

# The HypeDyn Procedural Hypertext Fiction Authoring Tool

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## Abstract

This paper describes *HypeDyn*, a tool that supports authoring of procedural hypertext fiction. HypeDyn provides a visual interface for specifying rules and behaviours, and encourages use of sculptural hypertext and dynamic procedural change.

## Introduction

*HypeDyn* is an authoring tool for creating procedural hypertext fiction. HypeDyn focuses on visualizing the content and structure of the story, and providing accessible tools for non-technical authors to create rules and behaviours. HypeDyn also foregrounds the use of sculptural hypertext (Bernstein, Millard, and Weal 2002) and procedural change.

HypeDyn has been used at the National University of Singapore since 2009, and has been freely available online since 2011<sup>1</sup>. HypeDyn stories are exported as HTML, and can be run in any modern web browsers.

## Links, Nodes and Procedural Change

Authoring a HypeDyn story involves creating a series of nodes, each of which contains some text to be displayed to the reader. Authors can attach rules, consisting of conditions and actions, to sections of text within a node. A rule can determine what happens when the reader clicks on a section of text, forming a link. Actions are triggered based on conditions that can check either variables or the reader's past behaviour. Rules can also change the text within a node, allowing for procedural adaptation of the story content.

Unlike tools such as *Twine*<sup>2</sup>, which require authors to embed code within their story, HypeDyn provides a visual, menu-based interface for specifying rules and behaviours (see Figure 1). This allows authors to focus on how a story will make use of procedural change, rather than how to express the rules and actions in a programming language.

## Sculptural Hypertext

In addition, HypeDyn allows for more procedural behaviour through the use of “anywhere nodes”. Rules may be attached

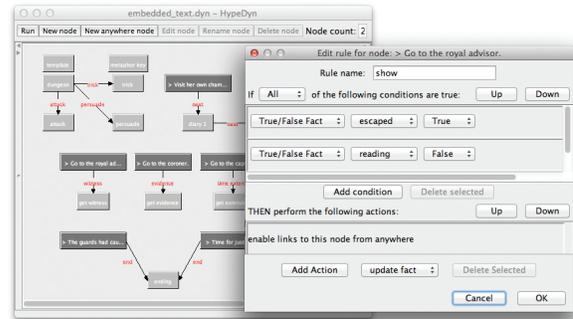


Figure 1: A story showing anywhere nodes (window on left, nodes in dark grey) and the rule editor (window on the right).

directly to a node, acting as preconditions for when a node may be visited. Authors can control when these rules are triggered through the use of conditions. These rules are used to dynamically generate links to a node from anywhere else in the story, enabling the creation of “sculptural” hypertext.

This approach is similar to the “storylets” in *VaryTale*<sup>3</sup> and *StoryNexus*<sup>4</sup>. However, in those systems there is no overall visualization of the story structure, whereas in HypeDyn, anywhere nodes are represented visually within the same node space as the rest of the story (see Figure 1). This helps authors to conceptualize the overall story flow and structure.

Current challenges include extending the visual representation to incorporate the procedural aspects of the system, providing support for abstraction, and providing higher-level structures to support more complex stories.

## Acknowledgments

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## References

Bernstein, M.; Millard, D. E.; and Weal, M. J. 2002. On writing sculptural hypertext. In *Proceedings of Hypertext '02*, 65–66. ACM.

<sup>3</sup><http://varytale.com>

<sup>4</sup><http://www.storynexus.com>

<sup>1</sup><http://www.narrativeandplay.org/hypedyn>

<sup>2</sup><http://twinery.org/>