

# The Implementation of a Multimedia Presentation Generator for Varied Categories of Products

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**Abstract** — It can be observed that from the offered facilities for certain products, just a very small percent is used by users for reasons such as the difficulty in understanding the technical guide that accompanies the product. The utilization of specialty terms makes difficult the understanding of the ‘how to use’ instructions. In this article, we want to realize a software program that permits the user, presumably not having programming knowledge, to describe the functionality of a product from a certain category of products. The resulted multimedia presentation will have to accompany the user manual of a product.

**Keywords** — Flash, Java, multimedia, XML

## I. INTRODUCTION

Multimedia (multi-many more; media-environments, Mtools) means: the capacity of a system to communicate/present the information through many simultaneous presentation environments, such as: text, graphics, photos, animation, sound, video clip, etc. Additionally, multimedia implies the idea of interactivity: the user is not a common viewer, but he can modify, as he wants, the flow of the event or application. The implied compositions in multimedia applications are:

- *the text*: the traditional environment for communication/presentation of information. It often could be a slow or monotone tool, requiring enough attention and focus of user. For these reasons, in multimedia applications, it is followed to reduce as much more text as possible and focus it on simple and clear messages. The different fonts and styles of text permit the prominence of the necessary text elements and avoid the possibility to appear the monotony. It is a static environment.

- *the images (graphics)*: an image can be equivalent with many pages of text, and it has the advantage of sending instantaneously the information to user. Comparing the images with the text, we can say that if the text is read in serial mode, the image is read in parallel mode. For example, it is preferred an image or a graphic with sells for

a period, than the table of numerical values (text). The only drawbacks of graphics as compared to text are the difficulties of images to communicate with accurately abstract data (however, it is not impossible) and the big implied costs (from obtaining/creating the images to the problems regarding the dimension of its representation computing systems). The graphic is a static environment.

- *the animation elements*: are used when we want to capture the attention on a certain particular portion from a multimedia application, to add color and to loosen up the atmosphere, to demonstrate and to illustrate variant dynamic processes. For example, it could be suggest and explain the functioning of a product using animation, otherwise, it could be impossible to realize by static images or text. The animation is a dynamic environment.

- *the sound*: is the oldest and subtlest of all communication environment. It is the most efficient tool to attract the user’s attention. The music could be used to create a favorable atmosphere for presentation, to intensify the emotions or to illustrate and dignify a certain point of view. The sound effects could be included in a multimedia application to enrich and to fill out the content of the presentation or to emphasize some particular ideas. Through speech it can be approached a particular subject in a direct manner, often efficiently. The sound is a dynamic environment.

- *video productions*: are in fact the most representative and complete environment from all the presentation environment mentioned so far. It incorporates all described environments, based on dynamic images. Thus, video-productions were considered multimedia in themselves. The major disadvantage is the big cost of production and the enormous capacity of storage needed for handling the computer. Video productions are dynamic environments.

- *interactivity*: is the facility through which the user can intervene and modify the flow of application depending on his desire. Thus, the execution of application is personalized for each user, eliminating for example, the parts that are not interesting. According to some studies from the end of ’1980s, the people retain 70% of information acquired in interactive mode.

There are programs with big complexity that permit assembling and execution of some multimedia applications like: Macromedia STUDIOMX 2004, ADOBE STUDIO, Windows Media Player etc.

## II. GENERATOR FOR MULTIMEDIA PRESENTATIONS

We propose the following considerations to take into count all the implementations of the generator for

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multimedia presentation:

- transposition in multimedia presentation of the instructions of use, described in user manual of a product; that will be done in plane (2D);

- the whole functionality of the product is to be describe by files with a general format easy to interpret. For easiness, we recommend to use XML files;

- it is recommended to create, if possible, a general template for applying for all products irrespective of the category that it belongs. Otherwise, if it is not possible to use a template, it is recommended to define categories of templates that will be affiliate to products categories.

- a template, for description of functionality of a product. It is recommended to be divided into sections. For example, in case of a template we can have:

- the section of the product
- the section of the menus used in the presentation
- the section used for detail and describe

*A. The general description of a components of an interface*

The interface of the propose generator is presented in the Figure 1.

The description of the components of interface:

- The work space is represented in the template which is chosen for describe the product.

