



TEACHER TRAINING MANUAL

MULTIMEDIA APPLICATIONS
FOR EDUCATION

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Chapter 2: Creating Videogames

University of Fine Arts Brera (IT)

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PART FOUR / B

VIDEOGAME

Chapter Two Creating Videogames

University of Fine Arts of Brera (IT)

1. How to create videogames with practical examples

First example: "The Dark Room"



The Project

The idea consists in the attempt to teach some scholastic issue, not through a simple exposition of the matter but through the involvement of the pupil in an experience, even if virtual. The experience should be motivated by the participation as protagonist in an adventure. In this case the adventure is of "Noir" genre, very appreciated by the young people.

Procedures

1. Decision of the argument to treat: *The analogical photography and the use of the darkroom*

2. Research of online tutorial (traditional e-learning lesson):
<http://www.silverlight.co.uk/tutorials/toc.html>
3. Proceed with the elaboration of the storyline and the screenplay of the adventure, dealing with the issues of the *development and press of a black and white negative film*, through an intriguing and involving situation, a classical "noir"; we'll attempt to establish a logical medium-difficulty path based on the storyline. This should allow the player to take part to an event succession that is, at the same time, exciting and effective for the technical learning. For this reason we'll arrange in a strategic way a number of useful objects to collect during the path. The player has also the possibility to read a "real"book inside the game about the topics to be learned
4. Identification of the typology of the videogame to realize: a photographic/realistic *point&click* adventure with an immersive 360 degree main view
5. Identify the place where realize the photographic session: a real darkroom
6. Selection of the elements that will constitute the location for the photo and video shooting. The photographic and videographic material of our videogame will be realized on this set, based on the analysis of the selected tutorial:
 - a. Useful real objects for the development of a negative film (to be photographed)
 - b. Useful real object for the development of B/W photography (to be photographed)
 - c. Actors, real people that act some important technical procedures to be recorded on video
7. Collection of the necessary tools for the effective realization of the foto/video session:
 - a. Camera
 - b. Videocamera
 - c. Various tripods
 - d. PC
 - e. Software useful for elaborating the photo/video material collected

The minimum system requirements for this Game are:

Computer: IBM PC or compatible, Pentium 133 MHz CPU or better

Memory: 64MB RAM and 20MB hard disk space

Monitor: 256 colors or better (the "True Color" mode is highly recommended)

Interface: Mouse and keyboard

Operating System: Windows98 / 2000 / XP or compatible

Type of Game

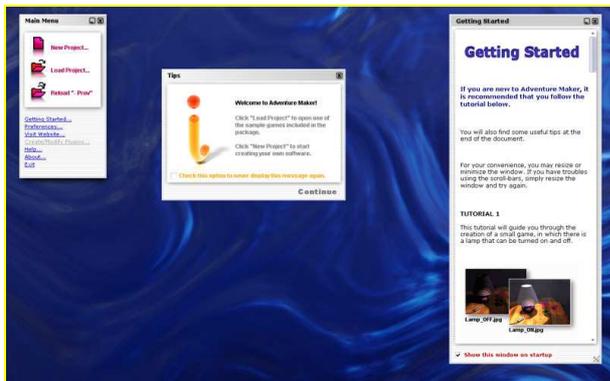
Title: The Dark Room - Missing at the boundaries of the digital divide
Typology: Didactic Game
About: Photography
What students can learn: How to develop a Negative Film

Game's Author Informations

Name: Cristina Gregolin
Institution: Brera Academy of Fine Art
Country: Italy - Milan
Website: Entropy-art.com
Contact: Mail

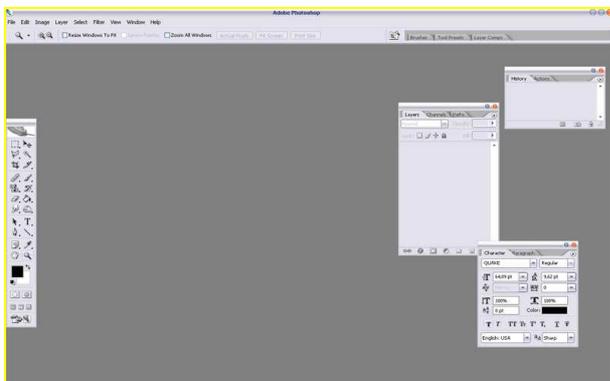
Software Used

Adventure Maker



Adventure Maker is a free innovative toolkit for Windows that allows creating point-and-click games and multimedia software in minutes, without any scripting or programming. You can create software for Windows and for PSP.

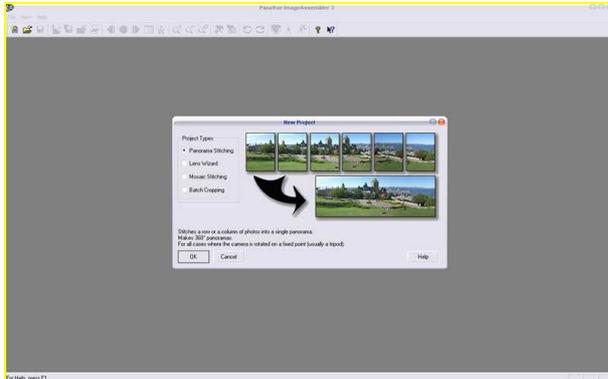
Adobe Photoshop Cs2



Adobe Photoshop, or simply Photoshop, is a graphics editor developed and published by Adobe Systems. It is the current market leader for commercial bitmap and image manipulation, and is the flagship product of Adobe Systems. It has been described as "an industry standard for graphics professionals." Although originally designed to edit

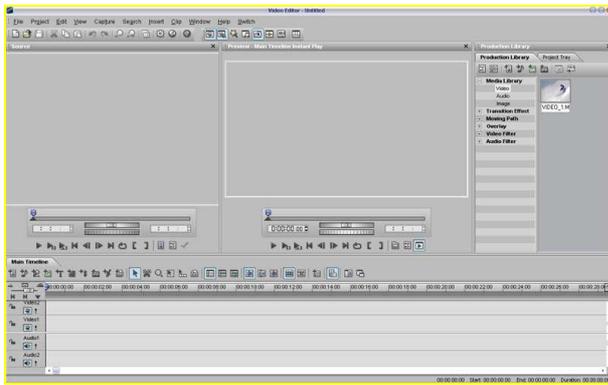
images for paper-based printing, Photoshop can also be used for a wide range of other professional and amateur purposes.

PanaVue Image Viewer



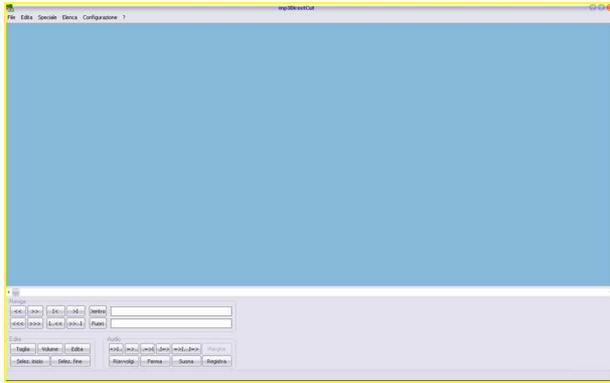
PanaVue ImageAssembler assembles (stitches) together a wide variety of images in a snap: photos of all kinds, 360 degree panoramas, in rows, columns, or matrices, maps, blue prints, and posters digitized with a camera or a scanner, aerial or satellite photos, art paintings, medical imagery... Our state of the art technology provides professional quality results even for huge size images, up to 500 MB for the final image. Easy to use in automatic or manual-stitching mode to succeed even the most difficult cases. Effectively works with non-leveled cameras and almost any lenses including full-frame fisheyes. Advanced "intelligent" image blending algorithm. Complete contextual help. QuickTime VR format supported. TWAIN compatible.

