content through content combination. However, the problem of how to prepare enough animation data remains.

Anime de Blog is a CGM application that aims to collect animation data matching all the words that people usually use. Our intention is that even first-time users can use the system without any difficulty. For this purpose, we enable users to add to the available data . The initial animation data are linked to high-frequency words from fairy tales and elementary school textbooks. There are not many systems that enable users to create stories showing animation content and have interfaces with simple selection operations and language that can be used to describe a fair amount of animation data.

A number of popular consumer-generated databases currently exist. For example, Wikipedia is an encyclopedia that enables users to edit Web pages. YouTube is a free video access site that lets users view and upload videos at will. Yakushite-net is a framework that generates and edits dictionaries for translation engines (Japanese and English) by letting users manage their own areas of expertise.

Similarly, Anime de Blog is the world's first animation CGM application based on natural language that enables novice users to easily generate content by combining natural language with animations.

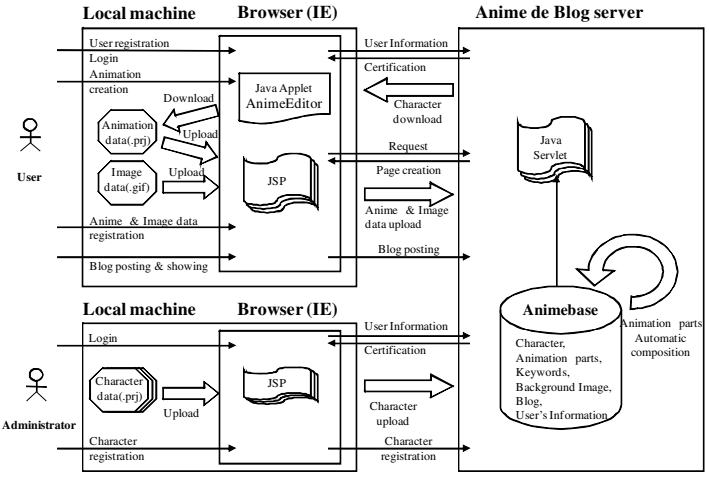

Fig. 1. Framework of Anime de Blog

3 Anime de Blog

Figure 1 shows the operation of Anime de Blog. The user creates a blog and registers animation and image data on the Anime de Blog server. The animation database Animebase includes character data, animation-part data for each character, keywords, background images, and user information.

The animation parts are composited at the user's request. The character data are managed by an administrator because the character output format should conform to a particular hierarchical structure, number of joint parts, and balance of part lengths for reusing animation data. This system was developed for the Japanese language.

When a user inputs a subject and predicate as a scenario and selects search, the system searches Animebase for animations matching the subject and predicate according to the frequency of use. Similarly, when the user inputs an object and selects search, the system searches Animebase for animations based on this object according to the frequency of use. When the user inputs a background and selects search, the system searches Animebase for images by referring to this background according to the frequency of use. The system then displays lists of animations or images as the search result. If users cannot find appropriate animations in Animebase, they can edit and register animation data in Animebase using an animation editing system called the AnimeEditor Java applet. They can also upload image data to create backgrounds. Regardless of their level of experience, users can easily use AnimeEditor on a Web page.

As they upload both new animation data created using this system and scenarios written in natural language, batch processing automatically occurs at predetermined times. The system creates more animations from the newly uploaded animation motion data and natural language expressions (subjects, predicates, or objects) by applying them to the motions of other characters, and it stores all of these new data in Animebase.

The initial test installation of Animebase has 31 simple cartoon characters: seven kinds of animals (bear, dog, cat, panda, pig, rabbit, and mouse), six different male adults, six female adults, three male children, three female children, three elderly males, and three elderly females. These characters have relatively few joints, but over the course of the test, we have uploaded more realistic characters with many more joints. Thus far, the system has bipedal human or animal characters. Each type has the same hierarchical structure, the same number of joint parts, and the same balance of body part lengths; therefore, the motion data can be shared among the same character types. Motion data can be shared even when new character types are added. Animebase has about 200 registered verbs for its cartoon-type characters. As mentioned before, these are high-frequency verbs extracted from fairy tales and elementary school textbooks. The initial animation data for Animebase were created by animators who visualized these verbs. The initial data yield a total of 9500 possibilities (31 cartoon-type characters × 200 predicates + other animations).

