LOD Stories

Learning About Art by Building Multimedia Stories

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Dr. Craig A. Knoblock, Dr. Pedro Szekely
University of Southern California, United States

Miel Vander Sande
Ghent University, Belgium
Mr. Bean (2007)
Rowan Atkinson
Mr. Bean (2007)
<table>
<thead>
<tr>
<th>Title</th>
<th>Year</th>
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</thead>
<tbody>
<tr>
<td>Unseen Bean (Video)</td>
<td>1995</td>
</tr>
<tr>
<td>Mr. Bean</td>
<td></td>
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<tr>
<td>Full Throttle (TV Movie)</td>
<td>1995</td>
</tr>
<tr>
<td>Sir Henry 'Tim' Birkin</td>
<td></td>
</tr>
<tr>
<td>Mr. Bean (TV Series)</td>
<td>1990-1995</td>
</tr>
<tr>
<td>Mr. Bean</td>
<td></td>
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<tr>
<td>- The Bus Stop (1995) ... Mr. Bean</td>
<td></td>
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<tr>
<td>- Driving the Bus of Arrows (1995)</td>
<td></td>
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<tr>
<td>The Lion King</td>
<td>1994</td>
</tr>
<tr>
<td>Zazu (voice)</td>
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<tr>
<td>Animated StoryBook: The Lion King (Video Game)</td>
<td>1994</td>
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<tr>
<td>Zazu (voice)</td>
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<tr>
<td>Schmidteinander (TV Series)</td>
<td>1994</td>
</tr>
<tr>
<td>Mr. Bean</td>
<td></td>
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<tr>
<td>- Episode #5.6 (1994) ... Mr. Bean</td>
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<tr>
<td>The Lion King</td>
<td>1994</td>
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<tr>
<td>Zazu (voice)</td>
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<tr>
<td>Four Weddings and a Funeral</td>
<td>1994</td>
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<tr>
<td>Father Gerald - Wedding</td>
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<tr>
<td>Hot Shots! Part Deux</td>
<td>1993</td>
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<tr>
<td>Dexter Hayman</td>
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<tr>
<td>Election 92 (TV Movie)</td>
<td>1992</td>
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<tr>
<td>Mr. Bean</td>
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</tbody>
</table>
Main Actor

Voice

Main Character
LOD Stories
Related Work

Everything is Connected

http://everythingisconnected.be
Related Work

WikiLinks
LOD Stories

Relationship Exploration

Learning Using Multimedia

User Engagement
A Slide Demo...
# Linked Open Data Stories

<table>
<thead>
<tr>
<th>Andy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andy Warhol</td>
</tr>
<tr>
<td>Andy Gotts</td>
</tr>
</tbody>
</table>
Andy Warhol (August 6, 1928 – February 22, 1987) was an American artist who was a leading figure in the visual art movement known as pop art.
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Multimedia Collection: images and videos from the web

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Carnegie Institute of Technology locates in the city of Pittsburgh. Pittsburgh is the second largest city in the U.S.
How it works...
## Path Finder

### Machine Learning

### Training Datasets

<table>
<thead>
<tr>
<th>Feature 1</th>
<th>Feature 2</th>
<th>Feature 3</th>
<th>Feature 4</th>
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<th>Interestingness</th>
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<tr>
<td>Triple 1</td>
<td>0.95</td>
<td>0.45</td>
<td>0.13</td>
<td>0.87</td>
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<tr>
<td>...</td>
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<td>...</td>
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</tbody>
</table>

### Machine Learning

### Formula for Interesting Relationships
Path Finder

Subject Degree
Object Degree
Subject Extension Rarity
Object Extension Rarity

Andy Warhol
Author
Campbell’s Soup Can

Normalized Feature Value (Subj. Deg.)

Andy Warhol
Person

*
Path Finder

Subject Degree

Object Degree

Subject Extension Rarity

Object Extension Rarity

Andy Warhol

Author

Campbell’s Soup Can

Soup Can

Work

Normalized Feature Value (Obj. Deg.)
Path Finder

Subject Degree

Object Degree

Subject
Extension Rarity

Object
Extension Rarity

Andy Warhol

Campbell’s Soup Can

Author

Normalized Feature Value (Subj. Ext. Rarity)

Author
Path Finder

Subject Degree
Object Degree
Subject Extension Rarity
Object Extension Rarity

Andy Warhol
Author
Campbell’s Soup Can

Normalized Feature Value (Obj. Ext. Rarity)

Author
Soup Can

Author

Author

*
Path Finder

Subject Degree

Object Degree

Subject Extension Rarity

Object Extension Rarity

Rank = 3.9595 * Subj. Extension Rarity + 0.8631 * Obj. Extension Rarity - 0.1643 * Subj. Degree + 0.0014 * Obj. Degree + 1.2353

Author

Andy Warhol

Campbell’s Soup Can
Path Finder

<table>
<thead>
<tr>
<th>Subject Ext. Rarity</th>
<th>Object Ext. Rarity</th>
<th>Subject Degree</th>
<th>Object Degree</th>
<th>Interestingness</th>
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</thead>
<tbody>
<tr>
<td>1.46E-05</td>
<td>1.60E-04</td>
<td>5.62E-05</td>
<td>4.65E-05</td>
<td>4</td>
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</tbody>
</table>

Author: Andy Warhol

Object: Campbell’s Soup Can

Hmmm... Pretty Interesting
Path Finder
User Feedback

Please let us know what you think about the story.

What do you think make the story interesting?

☐ The whole story? ☐ The Beatles ☐ Liverpool ☐ the relationship?

Submit and play next
Discussion
Project Features

Path Recommendation Mechanism
Multimedia Elements Mash-up
Flexible Editing
Future Work

- Improve Machine Learning Model
- Enrich Path Explorer and Story Editor Functionalities
- Fully Integrate with Smithsonian Museum Datasets
Thanks!

http://lodstories.isi.edu