Video Editor - Media Studio Pro 8



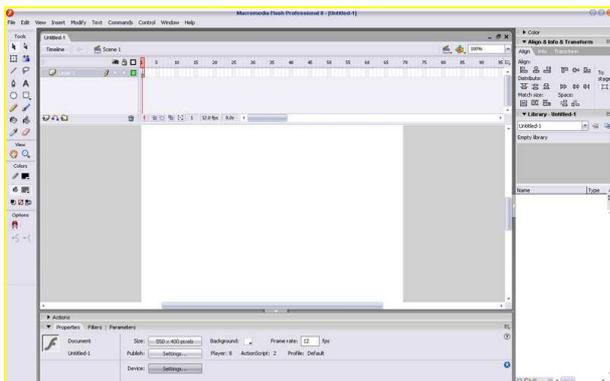
Ulead MediaStudio Pro (MSP) is a real-time, timeline based prosumer level non-linear video editing software by Ulead Systems. It is a suite of 5 digital video and audio applications, including: Video Capture, Video Paint, CG Infinity, Audio Editor and Video Editor. MSP is only available on the Windows platform.

Mp3 Direct Cut



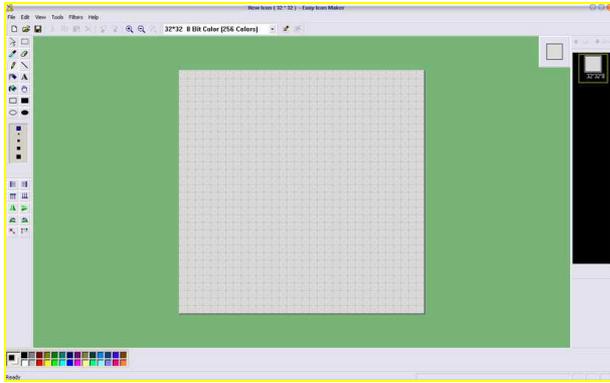
Mp3DirectCut is a fast and extensive audio editor and recorder for compressed mp3. You can directly cut, copy, paste or change the volume with no need to decompress your files (e.g. to wav format) for audio editing. This saves encoding time and preserves the original quality, because nothing will be re-encoded. The built in recorder creates mp3 on the fly from your audio input. Using Cue sheets, pause detection or Auto cue you can easily divide long files.

Flash Mx



Already a powerful tool for creating rich Internet content, Flash has evolved into a robust environment for developing online advertising, electronic learning courses, user interfaces for enterprise applications, and multimedia content. In addition to animation and vector graphics tools, Flash now includes video support for MPEG, digital video, MOV, and AVI formats. You can edit, manipulate, and animate video objects or use scripting to make your videos interactive. You'll also find new graphic design capabilities such as Bezier curves, transformation tools, and pixel-level snap control. In addition, Flash's ActionScript environment has undergone significant improvement. ActionScript Editor is now customizable, allowing you to configure text display properties (font, size, and color), syntax coloring, and toolbox panel content. Code formatting, code hinting, and an ActionScript debugger can aid in developing dynamic, data-driven Internet applications.

Icon Maker



Use this simple utility to edit Windows icons. IconMaker contains a variety of paint tools to let you edit icons in either standard or custom sizes, in color depths up to 32-bit True Color. For Windows XP and Windows Vista icons, you can use semi-transparent areas. You can import and export ICO, PNG, XPM, and other images. Paint tools include: color replacer, pencil, brush, flood fill and other. You can paint your icons pixel by pixel.

Second Example: “The Dark Room” The Making Of

Step by Step

1. The first production step of the project is the achievement of the 360 degree panorama:
 - Creation of the set. We have to prepare the room and dispose all the objects that we want to photograph during the photo shooting.
 - Put the camera on a calibrate tripod at the centre of the environment that we have to photograph. You can create a calibrate tripod simply applying a piece of paper measuring-tape (that you have previously prepared) all along the perimeter of the cylindrical central bar, just near the rotating head where the camera is fixed.
 - Choose the right photographic lens on the basis of the view we want to get and the distance from the objects.
 - Take the photos turning with the calibrate tripod. For having a good panorama, the number of pictures to take depends from the lens used: in most cases, for example using a 35-50 mm lens, 24 shots in portrait mode are necessary, or 18 in landscape mode. In this case, considering that the room was very narrow, 3 images series, taken at 3 different height (everyone constituted by 18 photographs), was carried out.
 - Elaborate the 54 images obtained, that will be all stitched together with an appropriate software.
2. The second step consists to take all the photographs that will have to be enlarged and analyzed during the game. Obviously, you have to photograph all the stages both with the objects to pick up during the game and without them. This is useful to give the player the feeling of really taking them, because they'll disappear once taken.

3. Then, it is necessary to shoot the didactic videos to insert in the game during the high spots. Infact, once the player has found and gathered all the necessary objects, he can see a video showing all the phases of technical procedure taught/learned. The video realized for this videogame are three, each one conceived for making easier the visual learning of:

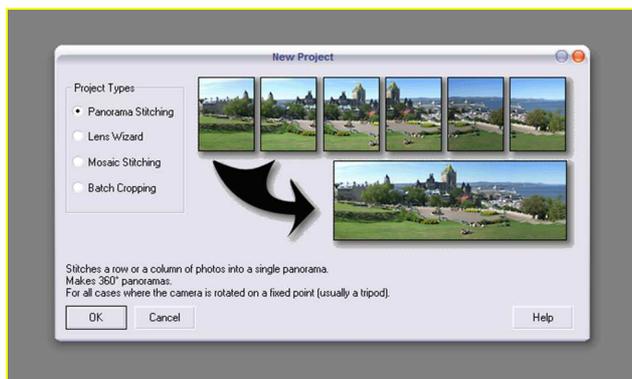
- Negative film development
- Enlarger use
- Photo development and printing

4. Now that the shooting work is carried out, we have to proceed with the editing phases. We need different software, for the image processing, for the video processing, for the authoring phase and so on, as you can see in the "software used" section. So, let's see together the fundamental moments of the procedure:

- Start downloading on the pc the photographs taken and begin to process them.



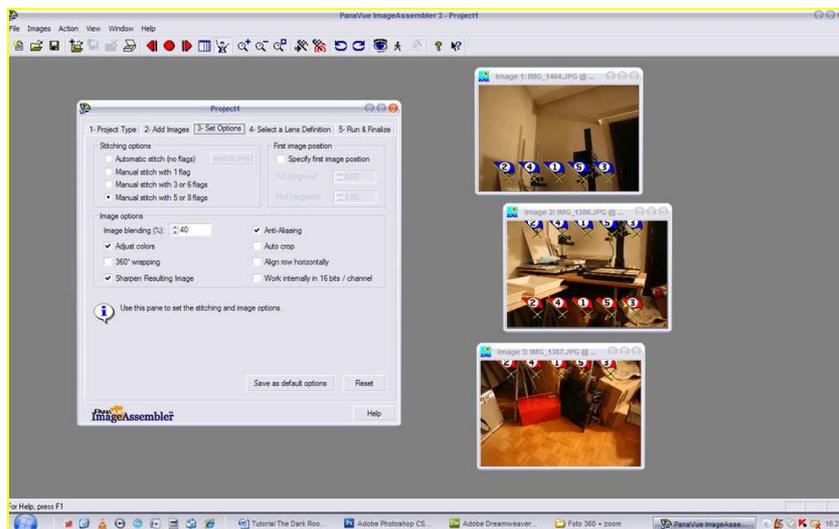
- We have to stitch them in one unique image (the panorama). So, open the images with PanaVue ImageAssembler, and begin to stitch the vertical ones



- In this case choose **single column** and confirm



- This software uses a system of matching points marked with coloured flags. The user has to choose the number of flags to get, then he has to arrange them inside every couples of photos, according with the corresponding colour. It seems difficult but it isn't, only consider that more you're precise, more the stitching will be correct.



- In this way we obtain a series of big vertical images, by stitching together 3 photographs at a time.