The following sections describe the processes of content generation from a scenario, animation generation using AnimeEditor, and animation data reuse in Animebase.

3.1 Blog Content Generation

Figure 2 shows a snapshot of creating a new blog entry in Anime de Blog. The user inputs a scenario in the form of a subject, a predicate, an object (item or other person), and/or a background and selects animations or images for them. The essential inputs are the subject and predicate. The Japanese case particles are selected using a toggle. In Animebase, a subject corresponds to a character, and a predicate corresponds to a motion. After a user inputs these words and selects search, the system searches Animebase for matching animations according to the frequency of use. The user can manually select the most appropriate animation from the returned list of animations. When the user inputs an object together with a subject and predicate and selects search, the system also searches Animebase for animations matching the object.

The case for a person object corresponds to a character who acts in the passive voice of the predicate. For example, when we write “father” as the subject, “boy” as the object, and “get angry” as the predicate and then select search, the system shows animations of a scolding father from Animebase according to the frequency of use. The user can then select an appropriate animation from the list. Next, the system shows Animebase animations of a boy being scolded, and the user can again select an appropriate animation.

To select a background, after the user inputs text, he or she can select a case particle and select search. The system then searches Animebase for images matching these entries according to the frequency of use, and the user can select an appropriate image from the images returned as the search results. Therefore, the user can create a scene by repeating the above operations.

An entire story in a blog contains one to ten scenes. The animations and images of each story are presented as transparent GIF files. A scene is created by overlapping animations and images. The duration of one scene can range from a few seconds to ten seconds. Presenting all the scenes enables the entire story to be reviewed. By ordering scenarios grammatically and using case particles, meaningful sentences can be formulated. In this case, the Japanese grammatical order is (1) the subject, (2) the

Fig. 2. Snapshot of “Create a new blog”

background, (3) an item object, (4) a person object, and (5) the predicate (each with a case particle).

A free text area, which is like a regular blog, can be copied from the scenario at the user’s request. Furthermore, users can search Animebase by title, scenario, story, animation, background image, and author name.

3.2 Animation Generation Using AnimeEditor

When users are unable to find appropriate images or animations in Animebase, they can upload images or animations that they consider suitable. For this purpose, Anime de Blog has an animation editor system called AnimeEditor (a Java applet developed using Java3D).

Even novice users can intuitively create animations using the spatial keyframing method [30] in AnimeEditor. This method uses animation data to record the user’s mouse operations in real time. The user sets the key poses for a character by placing yellow balls as a spatial keyframe. By changing the position of a pink ball in the special area, the user can easily create an animation.

The user can then save the animation as a local project file, which can be uploaded later to Anime de Blog. The project file includes settings (camera parameters and software version), background properties (background settings), base (initial pose of the model), cursor (cursor trajectory), key (poses of the model, corresponding to keyframes), model (virtual reality modeling language (VRML) data of the character model), properties (character model’s information), texture (texture file), and ground properties (background settings).

(1) Character role configuration

AnimeEditor imports several characters and objects. These characters have to have specified roles so as to increase the variety of patterns of animations for reuse purposes. The roles include "main," "other," and "etc." "Main" means the central character of the predicate corresponding to the motion created by the user. "Other" means another character, corresponding to the character performing the passive motion of the predicate. "Etc." includes characters or items, and it indicates an accessory that is not changed for reuse in the animation register of Animebase. In other words, the role of "main" corresponds to the subject, "other" corresponds to the object (other person), and "etc." corresponds to the object (item).

For example, if the predicate is "play baseball" or "throw the ball", we set the throwing character as "main," the receiving character as "other," and the ball as "etc." The project is saved as "baseball.prj."

(2) Motion retargeting to other characters

The system can import a particular motion from the project file of an animation of a certain character, apply the motion to another character, and show the other character executing the same motion.

