

TRIZ SUMMIT 2024





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**Experience of Using TRIZ
in IT Product Creation**



Hunting - Theatre - Cinema - ... ???



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Introduction

This paper presents the experience of using the theory of inventive problem solving (TRIZ) in the process of forecasting variations in the development of the film industry.

The work was carried out within the framework of NDA cooperation, and its goal was to forecast variations in the development of the film industry, taking into account ethical, technical and cultural aspects.

Multilevel analysis

Historical context: examining the historical milestones in the development of visual arts and their influence on contemporary cinema.

Ethical aspects: examining changes in the perception of ethics in cinema, including issues of censorship, impact on society, and the role of cinema in shaping public opinion.

Technical aspects: examining the impact of technological innovations such as virtual and augmented reality on the way cinema is created and consumed.

Application of TRIZ

The Theory of Inventive Problem Solving (TRIZ) was used in this project as a tool for system analysis and forecasting.

The main focus was on the modified TRIZ system operator, applied through the prism of the Jobs to be Done (JTBD) theory to analyze tasks (aesthetic) performed before the emergence of cinematography.

Jobs to be Done (JTBD)

People use products and services to solve problems.

Instead of focusing on demographics or behavior, JTBD focuses on the goals and results that are being sought.

The methodology allows for a deeper understanding of the motivation and context of product use, which helps develop more accurate solutions to meet user needs.

Dining room

Task: to eat quickly and inexpensively, usually in a time-sensitive environment (e.g. lunch break at work or school).

Context: often chosen by those who value efficiency and budget. The key here is accessibility, speed, and utility, not atmosphere or quality of service.

Solution: canteens offer simple, hearty meals at fixed prices, often in a self-service format.

Cafe

Task: to enjoy food or drink in a pleasant atmosphere, to hold a meeting or to relax.

Context: cafes are visited by people who want to enjoy the atmosphere, the taste of the food, the comfort, or to spend time with friends or work in a more relaxed format.

Solution: a cafe offers not only food, but also an experience - a pleasant atmosphere, a varied menu and the opportunity to linger to chat or work.

Multilayer system operator

Modified TRIZ system operator: used to identify systems that performed aesthetic tasks before cinema and analyze their evolution.

Analysis of ecstasy and catharsis: study of the development of the concept of ecstasy and its catharsis as key elements that contribute to the formation of the emotional impact of cinema on the viewer.

Forecasting development variations: determining possible directions of development of cinema art based on historical and modern trends.

Algorithm: dividing the system into levels

Technical level

JTBD level

Technical level of analogues before the emergence of the main system

IT product development

One of the solutions obtained during the analysis and forecasting was the creation of a high-level representation and technical specifications for an IT product that facilitates the process of creating new film formats and transferring existing films to a new format.

This product is a set of tools that support the creative process and introduce innovative technologies into film production.

Product features: support for scenario analysis, automation of post-production processes, and integration of new technologies such as machine learning and artificial intelligence.

Industry impact: the product is designed to increase production efficiency, reduce costs, and open up new opportunities for creativity.

Value of the solution for consumers

Direct consumers of the solution are media content creators - the proposed solution is a tool for performers.

The end consumers of the created media artifacts of the solution are viewers.

The solution is aimed at optimizing the process of producing media content using the latest AI technologies and a synthesized narrative format.

Initial tests (October 2024) in tandem with further research and development will confirm, clarify or refute the predicted solutions for the development of dramatic narrative as a system.

Stages

Identification of Key Issues: Using TRIZ to identify and formulate the key issues facing the industry.

System Analysis: Using the TRIZ system operator to study the interactions between different elements of the system, such as audience preferences, production technologies and market trends.

Idea Generation: Using TRIZ tools to develop solutions and ideas that can be implemented in the industry for its further development.

Solution Analysis: Evaluating the proposed solutions in terms of their viability, effectiveness and potential impact on the industry.

Using the System Operator

Before using the tool, I decided to first decompose the film according to the JTBD theory to identify the tasks that the film solves.

This step became the initial step for the first layer of the system operator.

The system operator became multi-layered and it was the product tasks that became the core, the zero level around which the remaining layers (technical, narrative, technological, physiological) were layered.

The nature of ecstasy from which catharsis comes was studied as a special case.

The resulting layers of the system operator

Each layer represents a separate system operator screen

0. Task layer: ecstasy (catharsis), escapism.
1. Physiological layer: observations, presence effect, empathy.
2. Narrative layer: Plato, Aristotle, Shakespeare.
3. Technological layer: hunting, rituals, amphitheater, theater, cinema.
4. Technical layer: stage, spectator area, effects.

Changes in the system operator

The system operator was modified for this research and development process.

The 9-screen form of the system operator and its monolayer structure did not satisfy the needs of a comprehensive study of the inventive situation.