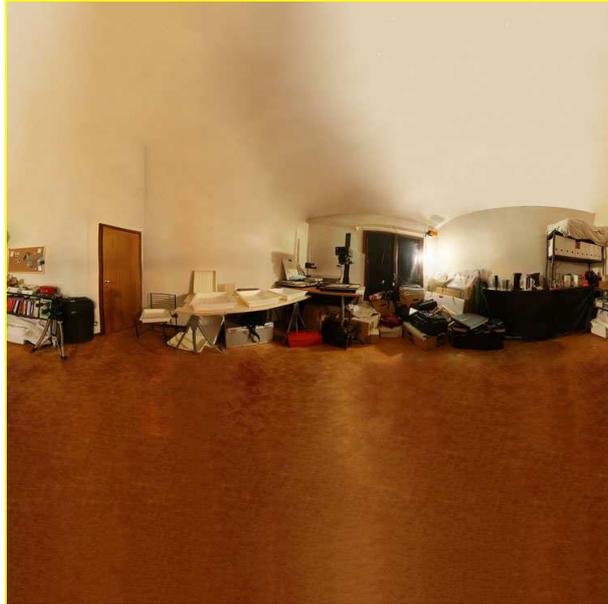
- By stitching them all together (this time in an horizontal way), we obtain *almost* the final result, a very long image whose imperfections have to be corrected with an image processing software, such as Photoshop.



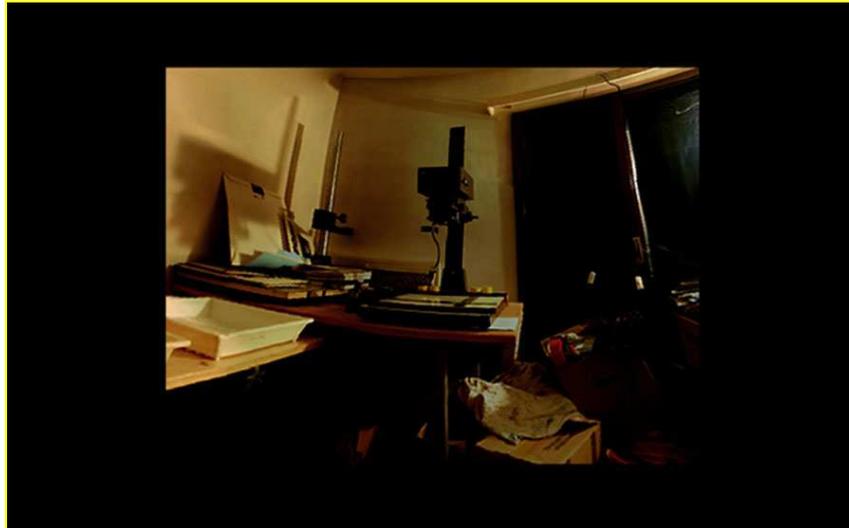
- With the same software we'll enlarge the panorama canvas into a square of 2048x2048 pixels, since the authoring software that we'll use to create the interactive adventure (Adventure Maker, see in the "software used" section) need this size for the image to be used. At this aim we have to create the superior and inferior portion of the image.



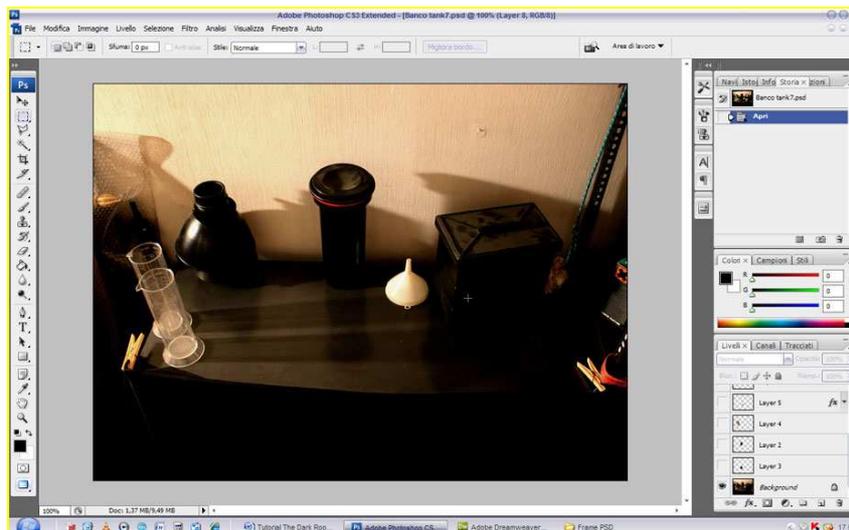
- Again, always with Photoshop, we will change the image feeling by modifying the colors and the contrasts.



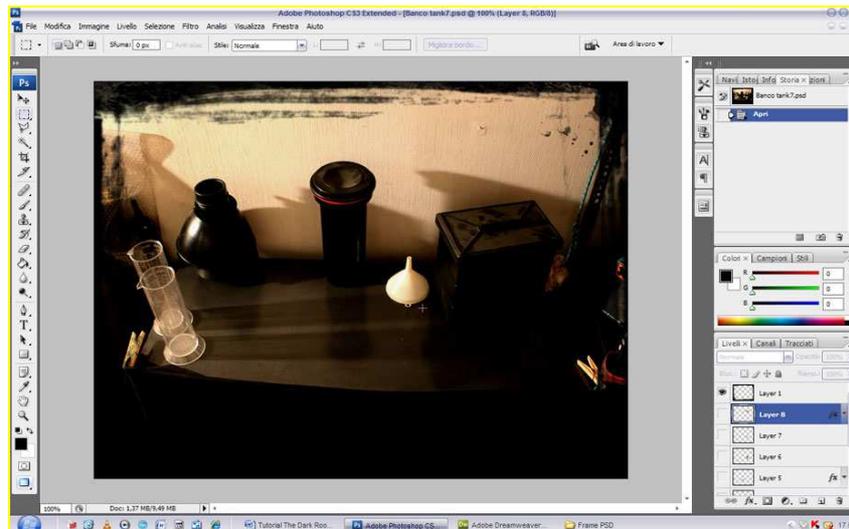
- As we have said, we will use **Adventure Maker** to create the final game. The next steps are concerning the achievement of material needed by this software. A special section of this site is completely dedicated to it, and you should read it. If you want you can download and see it **now**.
- Nevertheless, only the central part of the square image will fill the final screen rendered by Adventure Maker. This procedure is anyway necessary to make the view looks more realistic. For this reason, to get a visually correct result, the central part of the square has to be neither too much crushed nor too much lengthen. Maybe you have to make some experiments, before achieving a positive result. See below a screen capture of the final game.



- Now we have to elaborate the pictures that show the enlarged portions of the whole environment. We will prepare many images each scene, with and without the objects that the player has to pick up during the game.



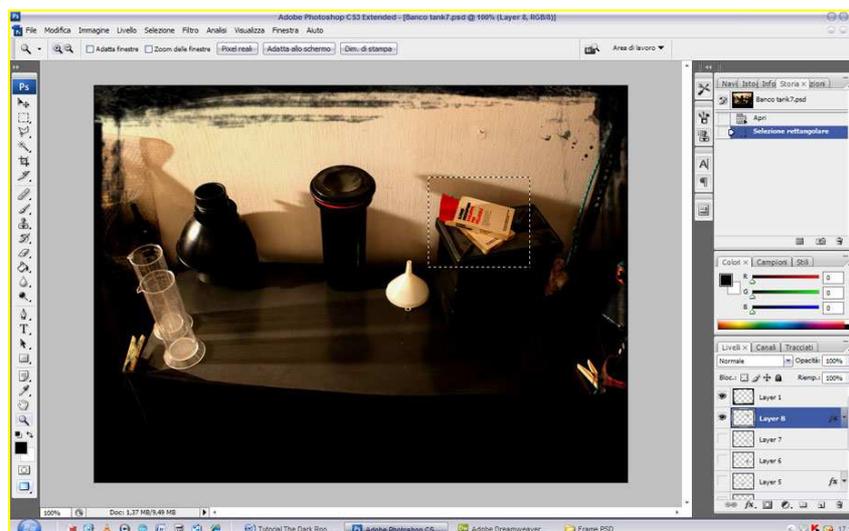
- Additionally, we can add some graphical elements in the picture to make the frames look better.



