



**TITLE**  
**DREAM-INSPIRED DYNAMIC GRAPHICS**  
**(Paper)**

**Topic:** Art, Design

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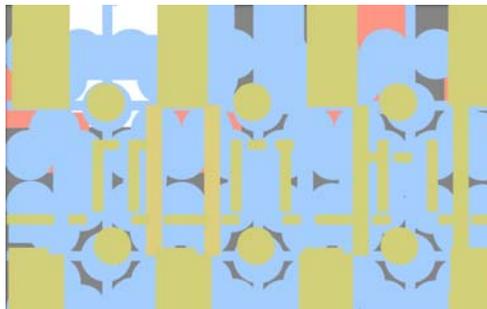
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**Abstract**

Artists have looked for inspiration in dreams for ages. There are multiple examples of dream-inspired literature, paintings, music, or even comic books. Modern art movements like symbolism have often reacted against realism and explored a world of imagination and spirituality. Sigmund Freud's psychoanalysis has had a great impact on culture, as many artists, e.g. surrealists, have started to refer to unconsciousness. Carl Gustav Jung emphasised correlation between dreams and art as he saw them both as expressions of unconscious.

This paper presents a generative tool that makes it possible to create dynamic graphics on the basis of dreams [1]. The idea of dynamic graphics has been introduced in [2] as an attempt to capture the process of visual design, during which a designer adds and removes components, as well as modifies their properties until the required result is obtained. Because each modification is recorded as a film frame, the whole process is finally illustrated by an animation.

According to Gestalt psychology, each component of a dream represents a significant part of the dream owner and brings a message from unconsciousness about their emotions, problems or even possible solutions. Our tool provides a graphical interface that enables the user to illustrate their dream. Dream



components (people, animals, places, things, etc.) are represented by symbolic shapes of different colours and can be located anywhere on the canvas. Every scene of a dream is represented by a configuration of components and constitutes a frame of animation. Having visualized their dream that way, a user can watch its action on a film. Automatically generated frames between the user-defined key frames representing scenes are interesting from both aesthetic and psychological point of view. They illustrate the dynamics of a dream, in which objects move, disappear, appear or transform into different things. While such transitions may be difficult to realize during psychological dream work, they can be treated as a dream component and be a

valuable subject to analysis and interpretation. The graphics derived from in-between frames help to capture transitions.

The proposed computer program generates images whose irrationality reflects reversed logic of a dream on the basis of real people's experience. The obtained visualisations can be regarded as original pieces of dream-inspired artwork, as inspiration for artist's creativity or as a psychological tool for dream work and introspection.

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**Key words:** *dynamic graphics, dream-inspired graphics*

**Main References:**

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 [2] Ewa Grabska, Joanna Tarko: *Creative Process of Artworks with the Use of Animation*, Collections of ISSEI [129], 2012.

## ***Dream-Inspired Dynamic Graphics***

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### ***Premise***

Artists have looked for inspiration in dreams for ages. There are multiple examples of dream-inspired literature, paintings, music, or even comic books. This paper presents a generative tool called Dynamic Images Generator that makes it possible to create dynamic graphics on the basis of dreams. Each component of a dream represents a significant part of the dreamer and brings a message from unconsciousness about their emotions, problems or even possible solutions. Dynamic Images Generator provides a graphical interface that enables the user to illustrate their dream. Dream components (people, animals, places, things, etc.) are represented by symbolic shapes of different colours and can be located anywhere on the canvas. Every scene of a dream is represented by a configuration of components and constitutes a frame of animation. Having visualized their dream that way, a user can watch its action on a film. Automatically generated frames between the user-defined key frames representing scenes are interesting from both aesthetic and psychological point of view. They illustrate the dynamics of a dream, in which objects move, disappear, appear or transform into different things. The proposed computer program generates images whose irrationality reflects reversed logic of a dream on the basis of real people's experience. The obtained visualisations can be regarded as original pieces of dream-inspired artwork, as inspiration for artist's creativity or as a psychological tool for dream work and introspection.