Copying from the basic model of the motion data (VRML) to another model can retarget its motion. Motion retargeting is achieved by setting the cursor value (cursor trajectory), key (poses of the model corresponding to keyframes), model (VRML data of the character model), and properties (the character model's information) to those of the other character.

3.3 Animation Data Reuse in Animebase

When the user clicks the "Upload the animation" button or "Upload the image" button, the animation project file made by AnimeEditor or a GIF image file, respectively, is uploaded to the Anime de Blog site. For example, the baseball project is uploaded for the predicate "play baseball," the main character "pig," the other character "rabbit," and "etc." for the "ball." Several keywords can be inputted to each input area by separating the keywords with a comma.

Once the animation is uploaded, motion retargeting is run as a background process. In this process, the system changes the "main" character to all the other characters of the same type in turn and does the same for the "other" character. Then, it generates combinations of these animation files.

First, the system creates each project file by setting the value of the cursor to that of the original project file, the key to the calculated rotation value using the value from the original project file, and the model and properties to those of the other character. Then, it creates a GIF animation for display on the blog page using Java3D rendering and the original VRML motion file.

Once this is done, if the user searches for "bear" as a subject, "dog" as an object (other person), and "play baseball" as a predicate, the system returns animations of a bear throwing a ball and a dog catching the ball, which are created by the background process.

3.4 Blog Content Representations

Figure 3 shows a sample from Anime de Blog. There are four scenes: the first scene represents "I," "Studied," with my "friend"; the second represents "I," "cried" in my

"room"; the third represents my "friend" "introduced" the "home study tool" to me; and the fourth represents "I," "became happy" at "school." The written blog text is to the right: "I studied with my friend. But, my grades dropped. I cried in my room. Then, my friend introduced this home study tool to me. I got *A*. I became happy."