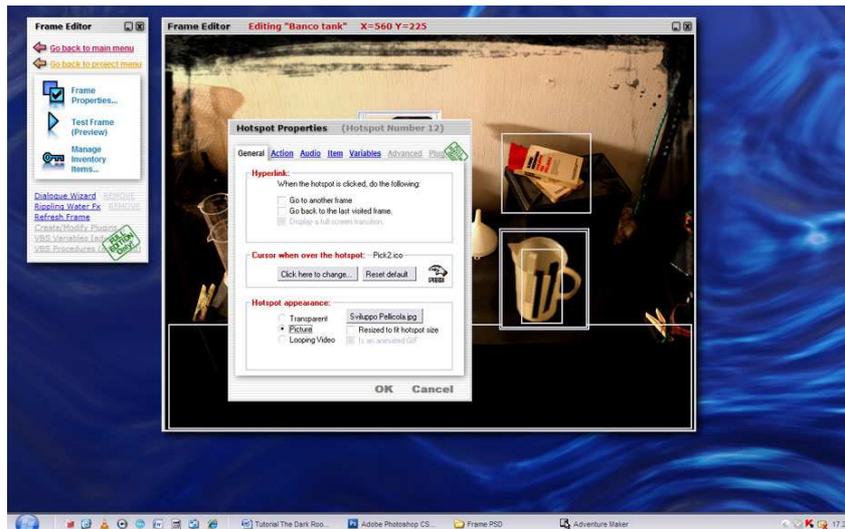
- Below you can see the image of the chemical powder as cropped from the picture complete with the objects. Saving this portion of the image in .png format (available in any image processing software) allows you to preserve the transparent background, in a way that you can work better on the frames' montage..



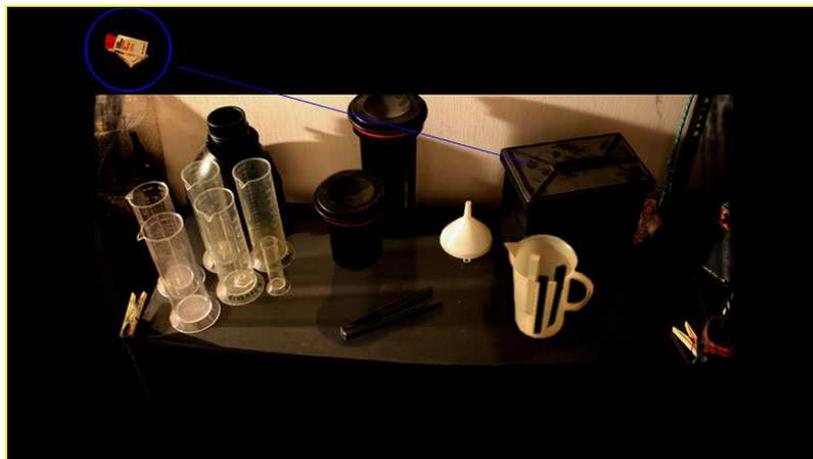
- Here you can see how the .png portion with transparent background is positioned in the right place, to obtain the frame with the object.



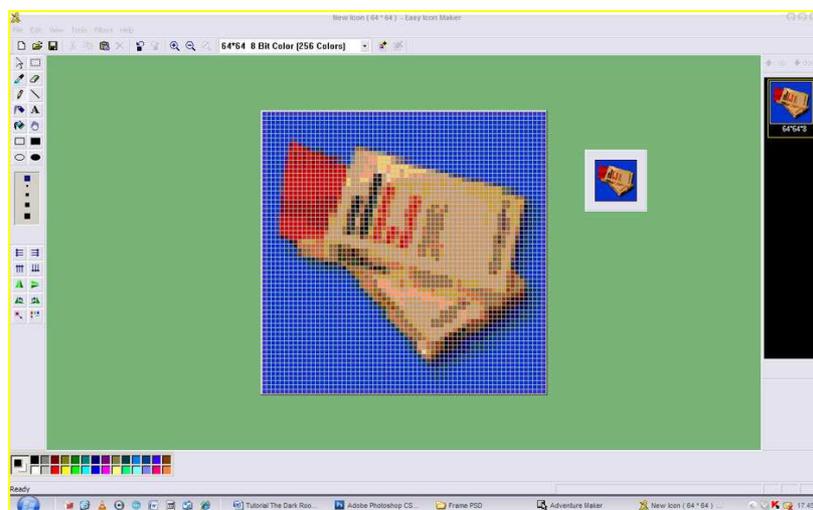
- In Adventure Maker we will have to place the image without the objects as general background of the scene; then, we'll place on it the small object's images as hotspots' background, in the right position. In this way, when the player will click on the object-hotspot, he will make it disappear from the frame..



- ..and appear inside the inventory, giving him the feeling to had really got it.

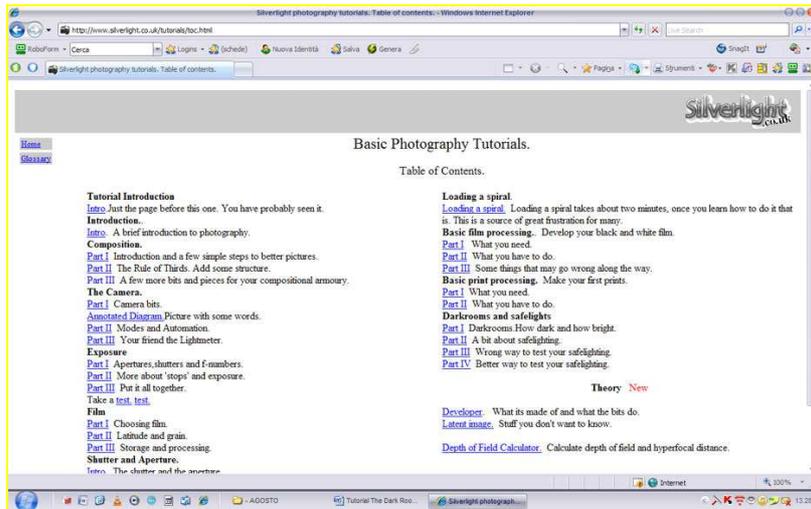


- In the following image you can see how the icon that appears in the inventory has been created with IconMaker.

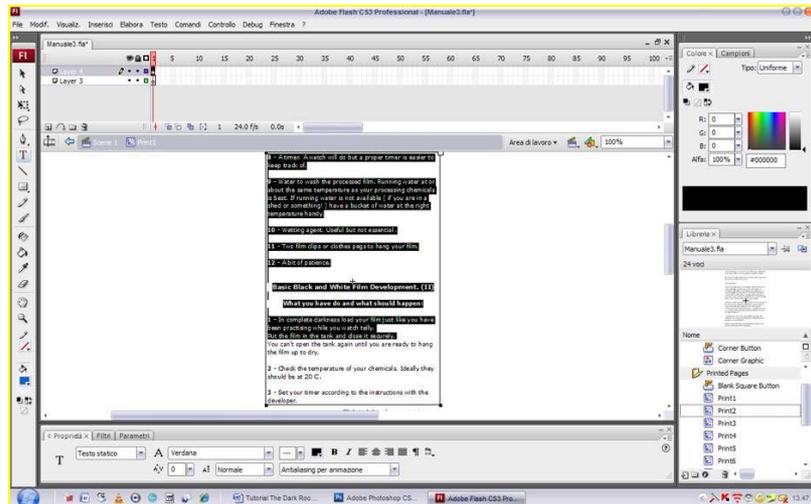


- A good way to insert animations in a multimedia application like our videogame is to use Flash. In the next steps we'll see, in broad terms, how some animations of The Dark Room have been produced. Book animation: select the most interesting

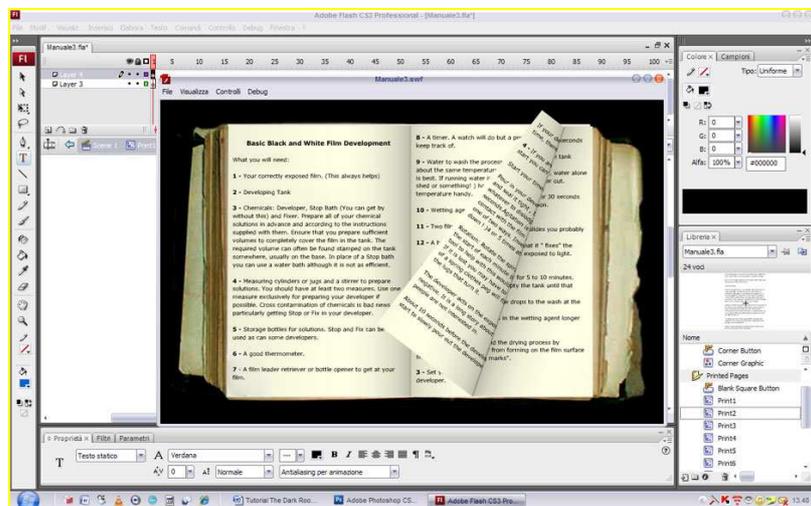
section of the learning course to create the browseable manual..