### ***1. Introduction***

Artists have looked for inspiration in dreams for ages. There are multiple examples of dream-inspired literature, paintings, music, or even comic books. Modern art movements like symbolism have often reacted against realism and explored a world of imagination and spirituality. Sigmund Freud's psychoanalysis has had a great impact on culture, as many artists, e.g. surrealists, have started to refer to unconsciousness. Carl Gustav Jung emphasised correlation between dreams and art as he saw them both as expressions of unconscious.

This paper presents a generative tool called Dynamic Images Generator that makes it possible to create dynamic graphics on the basis of dreams [1]. The idea of dynamic graphics has been introduced in [2] as an attempt to capture the process of visual design, during which a designer adds and removes components, as well as modifies their properties until the required result is obtained. Because each modification is recorded as a film frame, the whole process is finally illustrated by an animation.

Each component of a dream represents a significant part of the dreamer and brings a message from unconsciousness about their emotions, problems or even possible solutions. Dynamic Images Generator provides a graphical interface that enables the user to illustrate their dream. Dream components (people, animals, places, things, etc.) are represented by symbolic shapes of different

colours and can be located anywhere on the canvas. Every scene of a dream is represented by a configuration of components and constitutes a frame of animation. Having visualized their dream that way, a user can watch its action on a film. Automatically generated frames between the user-defined key frames representing scenes are interesting from both aesthetic and psychological point of view. They illustrate the dynamics of a dream, in which objects move, disappear, appear or transform into different things. While such transitions may be difficult to realize during psychological dream work, they can be treated as a dream component and be a valuable subject to analysis and interpretation. The graphics derived from in-between frames help to capture transitions.

The proposed computer program generates images whose irrationality reflects reversed logic of a dream on the basis of real people's experience. The obtained visualisations can be regarded as original pieces of dream-inspired artwork, as inspiration for artist's creativity or as a psychological tool for dream work and introspection.

The paper is organized as follows: In the next section, the different approaches to dream interpretation are presented. The third section introduces the idea of dynamic graphics, while the fourth section describes the Dynamic Images Generator derived from the concepts discussed before. Finally, some conclusion is made in the last section.

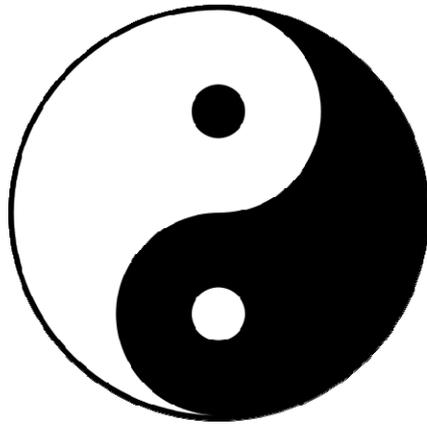
## ***2. Dream interpretation***

Dreams have always been a subject of interest due to their mysterious nature and unknown purpose. Ancient cultures considered dreams as a way of contact with the world of spirit [3]. It was possible to receive a message from gods in a dream and therefore it was very important to interpret it correctly. In many tribes dreamers talked about their visions with others, especially with experienced people like tribal elders, priests or shamans, who were capable of understanding the meaning hidden in described symbols. Early dreambooks confirm that symbolic nature of dreams was recognized, as most messages was not taken literally. Dream interpretation had impact on everyday life as well as political decisions, literature and many other aspects of human existence.

During centuries people gradually forgot about the meaning of dreams and lost contact with the spiritual world they had seemed to touch before. However, the twentieth century psychology has brought a new perspective to this issue. Sigmund Freud, the founder of psychoanalysis, regarded dreams as a source of knowledge about repressed memories and thoughts [4]. According to Freud, dreams inform about contents that are for some reasons buried in the unconsciousness, for example due to trauma or social disapproval. Vague, distorted images occurring in dreams are the effect of so called censorship – a force that protects ego from the unacceptable. Dreams are therefore desires in disguise of various, often fantastic symbols. Psychoanalysis enables to find out their real meaning and solve inner conflicts, that otherwise may result in neurosis or hysteria.