As a result, the system operator took a multilayer form with polyscreening along the x-axis and dynamic screens along the y-axis, where the development of the system in the present time is recorded in column 0 along the x-axis.

In this iteration of the study, I excluded the option of transforming the system operator from a flat structure into a three-dimensional one, where the third axis could be the quantitative gradation of the application of the system (person-group).

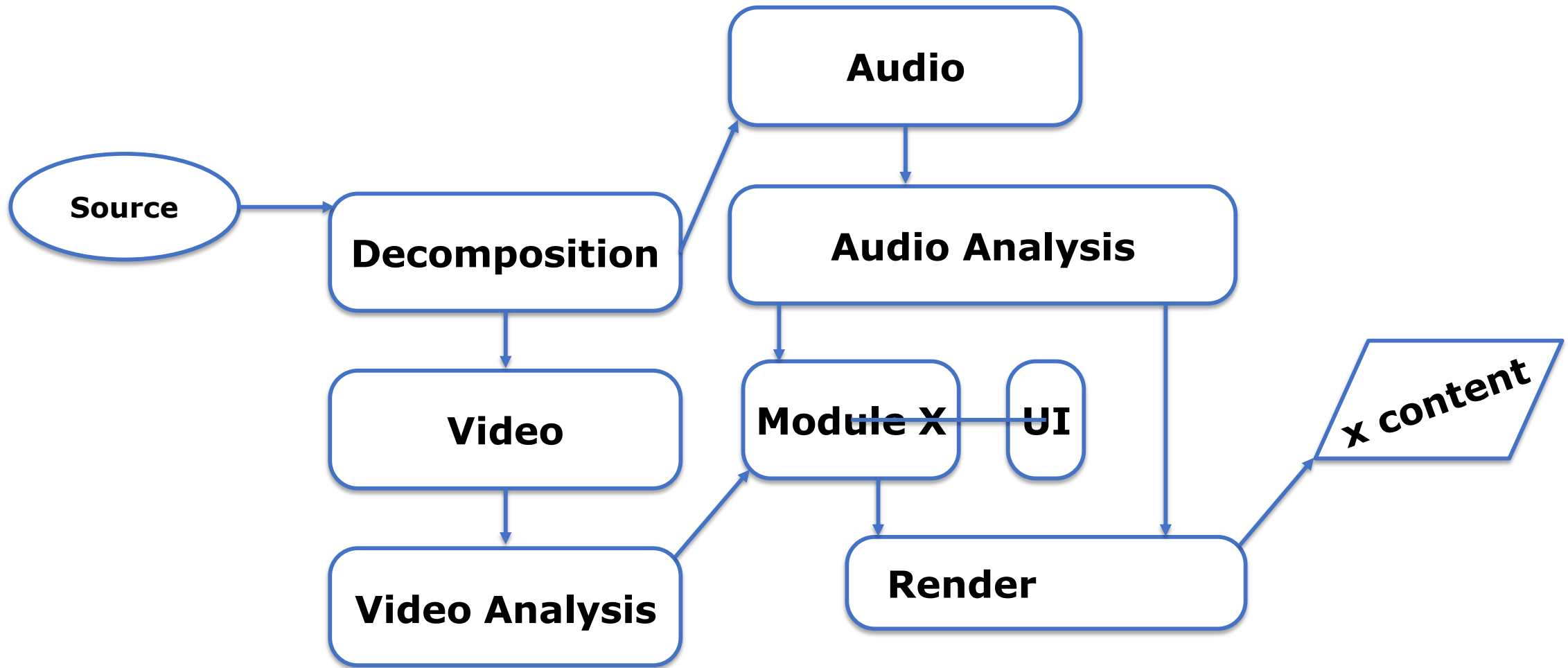
The need for a new tool

One of the forecasts for the development of the system is the development of dramatic narration using the laws of system development in conjunction with technical and technological trends over 100 years.

After several iterations on the creation of media artifacts for the predicted hypotheses of the system development, I made the following decision:

— to create a technical task for the tool for the created solution to optimize time costs when creating a new type of content and for possible adaptation to the new format of existing films.

Architecture of components and their relationships



Conclusion

The use of TRIZ in the project to forecast variations in the development of the film industry demonstrated its effectiveness and potential for solving complex problems.

A systemic approach based on TRIZ allows not only to better understand the current problems and challenges facing the industry, but also to form sustainable solutions that will contribute to its further development.

The potential of the IT product within the project opens up new horizons for accelerating the creative process and contributes to the development of cinematography.

The tandem of TRIZ and JTBD gave a systemic effect that can be applied by colleagues ($1 + 1 = 3$) when creating a product matrix or forecasting.

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Q&A

SESSION



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THANK YOU!
Спасибо!