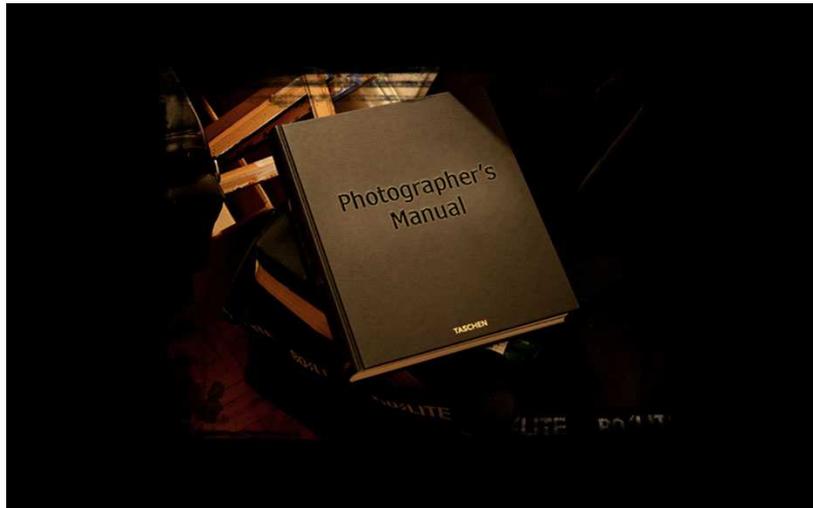
- ..we copy and past it in Flash..



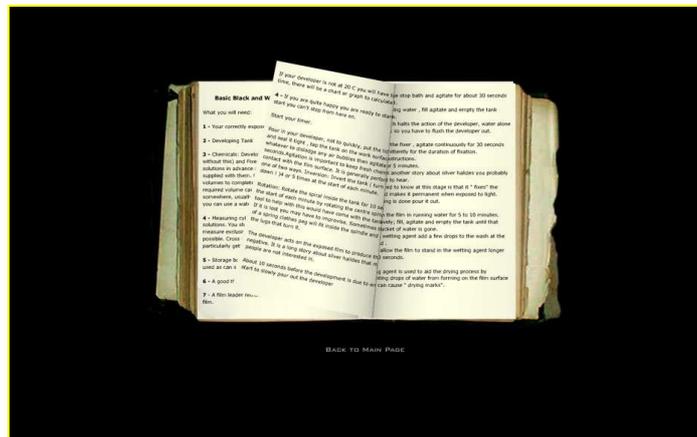
- ..then we use it inside a customisable Flash open source file available online, creatink a new Flash animation..



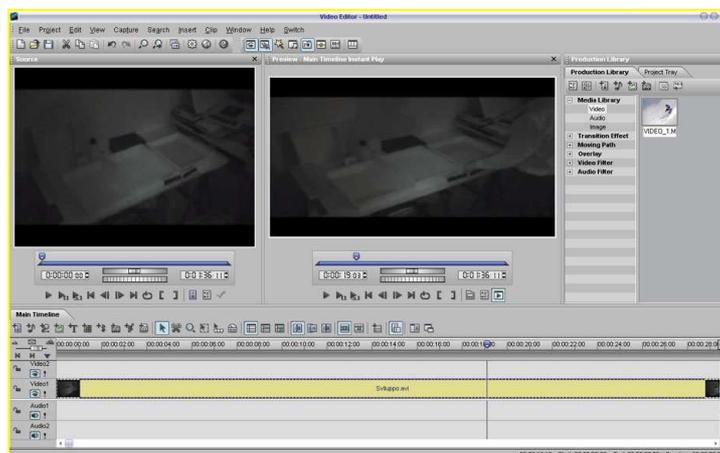
- ..then we insert it in the Adventure Maker project (as you can read in the Adventure Maker tutorial). During the game, when the user click on the manual..



- ..Adventure Maker will show the animation of the browseable book.

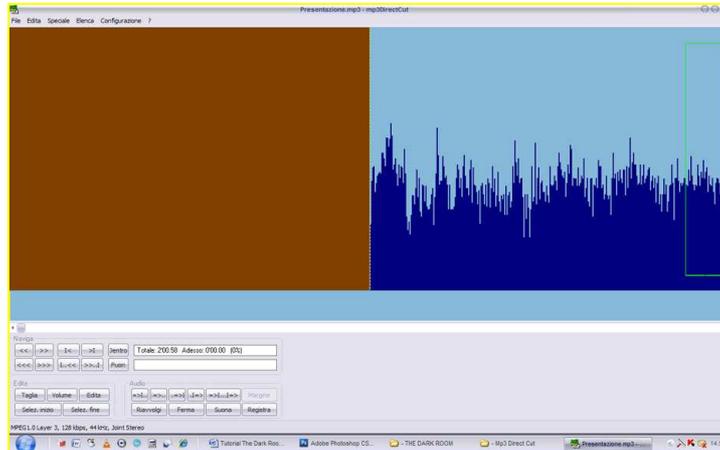


- The next step is to prepare the 3 videos embedded in the game. For doing this, we have to edit the movies previously recorded during the photo session. We will use Ulead Media Studio for the visual editing. We cut and paste sections of the original movie, adding transition effects between them to reach a more dramatic impact.

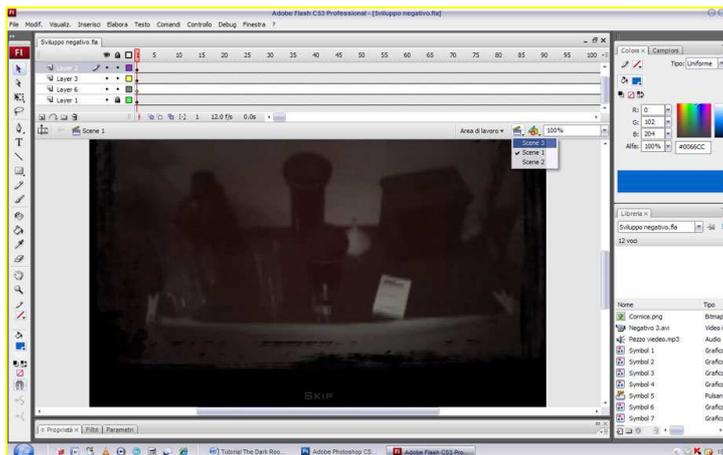


- Here below you can download a tutorial completely dedicated to the video editing using **Ulead Media Studio**

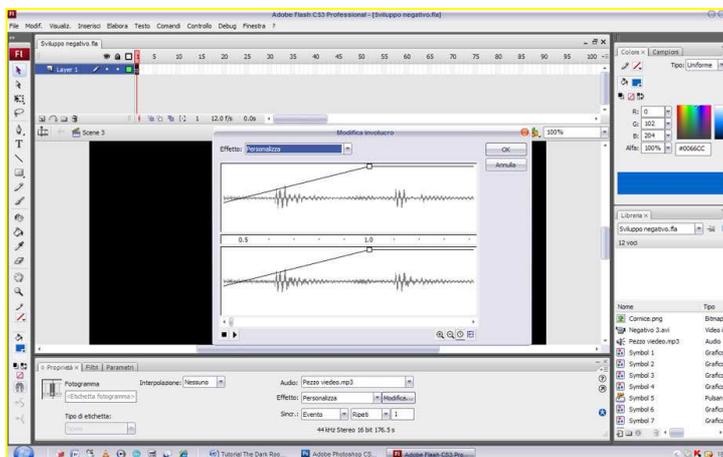
- When we edit the movies we can both use the original sound or, better, add a new one. In this last case we have to edit the sound file with a sound editor. In **The Dark Room** game some music has been arranged with Mp3DirectCut and added to the edited videos.