- Face1, Face2, ..., Face6 – represent the 6 faces of the product that will be described.

- The “Properties” zone is used to describe different proprieties of “Actions”, “Controls”, “Forms”, and “States”.

- The zone between faces and properties is reserved to describe the different forms, controls, actions and states that can be apply on a work space.

- The template of presentation represents the structure used in the presentation of the product.

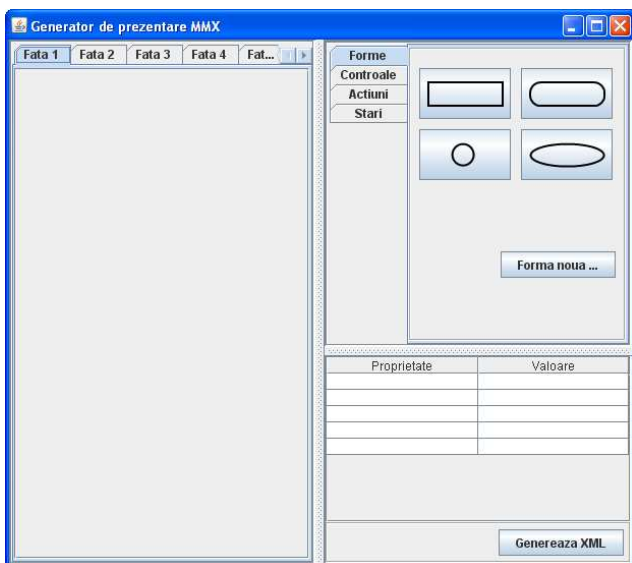


Figure 1. Interface of generator.

*B. The detailed description of the interface’s components*

A template must contain many distinct sections.

The minimum properties for a template are:

- name,
- number of sections,
- sections (description by points),
- background color,
- background image,
- border color,
- border size,
- font,
- size (width, length),
- vertical space between sections,
- horizontal space between sections.

Each used section inside template must be resized and has at least the following properties:

- name,
- background color,
- background image,
- border color,
- border size,
- font,
- position (x, y)
- size (width, length)

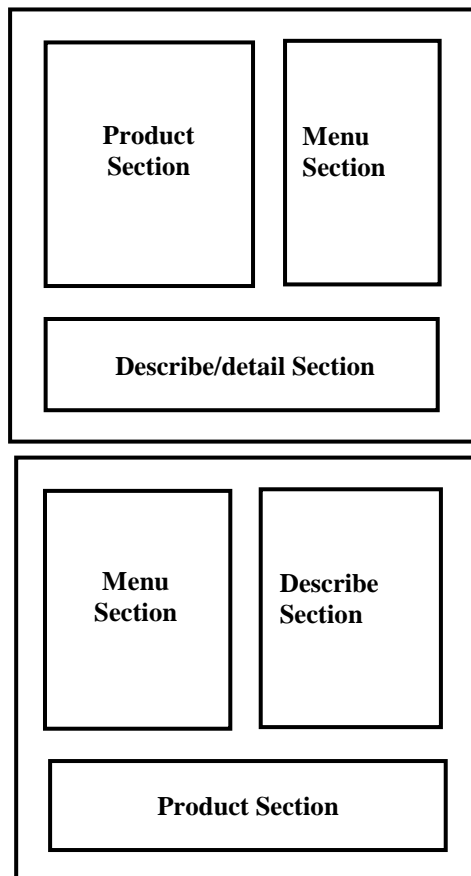


Figure 2. Examples of templates for presentation.

The forms are objects which can be applied on the work space to delimit different presentation zones.

The forms can have following properties:

- identifier
- relative coordinates given by the array of points  $\{(x1, y1), (x2, y2), \dots, (xn, yn)\}$
- the position given by points pair (x, y)

- background color (could be transparent)
- background image
- border color
- border thickness
- scale factor

Initial is available a set of default forms (hexagon, circle, square, triangle, etc.).

Using a form generator (Figure 3), the user can define his forms based on the set of the elementary forms.

The Action is an event, which is started at the execution of some mouse operations or just by pressing key.

The action determines the modality through which it can be arrived from a state to another state inside the template sections.