Carl Gustav Jung, the most famous collaborator of Freud and the founder of analytical psychology, found Freud's interpretation of dreams insufficient [5]. According to Jung, symbols present in every psychic manifestation as human thoughts, actions, religion, dreams, art, or even numbers, represent something that is yet unknown and cannot be accessed in another way. Such symbols cannot be invented by any rational thought. They are spontaneous and live entities with a power of influencing reality. Although they often refer to collective unconsciousness – a part of unconsciousness that is common for all people in different cultures – their meaning should always be investigated in accordance to individual conditions. Dreams seem more intense than reality because of additional messages hidden in symbols they use and their reference to archetypes, mythic motifs that describe universal human experience and evoke strong emotional response.

Dream interpretation can lead to serious transformation of one's life and support a process of individuation in which the conscious and the unconscious integrate. During the analytical work dreams become more and more meaningful. It is possible to distinguish certain characters often occurring in dreams that represent different parts of psyche. For instance, the figure of the dreamer usually refers to their ego, the conscious and rational part. A wise woman may represent self, the unification of consciousness and unconsciousness in a person, while a coat or a mask can be interpreted as their social face called persona. A female character in man's dream and a male character in woman's dream may represent respectively anima or animus, countersexual



complement to the personality.

*Fig. 1. Yin-yang symbol*

The idea of complementarity plays a great role in Jung's approach to psychology and is derived from ancient Chinese philosophy, where two opposite forces, yin and yang, coexist in the universe. Yang, the active, male principle of nature, and the passive, female yin are present in every aspect of reality and cannot exist separately, like day and night, life and death. Fig. 1. presents the Yin-yang symbol reflecting duality of all things in nature. Such unification of the contrary elements is often present in dreams and can be noticed especially in irrational transformations of characters or places. Jolande Jacobi, Jung's follower, gives an example of a prostitute replaced by a saint in young man's dream [5]. Similar transitions are very characteristic for the language of dreams. The generative tool presented in this paper gives an opportunity to observe them in a form of dynamic graphics, whose concept is discussed in the next section. Understanding the meaning of a dream – its plot, places, characters and transitions between them – gives specific satisfaction and often brings a new quality to the dreamer's life.

