A Snippet Generation Method for Retrieving Slides in Presentation Content Sharing Sites

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Slide Retrieval Support

- Many presentation contents are stored on the Web
  Difficult to understand what special linkages implicitly in either slides
- Support for slide retrieval by generating snippets
  - Focus on the relations between slides
    Analyze the keyword conceptual structure and document structure
  - Generate snippets for slides by using the relations between slides
    Identify the relevant portions of slides

Keyword Conceptual Structure & Document Structure

- Semantic relationships between words by using conceptual dictionary (WordNet)
  - is-a relationship
    e.g.) apple is-a fruit
  - part-of relationship
    e.g.) leaf part-of vegetable
- Positional relationships between words by using indent in slides (OpenXML)
  - Slide title is 1st level
  - Depth of the items increases with the level of indentation

Procedure

1. Determination of relations between slides based on the keyword conceptual structure and document structure
   - Detailed relationships
     Explain more detailed information
   - Generalized relationships
     Explain more generalized information

   An example of detailed relation

   Vegetable | Search
   ---------------
   Produce | Fruit | Vegetables
   Apple | Spinach
   Leaf | Onion

2. Generate snippets by identifying relevant portions of slides
   Portion: the set of indentions relevant to words

Evaluation

Prototype System

1. Enter a query
2. Select a retrieved slide
3. Browse a snippet

Efficiency of Browsing Snippets

Correct answers: the most detailed slides by participants

<table>
<thead>
<tr>
<th>Dataset</th>
<th>Slides only</th>
<th>With snippets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture contents</td>
<td>20/24</td>
<td>18/24</td>
</tr>
<tr>
<td>Academic contents</td>
<td>14/24</td>
<td>21/24</td>
</tr>
<tr>
<td>Total</td>
<td>34/48</td>
<td>39/48</td>
</tr>
</tbody>
</table>

- Browse slides with their snippets are useful
- Especially, snippets are helpful for browsing slides in academic contents containing expertise