- Now we create 3 scenes with Flash:

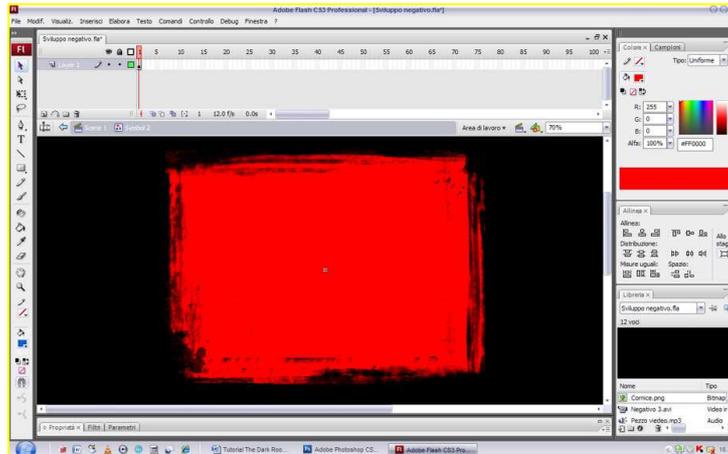


- ..the first with the audio, modifying the parameters of fade-in and fade-out volume..

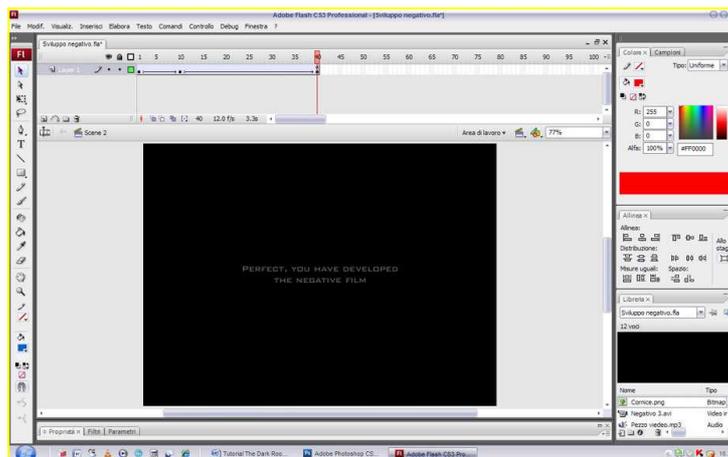


- ..the second with the just edited video, by adding the layers for making it

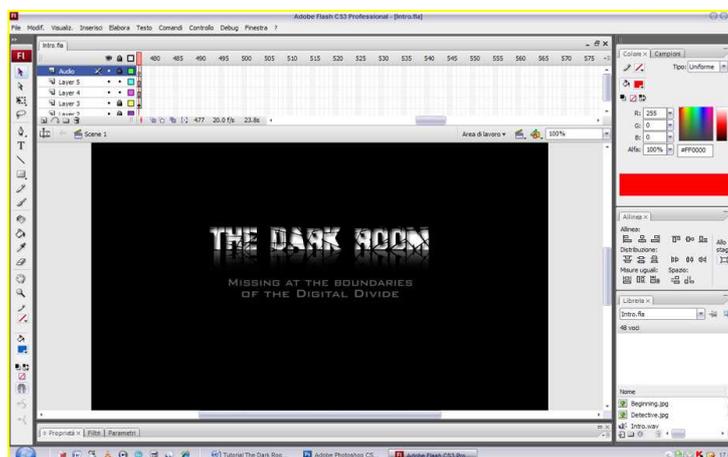
captivating and more dramatic (for example inserting a red filter that is pertinent to the light of the dark room during the negative film development)..



- ..and the third scene with the ending frame of the video, this is now saved in .swf format and is ready to be used in Adventure Maker.



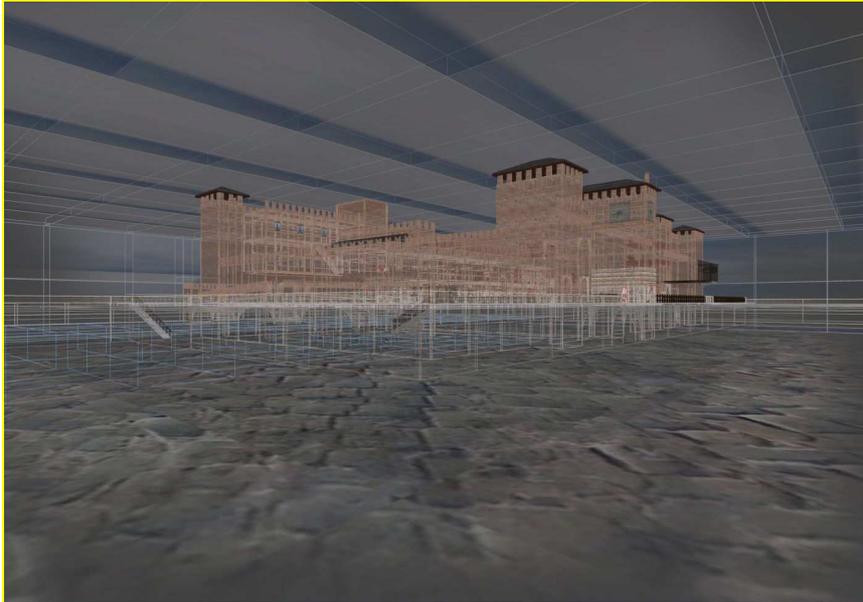
- Also the introduction of the videogame is also composed of some scenes edited with Flash.



2. How to modify videogames with editors:

“Return to Castelvecchio”

Virtual reconstruction of an historical italian Castle in Verona



The Project

The idea is to use the immersive 3D technology of the first person videogames to create a virtual visited tour of the Castle. The possibility for the user/gamer to "be-inside" the environment and to have complete freedom of movement and eyesight, gives the tour a new didactic and communication power. Moreover, the game engine used gives the possibility to be programmed and coded to make certain things happen during the tour. In this case, sometimes a voice starts that gives historical information about the Castle. The work was realized for the LG project in the context of a Thesis in Communication Science at the Univerity of Verona.



Historical information about the Castle

The castle, an imposing civic building from the medieval Veronese period, was built between 1354 and 1356 by order of Cangrande II della Scala. The design was conceived by the della Scala family as a defence against both outside invasions and popular rebellion.

The surrounding area allowed for a rapid and easy escape from the city: after crossing the fortified bridge, accessible only to the noble family, the road to the north along the Adige valley was a secure route.

The city's geographically strategic location led to the development of a fortification system, consolidating the remains of the Roman and Commune periods.

In 1404, following the brief Carrara and Visconti dominations, the city became part of the Venetian Republic. The castle was used exclusively for military purposes, as a weapons and munitions warehouse and subsequently, in the eighteenth century, became the seat of the Venetian military academy.

In the days of the anti-French revolt known as the "Pasque Veronesi" (1797) the castle was the site of numerous armed engagements. The Napoleonic epoch marked the beginning of a radical transformation of the existing structure. The plan provided for the construction of an army barracks around three sides of the drill court, but only those sections along the river and towards the Palazzo Canossa were built. This building, in neo-classical style, continued to serve a military function in the Austrian epoch.

