The Thematic Illustrator:
An Automatic Illustrative Approach to Enhancing Narrative Cohesion

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The Importance of Cohesion in Narrative Systems:

Adaptive or generated narratives offer personalised and dynamic delivery of narrative content to users. However their generation or adaption is often based on the literal content of the narrative and not the subtext ignoring many important narrative principles such as narrative cohesion. Based on our existing work on a thematic model we present the Thematic Illustrator; a system capable of generating content relevant themed illustrations for short stories. The system aims to emphasise core themes and as a result improve the thematic cohesion of the story. We investigate whether this has a tangible effect on the cohesion of the narrative as a whole by using five variables to measure the cohesion of a story with themed and unthemed illustrations. Our investigation found that thematic noise can be reduced and that there is a demonstrated link between thematic cohesion and some other aspects of narrative cohesion.

Narrative Cohesion as five variables

Logical Sense
- The linguistic cohesion of the narrative

Theme
- Implicit concepts communicated implicitly

Genre
- Conformance to conventions of culturally established genre

Narrator
- Presence of an identifiable consistent perspective communicating the narrative

Style
- Conformance to authors own conventions. Use of tone of tone and language fits content.

Existing research in narrative cohesion often concentrates on the linguistic cohesion in the text presenting a narrative and its effectiveness at communicating content that makes logical sense. While this is no doubt a part of a narratives cohesion we find evidence to suggest there are significant other underlying concepts that are a part of unifying narrative elements. Core themes may be used as part of a consistent subtext unifying elements. Conformance to the conventions of an established genre can connect narrative elements through led assumptions of the reader.

The authorial presence also plays a key role in the cohesion of narratives. Narrators can be used to make coherence of a story through presentation from a consistent perspective, whether the storyteller is dramatized, explicit, or implicit. Similarly to genre an authors conformance with their own linguistic style conventions can assist cohesion through reader assumption. This notion of linguistic style further includes a use of tone and mood that matches the content presented in order to build cohesion.
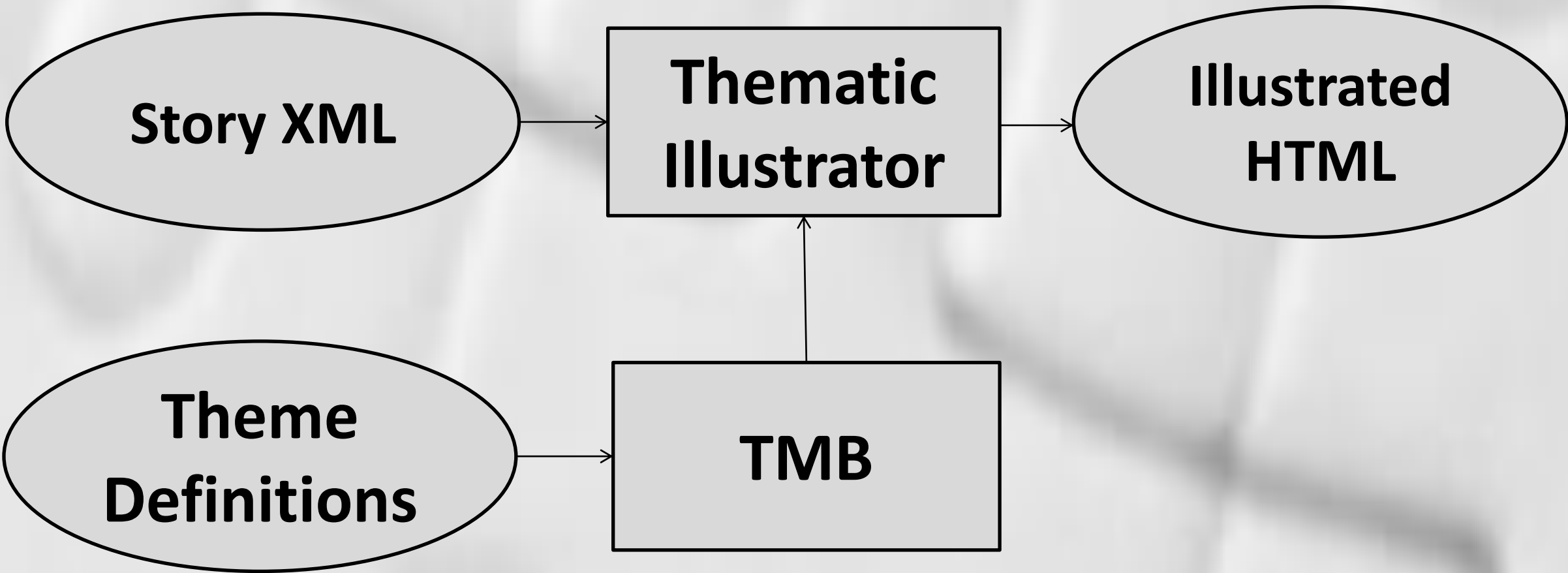
The Thematic Illustrator

The Thematic Illustrator aims to **automatically improve the cohesion of narratives through themed illustration**. Through emphasis of core themes the system aims to improve thematic cohesion by reducing thematic noise.