The types of actions that can be applied are the following:

a) mouse actions:

- mouse over
- mouse scroll

b) left button:

- up
- down
- click

c) right button:

- up
- down
- click

d) keys actions:

- key up
- key down
- key press

An action has to contain the following properties:

- the identifier
- the event which it produces
- the zone over which it is applied
- the state that can be applied
- the state to pass after executing the action
- the used sound

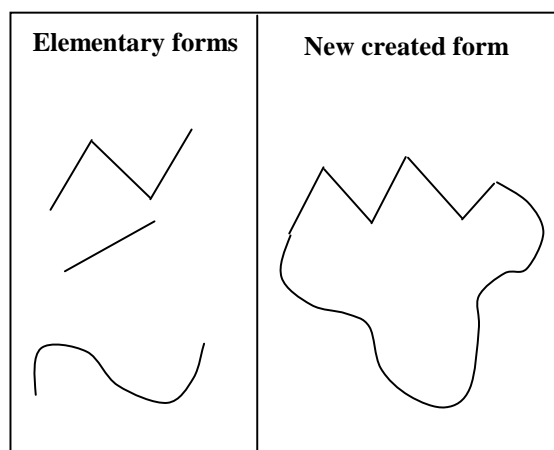


Figure 3. Generator of forms.

The actions are recommended to be applied on a reserved product section.

The controls are objects that are applied outside the product section and can contain text and events. They are used to show the comments of a different menu used for realizing the presentation.

The controls that can be used are:

- buttons
- labels
- text boxes
- check boxes
- radio buttons

The minimum properties of the controls are those from the forms, to which we add the following:

- text
- event
- state (active or non-active)

At the execution of the attached events of the controls it can be passed from a face to another face, from a state to another, it can be shown diverse text or it can be launched and listened sounds or movies.

The controls can be applied outside the reserved section of the product.

The state represents the description of the product at a given time.

By a state, we understand the modification of the initial image of a certain face of the product after an action or an event.

A state must contain at least the following properties:

- state identifier
- state description
- face to which it belongs
- image
- list of action that can be realized by the state
- the forms applicable on state

### C. The necessary steps for describing a product

For a multimedia description of how to use a product using the above presented generator, it is necessary to follow the steps:

1. the choice of a template for description
2. the selection of the face that is described
3. creation of all the possible states on the chosen face
4. adding forms
5. adding controls
6. adding actions
7. the implementation of actions and events of controls with an events generator
8. repeat steps 2 to 7 until all the faces described completely
9. the automatic exporting of the product description in XML files

### III. MULTIMEDIA DESCRIPTION EXAMPLE OF A PRODUCT

We present an image with the multimedia description of a photo camera (Figure 4).

The main purpose is to view explicitly the technical features of the presented product, as well as the mode in which it functions. The loading of images and texts used in the presentation was done by XML files.

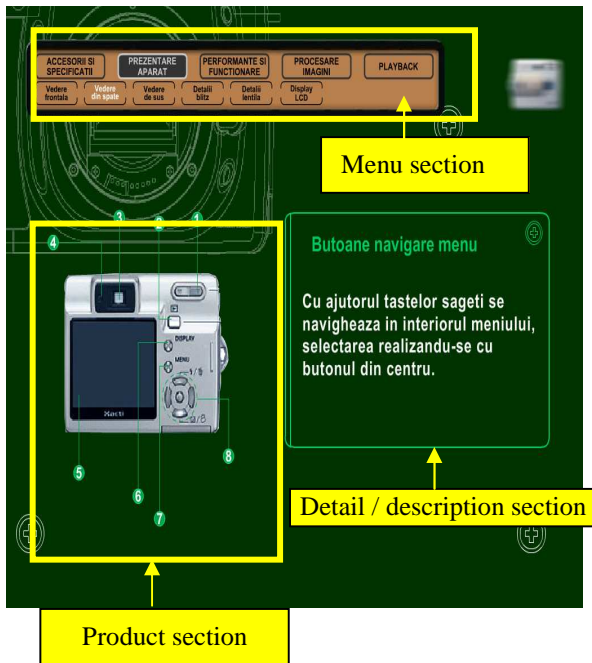


Figure 4. Example of a photo camera description.

#### IV. CONCLUSION

The realization of a generator for multimedia presentation of some categories of products will permit the description, in multimedia mode, of the functionality of the product from the user manual. This description will be accessible for a wide range of people.

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