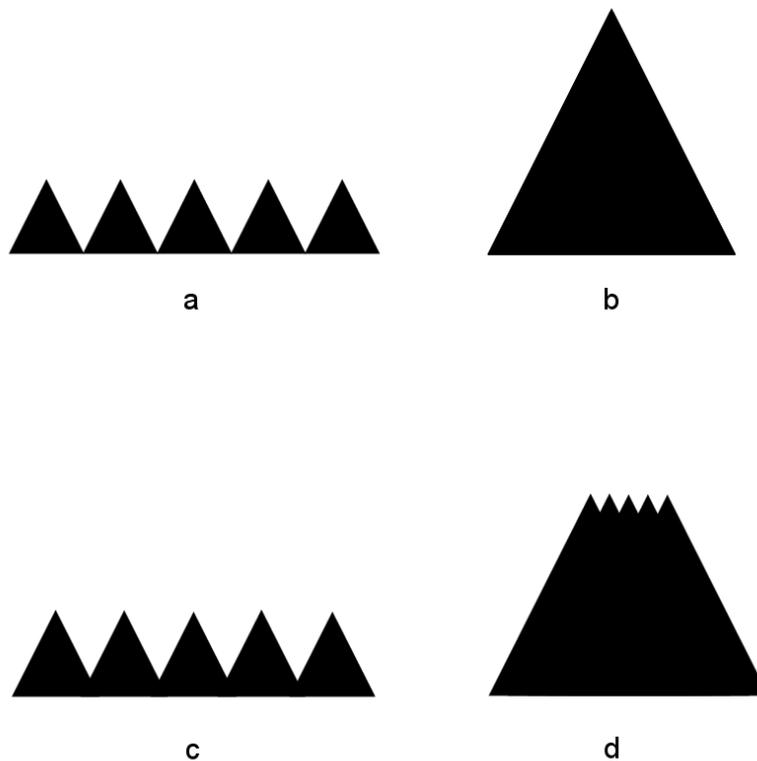
### **3. The idea of dynamic graphics**

Contemporary design methods employ computers for automation of tasks that are time-consuming, require complex calculations or high precision which human brain finds unnatural and difficult. Although the main purpose of computer aided design is to significantly increase efficiency and quality of projects, what seems even more interesting is another effect of such approach – the possibility of human-computer interaction which may result in exploration of new creative solutions. Modern design tools assist the designer's creative process in multiple ways.

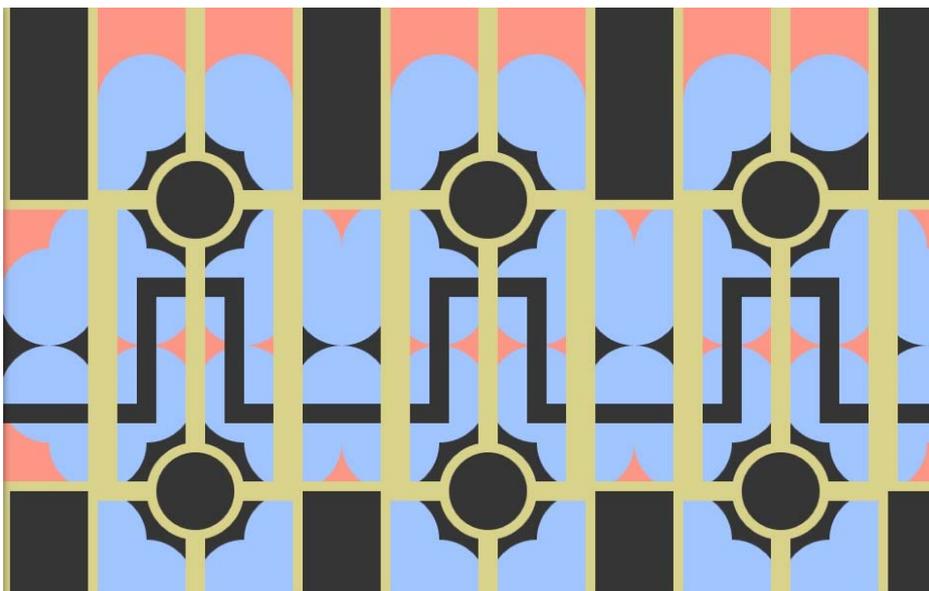
Generative systems as shape grammars or evolutionary programs of high level of autonomy provide designs that can be used as inspirations. More interactive tools engage in a dialog with the user and participate in the design process by reacting to the proposed ideas and searching for associations.

Another method of supporting creative design, has been proposed in [2] and is used as the basis for generation of dream-inspired dynamic graphics presented in this paper. This approach includes recording of the design actions as an animated film. In each step of the creative process the designer needs to evaluate the configuration of design components – their number, location, size, type, colour, etc., and decide whether the result is satisfactory enough to finish the project. If not, the process is continued by making corrections and performing the evaluation again, until inducing a positive response. The presented method assumes that each transitional step of the design may be treated as a key frame of an animation. After at least two key frames are obtained, it is possible to generate a film by automatically adding in-between frames in order to gain impression of continuity and fluidity of the motion picture.