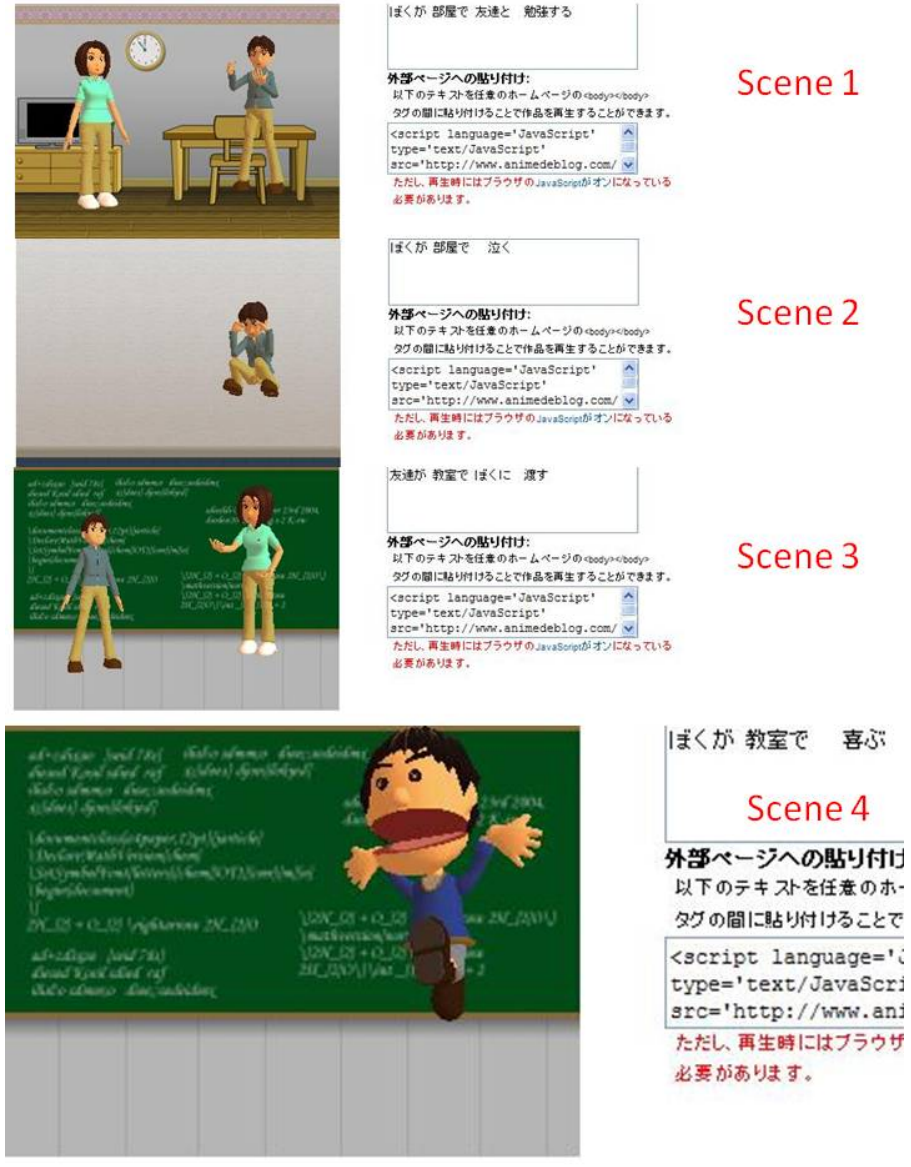

Fig. 3. Sample work from Anime de Blog

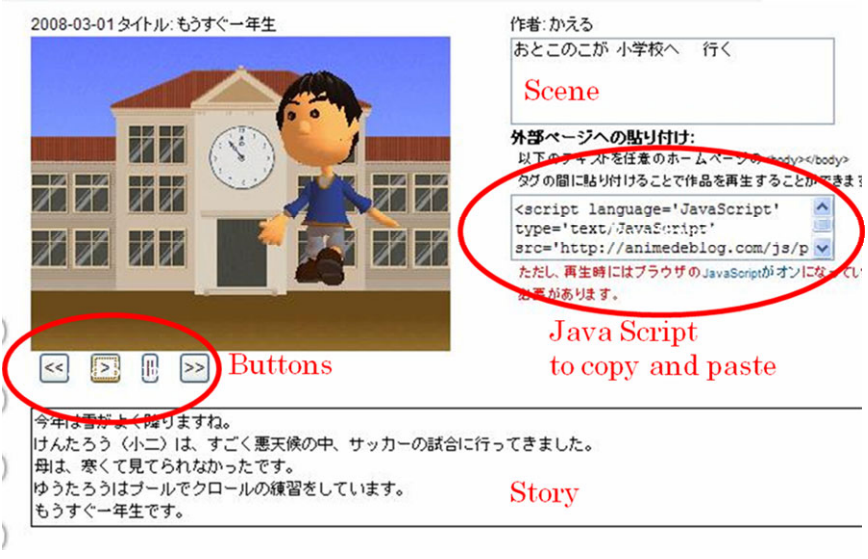

Fig. 4. Replaying a work

We can view the entire animation, as shown in Figure 4, using the buttons ">" (play), ">>" (skip forward), "‖" (stop), and "<<" (skip backward). Web pages can show the original animation of Anime de Blog using embedded Java script on the page. This created animation can be used as affiliate advertising using the web pages.

4 Experiment

We had practical work experience of story marketing for undergraduate students using Anime de Blog. The examinees were 60 students who major in sociology or humanities and whose ages ranged from 18 to 26. They used one desktop personal computer each in a computer suite.

We gave students assignments to create stories for advertising and asked them to report the content of their output, its concept, and evaluate their output and the system. The respondents of the questionnaire numbered 36. The examinees gave scores in response to questions on a five-point scale. We regarded scores from one to three as a positive answer.

As a result, 61.6% felt that using this system was easy, and 58.3% felt that making animation stories using words was easy. However, they did not all feel that making animated stories using words was easy; 41.7% felt that it was difficult. The users pointed out that some animations corresponding to their words were not always provided by the system. It was considered that the users inputted words through a trial and error process because the operations are provided only by inputting or selecting words and they were not taught how to make animations using AnimeEditor.

