

POSSIBILITIES OF SOFTWARE APPLICATION USAGE DURING CREATION OF DISASSEMBLING PROCEEDINGS.

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***Abstract:** Creation of visual disassembling proceeding in praxis accelerates activities connected with change of worn parts in concrete constructional nodes and allows executing disassembling activities to less skilled workers. For achieving of these goals it is necessary involve computer technique into pre-production stages. As suitable solution for seems application of modern CAPP systems in combination with other software assigned for animation.*

***Key words:** disassembly, CAPP systems, visualization.*

1. INTRODUCTION

Computer aid in machine industry is one of important tools for reducing of continuous time of manufacturing, increasing of flexibility proposed and manufacturing process, decreasing manufacturing costs and so the final price too. Almost all areas of component realization are at present time computer aided through specialized computer system.

Computer aid in machine industry also allows change of product presentation. Nowadays efficient computers make possible higher resolution and color depth. In connection with graphical programs computer becomes powerful tool for graphical creation using which one can publish his product on internet. Presentation on internet has also advantage of information accessing of more than one user at the same time. Presentation using internet is currently the most progressive and the fastest way.

Disassembling technologies as new aspect in machine industry represent very broadly elaborated theme. At the same time mainly abroad scientific and expert team are currently starting to deal with this problem. For broad elaborating of these fields of knowledge it is necessary to solve technology of disassembly in area of technological preparation from the beginning. In current highly competitive business and manufacturing environment companies

have to challenge in strong competitors fight. Therefore is effort of production process time reducing and technological preparation of production.

2. DISASSEMBLY TECHNOLOGY AND ITS VISUALIZATION

Visualization can be explained as reification author's idea in form which allows eye perception.

This definition may do not seem simple but then this technology of idea presentation is the oldest and the most used. It is natural and always will be valid the truth according to which is better once see than hundred times listen.

Together with technique development new ways of visualization also developed. Man can draw his ideas with finger to sand, with pencil on paper or he can model his ideas in shape of wood sculpture or he can use for visualization computer with suitable software equipments. Which way he chooses depends on his resources, abilities and purpose of visualization. The time when it was enough to draw section plans with few views and product catalog are gone.

Advantages of computer visualization are following:

Low claims - a lot of people mistakenly connects computer graphic with extreme performance computers which could represent high input cost. But only till time when customer demands more than one version dismissed request for visualization quality. Using hand drawing, every next version or change of original presentation requests overdrawing of whole project. During building of three dimensional computer models are time and financial costs lower as by modeling of wooden or plastic model of product. This fact is well valued by designers, whom through visualization are able to create prototype photography before his production. This is the way how can designer prevent defection and avoid additional costs connected with reconstruction of model. Significant measure in cost reducing by final product proposal phase is that model's information in computer visualization is in digital shape. This contributes to faster information transfer from author to customer. For example using the internet allows corrections to be done within few minutes and without needless time or cost losses which are connected with usage of classic post.

Variability – advantage of computer visualization is possibility of quick different variants creation. Projects which often use same components there is a possibility of these components database creation. This database can be used by generating different combinations and

proposals. Variants of complex projects may differ in disposition, lighting, colourity or accessories.

Reproducibility – every patterning is connected with little deviations from original which contribute to work quality loss. However computer visualization does not suffer by this problem because every copy has same quality as original no matter of how many copies are done.

Archiving – beside classical ways of archiving computer technologies allow to archive work on storage media such as disks, CDs or internet. Advantages of this archiving are following: space saving, archive copies do not lose quality, data can be stored in different digital formats according to customer requests.

3. SOFTWARE POSSIBILITIES OF VISUAL DISASSEMBLING PROCEEDINGS CREATION

First mentioned software for animation creation is Flash MX from Macromedia Co. Using it we can create vectors and bit mapped animations extended with sound effects and interactivity (user can interact with animation).

This animation can be used as part of www pages and can be exported in GIF, EXE format or as animation (MOV, Realplayer).

Flash also supports internet browser. For playing animation you need to install plug-in module which can be downloaded from Macromedia web pages. If browser detects animation in flash, automatically requests plug-in downloading and installing.

Newer internet browser have already built-in such plug-in. Thanks to this module flash animation seems same in every browser.

Flash is able to react on user action (mouse cursor movement, cursor movement over the object, keyboard button pressing) better than HTML. It also contains simple script language (ActionScript similar to JavaScript) using which object on scene can be managed.