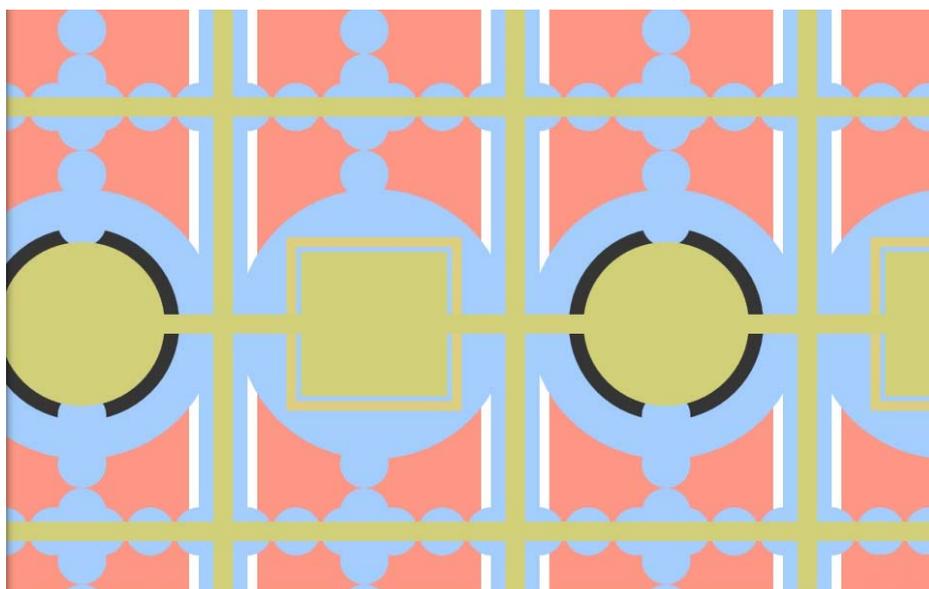
The animation gives a new insight into the design process and stimulates the designer's imagination. The generated in-between frames contain completely new, sometimes unexpected designs and therefore can enrich the design space and be treated as full-fledged solutions or as key frames for the next animation. Fig. 2. presents two key frames (Fig. 2.a and Fig. 2.b) defined by two design steps and some of the generated in-between frames (Fig. 2.c and Fig. 2.d). The obtained figures in Fig. 2.c and Fig. 2.d bring a new quality into a set of static pictures explored by a designer and may be used as a source of inspiration for further design.



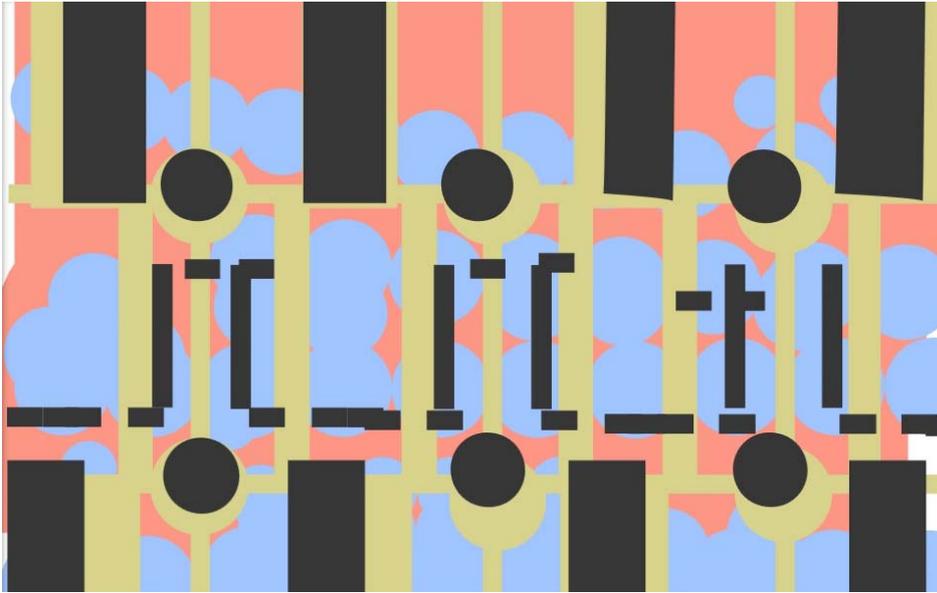
*Fig. 2. Example of dynamic graphics illustrating design process*