Only after 1923 did the castle cease to serve an exclusively military function. It underwent a dramatic structural change, following plans by Antonio Avena, director of the Civic Museums, and the architect Ferdinando Forlati: the reconstruction of the swallowtail battlements, the insertion of late Gothic and Renaissance decorative elements in the facades, and extension of the pictorial decoration in "period" style. Beginning in 1925 the castle became a museum, where valuable art collections were installed.

Beginning in 1958, under the direction of Licisco Maganato, a new organization of the entire building was planned, to restore the value of the notable historical and artistic patrimonies. This critical and historical revision favored authenticity, and thus eliminated the false contexts created in the previous renovation. The task of restoration and museum installation was entrusted to the architect Carlo Scarpa, whose highly original solution is universally recognized as one of the finest examples of museum renovation of post-war Italy.

More information at the Web Site

<http://www.comune.verona.it/castelvecchio/cvsito/>

The minimum system requirements for this Game are:

Pentium II 400 MHz
128 MB RAM
Windows 95/98/ ME/2000/ NT4/ XP
1100 MB hard drive space
3D hardware accelerator with 16mb vram with full OpenGL support
56.6 kbps modem for multiplayer
An original copy of Return to Castel Wolfenstein videogame installed

Type of Game

Title: Return To Castelvecchio

Typology: Didactic Game

About: History of Art

What students can learn: Historical and artistic information about Castelvecchio of Verona (Italy)

Game's Author Informations

Name: Andrea Aldegheri

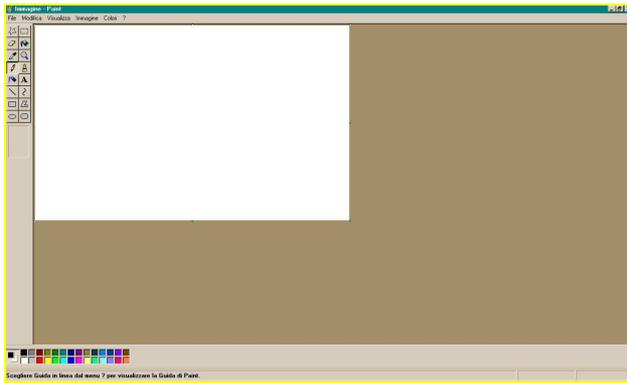
Institution: submitted by Brera Academy of Fine Arts

Country: Italy - Milan

Contact: [Mail](#)

Software Used

GTKRadiant

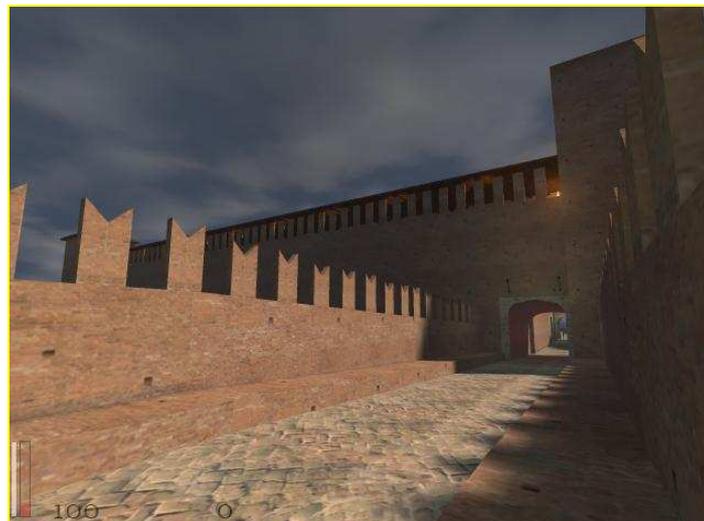


Sound recorder



“Return to Castelvecchio” Makong Of

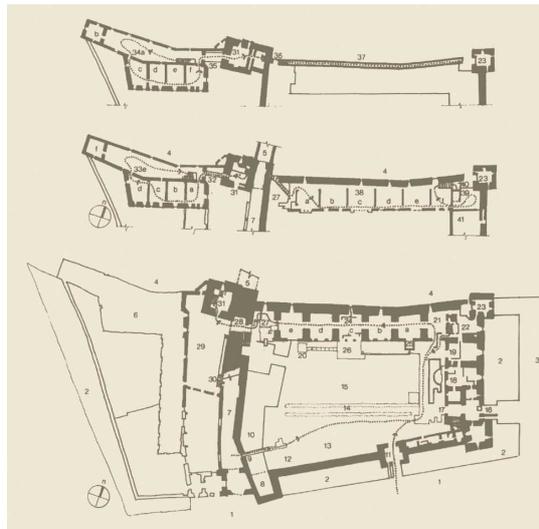
Step by Step



The creation of the three-dimensional version of Castelvecchio has been a long work separated in various phases: the first one involved the visit to the castle to understand how was made the structure of the building and the proportions of the various rooms. Subsequently in the libraries have been taken in loan books in which the plant of the building was found in all of its stairs. Subsequently, using GTKRadiant it has proceeded to the construction of the building.

The principal objective was to interpret the information of the plan with the elements perceived during the real visits and to succeed in transposing these data in GTKRadiant to get the representation of the real castle.

Almost difficult to build were the vòlts, that structures that allow, in an ancient building, to create ample voids in the walls; the difficulty is given by the fact that these architectural structures are created with GTKRadiant in an horizontal way, parallel to the sight of the plant, the one that is called **XY View** in the program. To make it rotate vertically, it is necessary to click on **Selection > Rotate** and then on the voice in base to which it is desired to rotate the selected object; by default the program proceed with a rotations of 90°, but if we desire some rotations of different anglings we have to click on **Arbitrary rotation** and in the window that will appear we have to indicate the axle of rotation and the number of degrees needed.



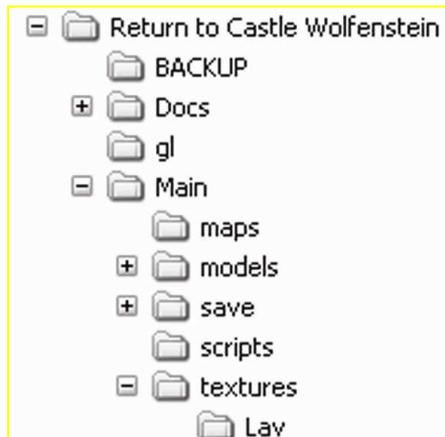
GTKRadiant basics for create buildings

GTKRadiant is a free software downladable from the site www.qeradiant.com. It allows, using the graphic engine of the game (in the case of all the videogames of the ID- software it is Trinity), to create some MODs, "modifications" of the games itself.

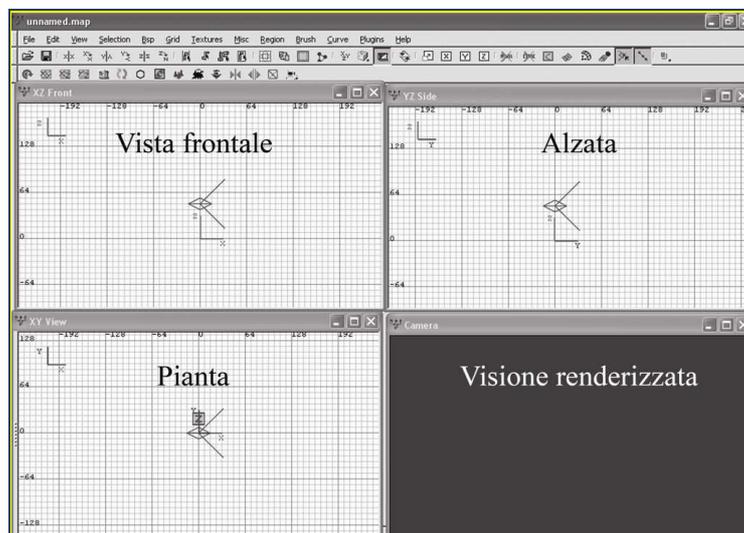
The program it is not found directly on the site above, but it is avabile through a series of mirrors.

To create a 3D environment , a "place" in which the player moves inside, ite is necessary that this is the fluiddest possible, and this is realizable by reducing the number of polygons present on the renderized scene. The rendering engine, for every frame reads the inputs of the player, calculate the new position in the map,, individuates the position of possible BOT or of other players, elaborates the collisions and the animations, draws the frame, sincronizes the whole in real time and, finally, shows the output on the screen.