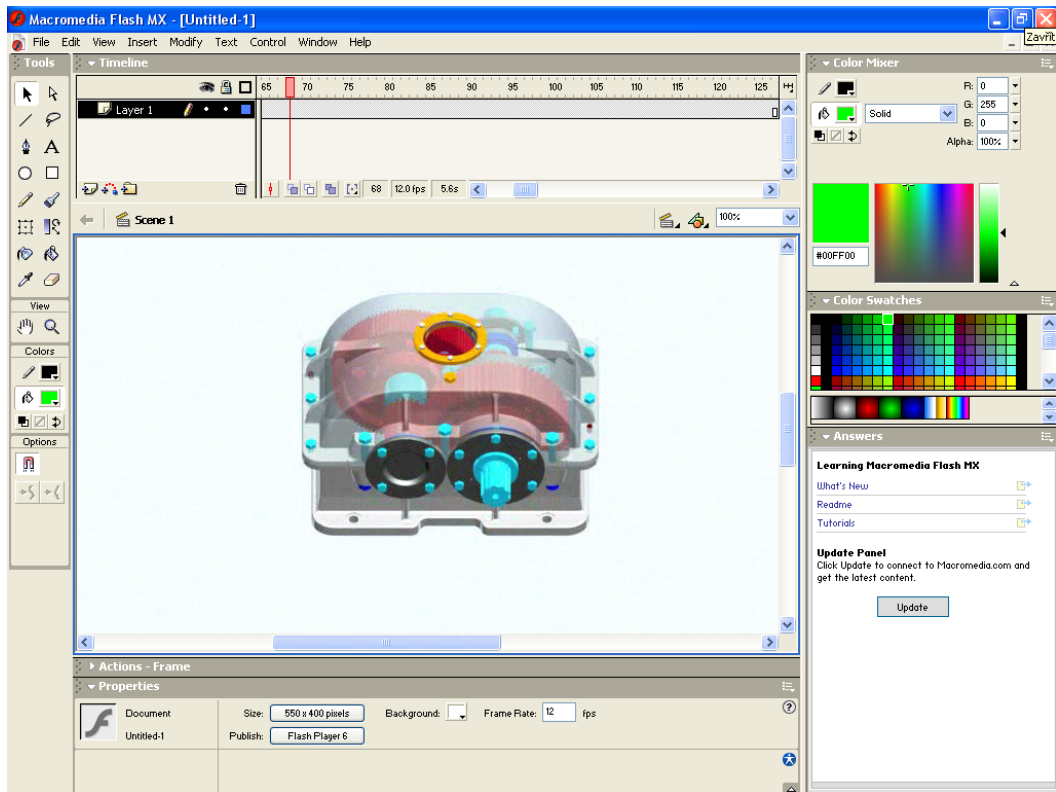


Fig. 1 *Macromedia Flash MX environment*

Other software is LiveMotion from Adobe Co. Graphic and animation software in its second version offers options similar to Macromedia Flash (in contrast to Macromedia Livemotion is more addicted to graphic as programming) which format SWF uses as its outputs. News is support of JavaScript for interactive animations. Built-in Script editor saves you work by script programming. LiveMotion is ideal tool for web page builders and developers, whose demand dynamic and interactive contents of web pages in different formats as for example Macromedia Flash or Quicktime (MOV). For complicated animations and interactivity creators there is also support for ActionScript combined with design tools and tool HTML code creating and cleaning.

Live motion offers quick interactive Macromedia Flash animations, web pages for e-commerce and wide scale internet contents with support of classic Flash ActionScript. Wide format support, integrated design tools, scripting environment and close interconnection with other Adobe products gives Adobe LiveMotion very strong possibilities for webpage professionals.

ActionScript allows interactive animation creating, complete internet application, forms for e-shops etc. For these script programming is integrated whole new, but very

comfortable script editor which supports ActionScript, JavaScript and script automatization or event manager script ordering. Advantage of this editor is syntax control integration, script's keywords colored differentiation and searching which replaces further functions for quicker and easier script editing.