*Fig. 3. Key frame (1)*

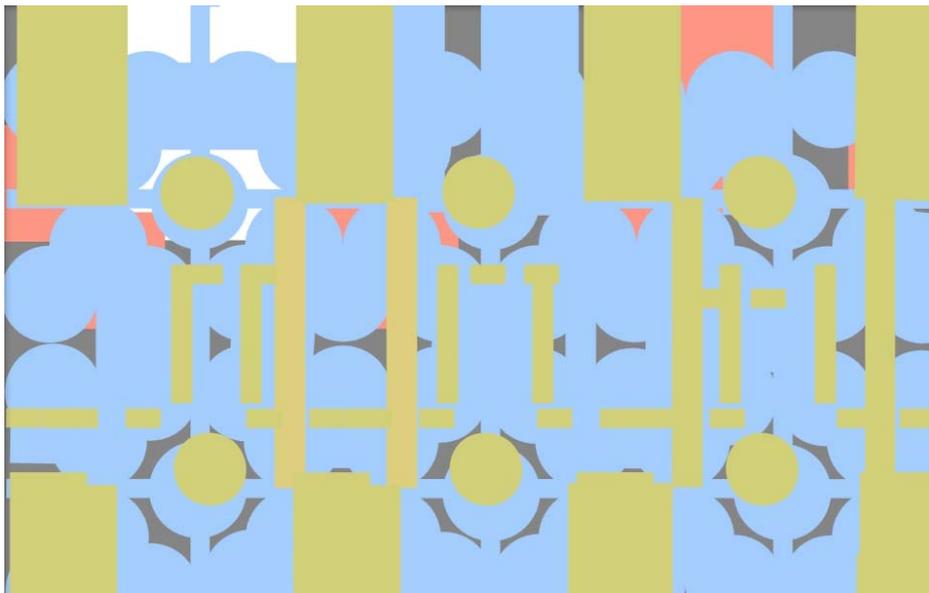


*Fig. 4. Key frame (2)*



*Fig. 5. In-between frame (1)*

Another examples of dynamic graphics created by Dynamic Images Generator are presented in Fig. 5. and Fig. 6. The images are in-between frames of an animation containing two key frames



from Fig. 3. and Fig. 4.

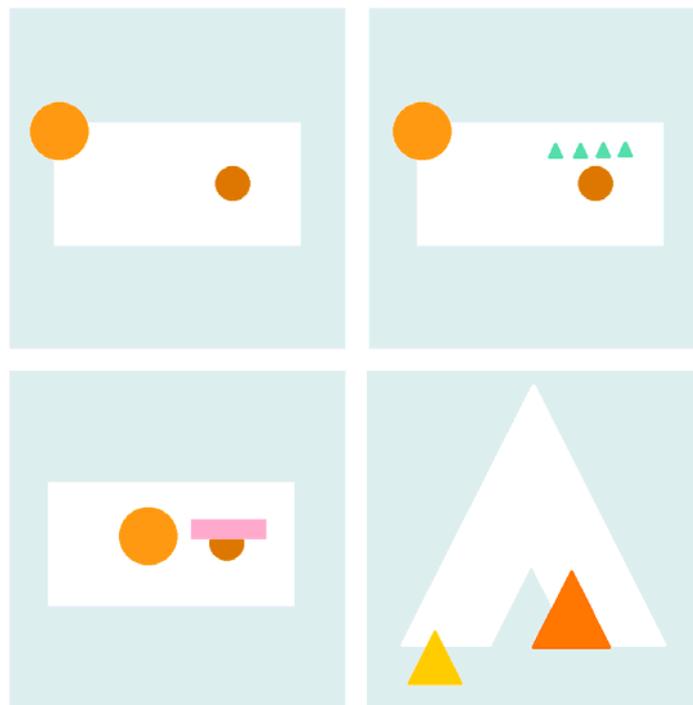
*Fig. 6. In-between frame (2)*

#### **4. Dynamic Images Generator**

Although the presented tool – Dynamic Images Generator – is based on a concept of dynamic graphics used to support creative design, it also enables a user to investigate their dreams and generate images that reflect the atmosphere of symbolic visions. Because it is assumed that the user has no experience in drawing or painting, a set of basic components (elementary geometric