63.9% felt that introducing continuity in the story was easy. Displaying synonyms was helpful for 56.4% of the users.

91.7% of the respondents answered that children can use this system without problems. 77.8% of the respondents also answered that elderly people can use this system without problems. 80.6% had a good impression of this system's use for affiliate advertising on the Web. However, only 22.2% would like to use this system for affiliate advertising of their own, because they don't create affiliate advertisement in their daily life.

We received comments such as, "It is a great idea," "I think it's interesting," "It is very good to create stories easily for everybody. I'd love to create more in the class," and "I had never imagined that creating animation by myself was so easy. I was surprised. I had fun."

In terms of comments for improvement, we received feedback such as, "The sense of character should be changed to one that is attractive for web users," "How about using characters popular with otaku (geek) and making otaku a target for this system?" and "If the system used facial expressions it would be better." Other comments included, "The amount of data used is small," "The system requires time for searching," "I think the system needs better quality of design," and "Smoother action and higher image quality are needed."

Through the experience and lessons, students learned about an internet application, story marketing, and the concepts of affiliates and affiliate advertisements.

5 Discussion

Trial operation of Anime de Blog, the world's first animation CGM application, has begun. It gathers animation and image data corresponding to natural language information and stores them in a shared database called Animebase. During our one-month trial operation of Anime de Blog, a total of 582 users registered with the system. There were an average of 963 accesses per day (maximum of 7424), and the number of stored animations increased from 9500 to 9647. On an average, there were 133 visits per day (maximum of 943). These figures show that the users were very interested in animation content creation.

We had practical work experience of affiliate advertising on the Web for undergraduate students using Anime de Blog. Through this practice students learned about an internet application, story marketing, and the concepts of affiliates and affiliate advertisements. They also critically evaluated the application. We have shown that users can create animation content by combining animation materials (animations and images), and that the content can be searched using keywords. We can display the original animation of Anime de Blog on our own web pages using embedded Java script. This created animation can be used as affiliate advertising using the user's own web pages. It would be the story marketing via animation content.

Most of subjects had a good impression of this system's use for affiliate advertising on the Web. A number of outputs are intended to be for affiliate use and the stories are for advertisements. Watching outputs of other students was also informative for them. According to their comments, the system has a real chance to be effective for affiliate advertising. We believe that the system has many possibilities for improvement. These include the amount of animation data and its quality, design, and the interface. In this practical experience, users were not told to make animations

using AnimeEditor. However, we are planning to another practical session using AnimeEditor with the expectation of data enhancement.

The mental images that people have when they create something vary from person to person. In our system, users can select animation content and revise it through the reuse function. Although they cannot always create content that precisely matches their own imaginations, they can come close using our approach and large animation databases.

Users can create stories as if they are creating a four-panel comic using Anime de Blog. This kind of short story is influenced by personal sense or creativity. The system provides the opportunity of being a pseudo-content creator with little difficulty. According to the outputs of this practical experience, the ability to compose stories varies between individuals. The system enables an increase in the ability to compose stories. In a similar way, learning the meaning of a story or its effective interpretation may be possible.

As future work, we will study users' learning in many areas of story application using Anime de Blog. We think that Animebase will enable novices to create content by offering an environment in which information can be shared freely. It will be useful for the following situations: education; e-learning based on digital content; understanding and learning assistance for children or the elderly; business; transmission of information that appeals to individuals, with related services; advertising and marketing using digital content; communication support; visual communication support for people of different regions, cultures, or background knowledge; research; and free use of digital content. We believe that new research and business opportunities will be created and new areas of information science will be pioneered by allowing academic and business institutions to access this database.

6 Conclusion

In this paper, we have introduced Anime de Blog, an animation CGM application for the Web as a learning application for story marketing. Using the system, users can easily create animation content by simple familiar user interfaces involving the input of words.

Through practical work experience of affiliate advertising on the Web for undergraduate students using Anime de Blog, students learned about an internet application, story marketing, and the concepts of affiliates and affiliate advertisements. They also critically evaluated the application.

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