# Computing Inspiration: i.plot

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## 1 Introduction

In examining how a computer can inspire with humor and wisdom under the theme of "the future of narrative," we studied the hidden relationships and contextual emergence of language. Pursuing a vision of the future where people will have conversations with robots, we have a robot agent convey inspiration and emotional content to users. Narrative is at its most vivid when emergent technologies are born. "Emergent" means when a product or idea, in the course of its advancement, breaks through a critical barrier, and a heretofore-unimagined paradigm appears, leading to the discovery of new relationships and the creation of fresh images. The trick to finding this kind of emergence is daring to pursue the marriage of completely different ideas.

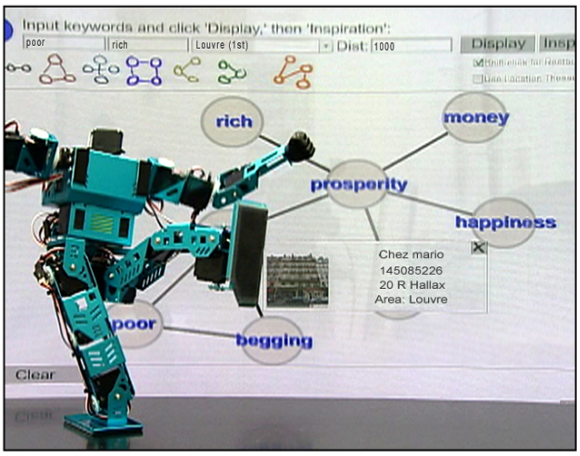


Figure 1: Robot interpreting results from the Inspiration Restaurant Guide

## 2 Inspiration Generation

i.plot discovers hidden connections between unrelated words by tracing possible paths through the database, traversing many two-word connections built from content based on publicly available resources. The path between words is like that of a wandering mind, where the jump between each idea is clear but multiple jumps lead to unexpected results. The user may highlight interesting sets of words and delve deeper into the word associations. Thoughtforms, developed by our collaborator Seigow Matsuoka, are forms for the editing of information, including *concatenation* of ordered sets, *balanced* three-sets of ideas, *division* of ideas, *unification*, and *crisscross* - placement of related information as two axes in two-dimensional space. I.plot uses a set of thoughtforms gathered from Japanese students, the WordNet database of grammatical structure, and the EAT database of psychological stimulus-response word pairs to produce an interesting and stimulating literary context.

## 3 Technical Realization

The system uses a dual-synchronized chaos engine, which synchronizes two or more chaos states, to increase the variety of idea-word connections. Each time a user refreshes the display, the entropy of the chaos engine increases. The engine, which runs continuously in the background, contains an Objective chaos, a User chaos following the Objective, and a System value controlling the synchronization of User and Objective. By increasing the System value, the engine produces more chaotic output, and connection lengths vary from short and direct to long and round-about. For the database, we use a combination of "Thoughtforms," the Princeton WordNet lexical database, and the Edinburgh Associative Thesaurus (EAT) to produce a dynamic working base with over 20,000 words.

## 4 Applications

*Inspiration Restaurant Guide:* The system suggests an appropriate Paris restaurant from the France Telecom Yellow Pages based on the user's preferences for eating atmosphere and location

*Context Inspiration:* Using data obtained from the open database WordNet as well as manual categorization, we classified words according to their grammatical properties. I.plot uses these categorizations to generate a context in the form of a sentence based on the 5 W's + H.

*Symbol Inspiration:* Symbols calculated by i.plot from the input words are generated as thoughtforms and linked with other images, to illustration inspirational connections between symbols.

*Inspiration Blog:* The blog system adds the ability to take complete sentences as input. Connections between key words in the sentence are all considered, and I.plot "reads between the lines" and suggests implications of blog content, building upon consecutive entries.

## 5 Robot Agent

Pursuing a future vision where robots will play an important role in society, we not only display the results visually, but also have a robot agent interpret the output with behaviors, tai-chi motions and emotional voice synthesis appropriate to the inspiration words.

## 6 Conclusion

Our research, in providing users with inspiration containing humor and wisdom, offers people new opportunities for stimulation. In a future symbiosis with computers, computers and robots will convey to us the relationships, breadth and context hidden between words not struck upon by people. We can promise with confidence that in the future, through the addition of narrative technology to art and science, a new and creative "interactive narrativity" will develop and contribute greatly to the field of art and technology.

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