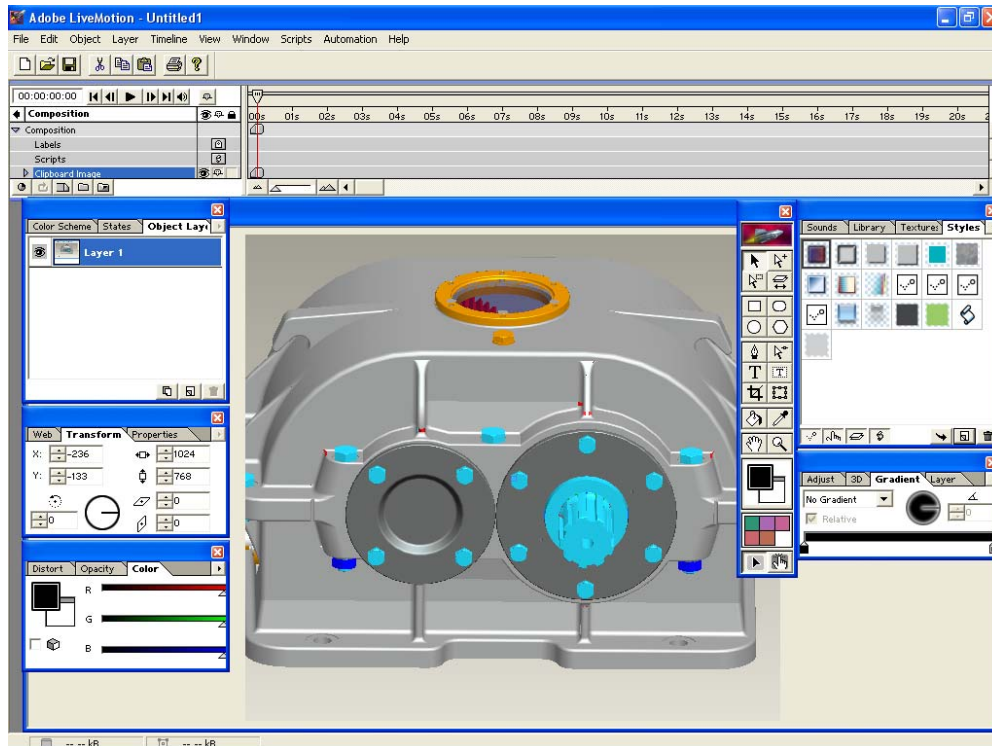


Fig. 2 *Adobe LiveMotion 2.0*

Next program Swish developed by DJJ Holdings does not have big systemic requirements. It is able to operate under all 32-bit operational systems. Minimal requirements for hardware are: Pentium 100 with 32 MB of RAM memory, 7,3 Mb free space on hard disk and resolution of 800x600 pixels.

Basic setting offers menu, toolbar for faster application start, time pivot, Outline panel for animation structure display, main desktop, LayOut and Object panel for quick animation parameters setting. Using INSERT menu could be inserted new effects, events and actions. Pre-prepared palette in installation package contains about 150 effects which cover nearly all basic operations necessary for animation creating. Other adjustable actions by button pressing are: On press, On release, On rollover etc.

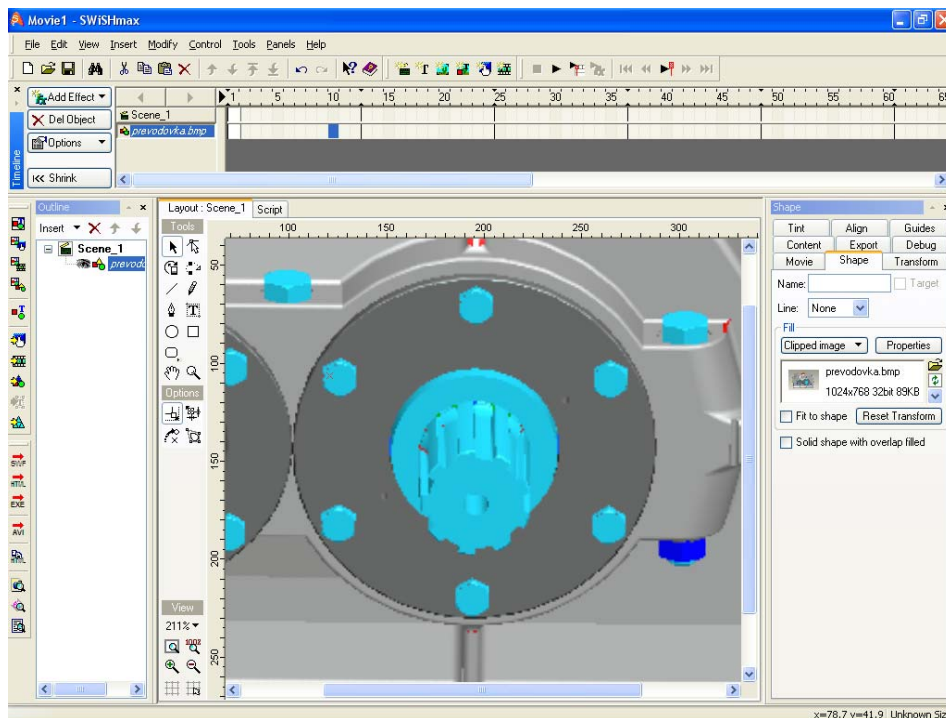


Fig. 3 Swish

5. CONCLUSION

Best choice for visual disassembling proceedings creation seems usage of modern CAPP systems in combination of CAD/CAM/CAE system for 3d models creating with synchronous usage of software for Flash animation creating. Three main software applications available on present market are Macromedia Flash MX, Adobe LiveMotion and Swish. Every one of this software packages has advantages and strong tool for certain actions but also disadvantages which have to be considered by visual disassembling proceeding creation.

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