"First TRIZ Symposium in Japan" Application of Presentation (Oral/Poster) [Sample format 1/2]

Title: USIT: A New Generation of TRIZ

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Abstract (about 100 words): [This will be printed in the Agenda.]

USIT (Unified Structured Inventive Thinking) has been formed historically by simplifying TRIZ (in Israel), introducing a new framework (by Sickafus), and then reorganizing the whole body of TRIZ solution generation methods (by the present author). It can be regarded as 'a new generation of TRIZ', because its Overall Structure is expressed with a clear 'Six-Box Scheme' while its Overall Procedure with a streamlined flowchart and because almost all the methods and principles developed in TRIZ have been reorganized into the new unified framework. USIT urges us a paradigm shift in creative problem solving toward the direction of more logical and yet creative way much less dependent on analogical thinking.

Profile of the Speaker: Toru Nakagawa [Less than 200 words]

Professor of Informatics at Osaka Gakuin University. Since he was first exposed to TRIZ in May 1997, he endeavored to introduce it into Fujitsu Labs for which he was working. After moving to the University in April 1998, he has been working for introducing TRIZ into Japanese industries and academia. In November 1998 he founded the public WWW site "TRIZ Home Page in Japan" (URL: www.osaka-gu.ac.jp/php/nakagawa/TRIZ/) and serves as the Editor. He is currently working to present TRIZ in a simple, unified and yet powerful way for solving real industrial problems and for teaching students.

Recent publications/presentations include:

on Methods and applications of TRIZ and USIT

TRIZCON2003, ETRIA TFC 2003, TRIZCON2004, ETRIA TFC 2004, TRIZCON2005.
Japan IM User Group Meeting 2003, Knowledge Creation Symposium 2004,
and in many other public seminars in Japan

Recent activities include:

Giving training seminars on TRIZ/USIT at a number of firms.

[Sample format 2/2]

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Explanation/Extended Abstract [In one page]

The basic scheme of problem solving in TRIZ, and in many other areas of science and technology, can be regarded as the Four-Box Scheme, as shown in Fig. 1. This scheme has various standard models in the knowledge base. The problem solver should select one of the models first, and then is requested to map (or abstract) his specific problem onto the generalized problem in the model. Since the user is requested to make a different way of abstraction depending on the model, the more models the methodology contains, the more 'powerful' it becomes but the less 'effective' in the sense of cost-performance.

The scheme of problem solving in USIT, on the other hand, is the Six-Box Scheme illustrated in Fig. 2. It has the characteristics as follows:

- User's specific problem (a) is first converted into a 'Well-defined specific problem' (b), and then is analyzed to obtain the 'understanding of the present system and its ideal system' (c). These abstraction processes are conducted in a standard way guided by the USIT methodology.
- Onto various elements of information in (c) the solution-generation operators of USIT are applied repeatedly so as to create a number of pieces of ideas for new solution systems (d).
- Using the ideas (d) as the seeds, conceptual solutions (e) are built up, and then through experiments, prototyping, etc. they need to be implemented into user's specific solutions (f). The goal of USIT as a creative problem-solving methodology is the conceptual solutions (e), whereas the goal of creative problem solving for the users is the specific real solutions (f).
- The Six-Box Scheme in USIT eliminates the ambiguities of the Four-Box Scheme, especially the ambiguities in the analogical thinking and in the model selection before analysis. This urges us a paradigm shift in creative problem solving methodology.