shapes like square, rectangle, circle, etc.) is given to represent characters, objects or places occurring in a dream. Although the simplicity of the components may appear insufficient for illustrating complex dream scenes, it has some advantages. A dream scene can be sketched with the use of elementary shapes with little effort from an unexperienced user. People, animals, objects and places from dreams are often vague and difficult to remember in details. Drawing them is challenging even for talented artists. Instead, one can represent dream components by choosing intuitively the most appropriate shape and setting their size and colour to gain required ambience. It is also possible to treat the set of elementary components as an alphabet for freely complex forms. Once a user puts all required elements of a dream scene into the canvas, sets their exact location, colour and size as well as the colour of the background, the whole configuration is saved as an animation key frame. Analogically, the next scenes of a dream constitute next key frames. When the process of illustrating a dream is completed and all the key frames are stored in the program's memory, the in-between frames are generated in order to obtain fluent transitions between components. The resultant animation enables to observe the dream's story. At any time a user may stop the film in order to capture the current frame and generate an unpredictable image of transient, often uncanny transformation.

As an example, one can consider a dream with the following story: In the beginning, the plot takes place in a shopping centre, where in the hall there is located a glass box with a little boy inside. The boy is a salesperson, but no products to sell are visible. He is accompanied by his boss, an unpleasant middle-aged man that feels scorn for his employee. The boy is making some polite but slightly sarcastic remarks. They contain the truth that is visible in a form of four green sparks surrounding the boy's mouth and head. His speech evokes unexpected rage in the boss, who takes a flat cardboard box and crushes the boy. The next scene takes place in a church, with two middle-aged women in front of an altar. One of them is wearing yellow or orange clothes and is standing a little aside. The other woman, in a light grey dress, is in front, right in the centre of an altar. Suddenly a monk comes and whispers something to the woman in grey. It is information about death of her son, the little boy from the shopping centre. The woman is in despair, but her only



reaction is to genuflect in a place she is standing.

*Fig. 7. Dream key-frames*

The schematic pictures presented in Fig. 7. show a sequence of scenes from the dream description.

The white shapes represent the place of action – the rectangle in case of the shopping centre and the triangle in case of the church. On the basis of in-between frames an image from Fig. 8. has been obtained. It can be treated as a synthesis of the scenes above, which is especially visible in a shape representing the place.

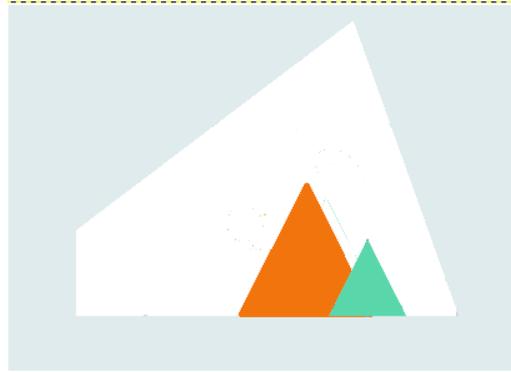


Fig. 8. Dream synthesis image

## 5. Conclusion

Dreams are an interesting area to explore. The presented Dynamic Images Generator gives an opportunity to illustrate one's dream in a form of animated film. The in-between frames generated automatically for the purpose of animation fluidity enable to capture transitions characteristic for the symbolic language of dreams. This approach is derived from the idea of dynamic graphics that illustrate the creative process in order to inspire the designer. Dynamic Images Generator may be used as a tool for creating inspiring images, but it also performs some therapeutic functions. Users are able to express and observe their dreams, which can help in dream interpretation and introspection. This process may be enriched by modifications of an animation plot and making up alternative solutions.

## References

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