The system is built on using java, takes an xml input, and **generates a html output of the illustrated story. The story is marked up as xml divided into logical parts each forming a 'section' which each has a 'content' attribute**. The content attribute stores keywords representing the content of that particular section. **The story as a whole also has a 'theme' attribute containing the desired core theme for the story as a whole**.

The TMB requires a thematic definition of this core theme and its components to be built in advance which defines how features (which may be detected in image tags) denote motifs and in turn connote themes as explained in our earlier work. Using this the illustrator then for each section in turn performs a **flickr** search using the content keywords and retrieves the top 30,000 images (or as many as it can find) for that content. Using the TMB these **images are then sorted based on their relevance to the core theme** and the top image is used as an illustration.

Our results demonstrated two findings. The first was that while illustration was sufficient emphasis to **reduce thematic noise** the presence of core themes had not been improved sufficiently to demonstrate improved thematic cohesion. Secondly that there was a correlation and as such a **possible connection between thematic cohesion and logical sense and genre cohesion**.

Story XML → Thematic Illustrator → Illustrated HTML

Theme Definitions → TMB → Thematic Illustrator

The Night

A young boy no more than ten woke to the dark with the need to pee. In this world, peeing at night was not so easy a thing. His mother and father slept in the room at the far end of the hall, the bathroom in between, two picture windows that looked out onto the lawn and the lawns of the other houses and a park beyond. His sister, Betty, slept in the bed beside him.

He got out of bed and paused with amazement at the door to the hall: Mother or Father had forgotten to shutter the windows at dusk. He should, he told himself, go back to bed but the pee threatened to explode. He thought about asking Betty. But something in him said no and to look. To test what always had been said and warned against. The windows must remain shut up when the sun goes down. The doors must be locked at night and every night, no exceptions.

He'd seen photos. They were only photos: stars, the moon, eclipses. "I'll lock you out at night," Betty would threaten. "Stop," Father would say. "It isn't funny."

But could he just look? Would he? A quick look. Just take a quick glance, then pee, then back to bed, and shuffle through the whys in the morning when it was safe to do so, safe to ask questions, or safe to say "I risked and it wasn't true. None of it has been true, Father."

Last month he and Betty and snuck into the hallway and sat beneath the shutters, their hearts patting in their chests like crows wings. "No," the boy had said finally. "No way." "We just shouldn't," Betty whispered. "We just can't."

So, why not just look now? He watched down the hall. The moon shone bright through the big windows. It was that Blue Time. Four or so. He'd seen the blue light only once before, early morning high in the mountains, where everyone sat on an enormous balcony, the hotel rising behind spatter-lit yellow from the random windows in the higher rooms. It had been so rare, Mother standing by Father at a stone lookout. They had drinks. Even together then they looked lonely and helpless and somehow guilty of a quiet collaboration in solitude and failure.

That time had been about this same time, so late and early, and everyone happy, a wakeful holiday, refusing in unison to sleep. He remembered how his mother's head had slowly fallen to Father's shoulder, his head to her head. So high they were, the clouds swirled below silver and humped, high and safe above a world where night never really came.

He felt the energy or thrill of impulse. He felt drawn from the door, drawn to the window. He moved his eye to the left of the frame, looked out for the first time at an alien night and encountered moon glow, the shadows of the nearer trees soft and silent on the bright white ground. Nothing, he thought. There was nothing, nothing to fear out there, all the rules untrue or just false.

The windows on the block were shuttered, blank spots against the gray sky. In the park, it must have been very far, he saw a dark shape drift rapidly out from the pines into a clear space on the grass, something that suggested spider but with only two or three legs, small so far away, then it was gone, like something painted on the ground by a breeze. He felt a pressure in his chest, something of an illicit sweetness at the bottom of his throat.

"They sense vision," he remembered hearing. "They ignore us if we don't see . . ." Grandfather said. They had been in Wisconsin with relatives. They had been eating in a windowless cafeteria. Grandfather told stories. He explained, while Mother and Father ate, ready to silence the speaker if he strayed. ". . . or look. I don't know when precisely they came, but it was just after your mother was born, and we had to change. All of us, even governments. We lost the night everywhere to their teeth, their nails. But we're safe if we don't look. Safe if we shut the night out. We no longer have the moon to ourselves.

"They're drawn to the human eye. They only take he or she who sees them. And so we board our windows. It's safest that way. Sleep through the night. Keep the windows shut. Love the daytime."

"Father," Father said. "Please."

The boy watched the night. Something dark slashed across a nearer street. Then the boy heard his Father.

"No," Father said. He was standing at the bedroom door. "My god, son," he said.

"Father," the boy whispered, his voice shaking. "I just had to pee."

"Oh my god," the Father said. "Oh my god."