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A method to retrieve drawings as references for animators

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Abstract

Japanese animation features a variety of unique expressions such as exaggeration and distortion, and animators spend a long time acquiring the skill to depict such expressions. Observing good examples is helpful for acquiring such skill, but finding appropriate examples for a given situation is difficult. In this paper, we discuss the way to provide a method that display past drawings as references for animators to draw. Animators input what is related in a given shot, and our method retrieves past drawings as appropriate examples of how to draw.

Keywords: Japanese anime, Data retrieval, drawing

1. Introduction

An enormous number of Japanese animation films are produced every year. However, there is currently no method for archiving and utilization method while films are being producing.

[1] discussed a keyframes database system and a tool for animators to practice picture composition by themselves. [2] reported that studio staff has requested her company to lend them drawings, concept sketches, character model sheets, and color palettes so as to review past style and to utilize for producing sequel works and mentoring new employees. [3] referred [2] and, stated archiving and utilization are important.

[4] proposed a database to store character model sheets, key frames, inbetween frames, time sheets, and also work processes in production, and [5] provided an input method for the database. The input interface is similar to the table of a standard time sheet in the anime industry, which means it is easy to use, and the method enables recording the time sheet editing process in addition to storing keyframes and inbetween frames.

Japanese animation features a variety of unique expressions such as exaggeration, distortion, and unfixed frame rates. Since these characteristics are difficult to describe in words, it takes a lot of time and experience for animators to master the techniques for creating them. Observing good examples is one way to help animators learn how to draw, so it would be useful for them to have a means of searching for good examples easily. In this paper, we provide a method

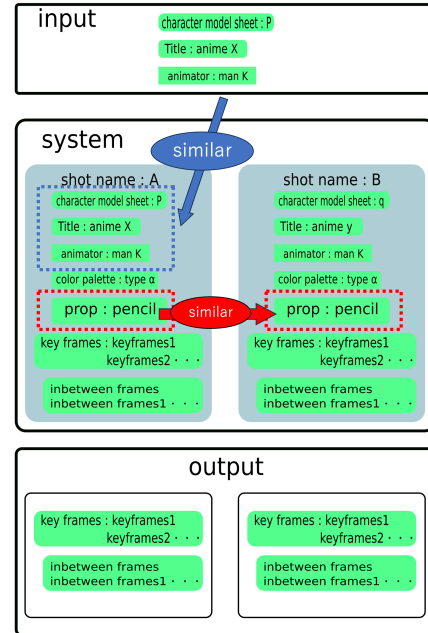


Figure 1: Flow of retrieval

that displays past drawings as references to animator when they draw, and explain how to retrieve appropriate examples from queries.

2. Retrieval

In our search scenario, an animator has no drawings before they start a search, so they cannot utilize drawings as queries even though the retrieval targets are drawings. We therefore need to use queries other than a drawing, eg., a character model sheet, TV program title, or names of related animators. If we use a database such as the one proposed by [4], a search engine would respond with drawings of shots that contain attributes relevant to the queries, as indicated by the blue arrows in Figure1.

However, since the animator aims to retrieve shots that show various ways of how to draw, the search results may not be sufficient. As a solution, if we aggregate the attributes of shots retrieved by the first search and then use them as new queries, the search engine would be able to show more drawings of the relevant shots.

3. Conclusion

We discussed a method of searching from a database for past animation production works to help animators find reference drawings. As the database continues to be used, we expect the motivation for storing data in it will increase. In future work, we plan to investigate the requests of animators for reference drawing searches, and utilize them for implementing a search system.

4. References

- [1] 松下光範, 山西良典, ” アイデアソンによるアニメーション中間生成物の活用可能性の検討”, 紀要 アートリサーチ, Vol.23, No.3, pp.137-143, 2023.
- [2] 山川直子, ” アニメーションアーカイブの現状”2017: デジタルアーカイブスタディ artscape https://artscape.jp/study/digital-achive/10142147_1958.html (Accessed 2023-12-07).
- [3] 松本 淳, “実務家に聞くアニメアーカイブデータベースの可能性と課題:新潟大学アニメ中間素材データベースへのフィードバックから”, デジタルアーカイブ学会誌 2023,vol. 7, No. S2
- [4] Rin Nagao, Suguru Saito. ” A Database Design for Japanese Anime Production Based on Data Archived in Film Productions” , Art and Science Forum 2022, ITE Technical Report,vol. 46, no. 10, pp. 173-176, Mar. 2022.(in Japanese)
- [5] Weiyi Xia, Masahiro Fuchiue, Suguru Saito, ” Study on Online Data Management in Japanese Animation Production and Production Support Using Vido Comparison”Media Computing Conference 2023. (in Japanese)