Automatic Storytelling in Comics: a Case Study on World of Warcraft

Chia-Jung Chan¹, Ruck Thawonmas², and Kuan-Ta Chen¹
¹Academia Sinica; ²Ritsumeikan University

INTRODUCTION

Nowadays, people share and preserve their gaming adventures on the Internet.

This paper presents:
- An automatic comic generation system
- An approach that summarizes players’ interactions in the virtual world for storytelling
- A user interface with interactive editing functions for users to create their own comics.

METHODOLOGY

Game Logs and Screenshots
- Frame Selection
  - Estimating n, number of images required for the desired comic
  - Evaluating the significance scores of all images
  - Selecting the estimated n images from the image pool
- Layout Computation
  - We design an algorithm (see Fig. 1) to categorize the selected images into groups.
    - The selected images are divided into page groups
    - On each page, the algorithm arranges the appropriate image group into several rows.
    - Once a page has been generated, the image set of the page, the positions and the sizes of the images on the page are fixed.

CASE STUDY: WORLD OF WARCRAFT

In the prototype, we chose World of Warcraft (WoW), an MMORPG, as the testing platform for our system. Fig. 3 shows a sample comic page.
- WoW is the most prevalent MMORPG worldwide.
- The WoW Players tend to share and preserve their gaming experiences with each other in both real life and virtual communities.
- WoW provides a sophisticated game log scheme.
  - We created a WoW Addon to record the game session without modifying the game’s core engine.

USER SURVEY

Some feedback from players:
- All players think the gadget is appealing and user-friendly.
- One user suggests: “I think the frame selection mechanism still has room for improvement. Although the automatic idea is cool, I wish I can contribute more in the comic creating process.”
- “It would be better if the interface has more setting and editing flexibility. I hope I can cut and resize some scenes.” said another.
- The design of our system and the interface is then refined based on the user feedback. (see Fig. 4)

FUTURE WORKS

Applying a better object detection technique
- To pinpoint the location and size of game characters in screenshots
- To crop the comic book frames and put word balloons on frames accurately
- To improve the layout computation algorithm to make the generated comics more similar to hand-drawn publications.
- We are refining the interface design and adding new features to meet users’ needs. We plan to release our system for public use in the near future.

Figure 1
- The image’s shape and size on a comic page are determined based on its importance.

Figure 2
- Rendering
  - Three-layer scheme (see Fig. 2)
    - The image
    - The mask of the image
    - The word balloons and sound effects

Figure 3
- Specify the page number and click the start button to render a comic.

Figure 4
- In the log and image section, users can edit the log file.
- Change the option setting and render customized comics.