Introduction

People now use photo browsing, photo and video slideshow, and illustrated text to share stories about their lives in pictures; however, these popular mediums are far from perfect. Some are not expressive enough for sophisticated storytelling, while others inevitably have a high usage threshold and involve a great deal of efforts.

The project proposes a framework for comic-based computer-aided storytelling systems to help users become comic storytellers. Such systems take users’ photos as the input and output comic strips that tell the story behind the photos. We see the system as a vehicle for media fusion, with the art of comic-making as the basis and inspiration. We also discuss the research challenges involved in improving such systems, and present our proof-of-concept implementation, Pomics (available online at http://www.pomics.net).

How do people share story with others?

• Photo browsing: Photos are listed chronologically, usually as thumbnails. Viewers can browse and view individual photos at their will.

• Photo slideshow: Photos are shown one by one with each taking around 3–5 seconds. Viewers are allowed to manually fast forward, rewind, or pause automatic transitions.

• Video slideshow: Photos are presented sequentially into a video clip, with a voice over or background music, and feature transitions and pan-and-zoom effects. Although VCR-like controls are available, such clips are usually watched thoroughly like music videos and films.

• Illustrated text: Each photo in a set is given a short textual description, and presented in the form of a blog article.

Comic: An Alternative Medium

<table>
<thead>
<tr>
<th>Photo browsing</th>
<th>Slideshow</th>
<th>Illustrated Text</th>
<th>Comic</th>
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<tbody>
<tr>
<td>Creation Cost</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
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<tr>
<td>Viewer Req.</td>
<td>Low</td>
<td>High</td>
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<tr>
<td>Viewer Control</td>
<td>High</td>
<td>Medium</td>
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<tr>
<td>Richness</td>
<td>Low</td>
<td>High</td>
<td>High</td>
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<tr>
<td>Portability</td>
<td>Low</td>
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Technical Challenge # 1

Image Understanding

• Semantic Analysis
  - Human recognition
  - Emotional recognition
  - Behavior recognition
  - Object recognition
  - Location identification
  - Natural language processing

• Aesthetic Analysis
  - Exposure
  - Composition
  - Timing Analysis
  - Contextual Analysis

Automatic Comic Creation

• Automatic Storytelling
  - Significant photo selection
  - Paginating and page layouting
  - Narrative design

Technical Challenge # 2

How to lower it?

Pomics = Picture to Comics

Goal of Pomics

How to make up those photos?

Computer-Aided Storytelling

There are four main modules included in the system: (1) picture analyzing module, (2) user preference module, (3) automatic storytelling module and, (4) user editing module.

Photo Scoring Interface

Automatically generated draft of a pictorial story

Contact Information

Multimedia Networking and Systems Lab
Institute of Information Science, Academia Sinica

Chen, Sheng-Wei (Kuan-Ta)
Tel:886-2-2788-3759 #1712
email:swc@iis.sinica.edu.tw

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