Once uploaded GTKRadiant we have to proceed to its installation, during which the user it is prompted to indicate the path of the main directory of the game; once done this, the installation program ends the procedures and it is ready to be used.



Done this it is possible to immediately begin to build, but first of all it is necessary to set up the inside windows that allow us to visualize the MOD that we are going to realize, because for a good construction many views are needed: the view from above, the frontal and the side views and, very useful, the one that shows us the whole rendered scene in real time, that is a three-dimensional preview with low quality textures applied that has the purpose to make us understand what we are doing and where we are working on.

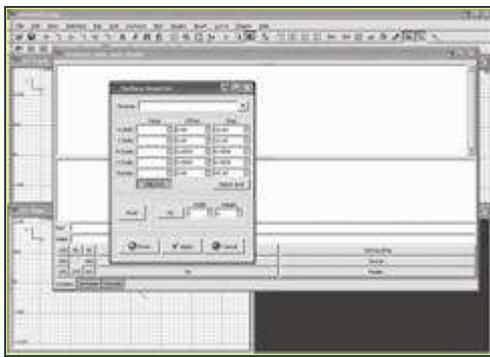
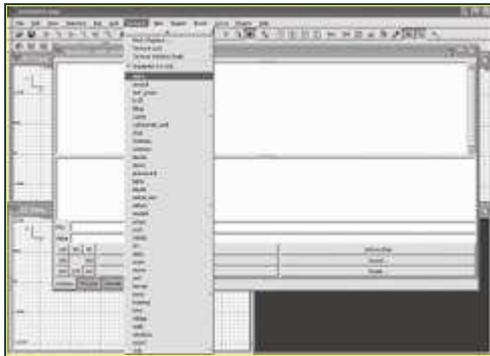


It is now necessary to begin to build the first wall: with the mouse pointer moved upon the view from the above, we draw a rectangular selection holding pressed the left button of the mouse; then we move on one of the other two windows -the frontal view or of the side one- we click a little above the border of the rectangle and -by keeping the left button of the mouse pressed- we move it in vertical toward the above: in this way a height is given to the rectangle just built.

In this way we have just built the first wall, and we can preview it in the fourth window, the one of the rendering preview.

As it regards the textures, in the map there are two ways of use them: the first one is to use those available in the game itself; while the second way consists of importing them from outside the game as image files, and this is possible by putting them in the Texture folder created inside Main, located in the directory of the game. The images have to have dimension of the sides calculated in power of two ($2^x \times 2^y$ where $X = Y$ or $X > Y$ or $X < Y$; for example $28 \times 28 = 256 \times 256$ or $28 \times 26 = 256 \times 64$ or $26 \times 28 = 64 \times 256$) and a resolution of 72 DPIs (Dot For Inch), that is the image is composed from 72 bright points for every linear thumb, in how much superior resolutions or greater dimensions would make the game crashes, causing, in this way, the reset of the

computer, since the required memory to make the game work would be very superior to the memory that is found installed on the mother card.



The construction of a room implicates that we have to build the figure six times in a way to have all the six walls of a room.

For connecting two rooms through a corridor, it is necessary to create the passages in the walls and this is done by lifting from the level of the floor a wall, filling the space with another wall and giving attention by keeping free the space for the passage where the doors are previewed; finally by connecting the two rooms with a corridor, that it is nothing other than another room deprived of the walls that have to allow the passage.

In this way it is possible to create a great variety of environments, from the houses to the castles, and even to build some futuristic environments.

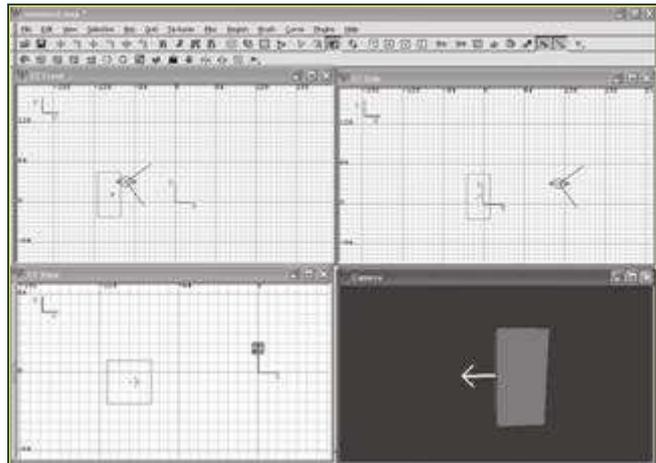
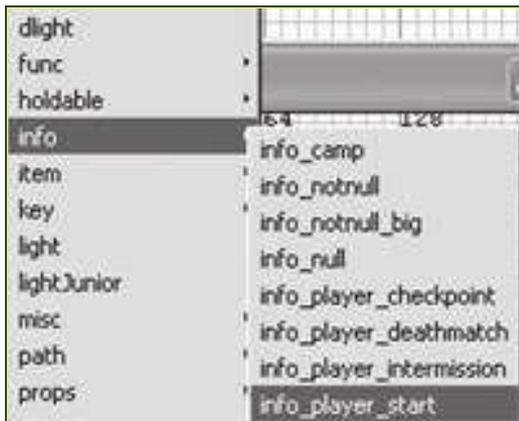
To apply the textures on the model that has just been created (after putting them in the proper directory) we have to select the brush and, subsequently, move above the menu bar and click on **View> Toggle> Console View**; by doing this, a window appears in which the textures are seen, but the window appears empty, because the images have not yet been loaded. For loading them, we have to click on the menu bar on the voice **Textures** and in the list that appears we have to choose the images, that are grouped in various typologies according to what they represent. It is enough then to select firstly the brush and after the texture to make it be applied above the brush.

Once inserted the texture it is necessary to manage it, and this means to widen or tighten it up so that it covers the whole width, height and depth of the object, in such way that no points of junction are seen; or to make that the square of the texture has

the same dimension of the base and the height of the used file and that it is repeated so many times how many are necessary for covering the whole object.

To do this it is needed to click on the **Textures** menu and subsequently on **Surface inspector**: in this way a window opens in which by clicking on **Fit** it is possible to widen the texture on the surface avoiding that it repeats; by clicking on **Axial** the square of texture is multiplied up to cover the whole object.

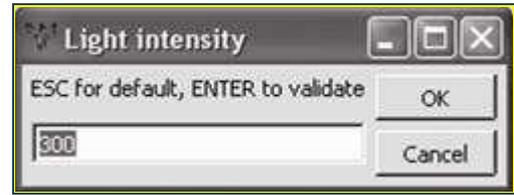
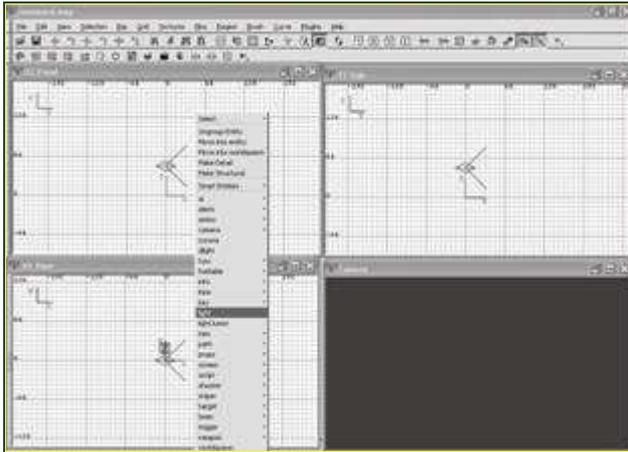
There are then other options, as **H Shift** and **V Shift** that allow, respectively, to horizontally and vertically lengthen the image; then modifying the values in **Rotate** it is possible to rotate it, while for moving it we need to modify the values in **H Scale** and in **V Scale** with the result that, for example, we can make begin a tile of the floor precisely next to the wall, so that to create a best illusion of reality.



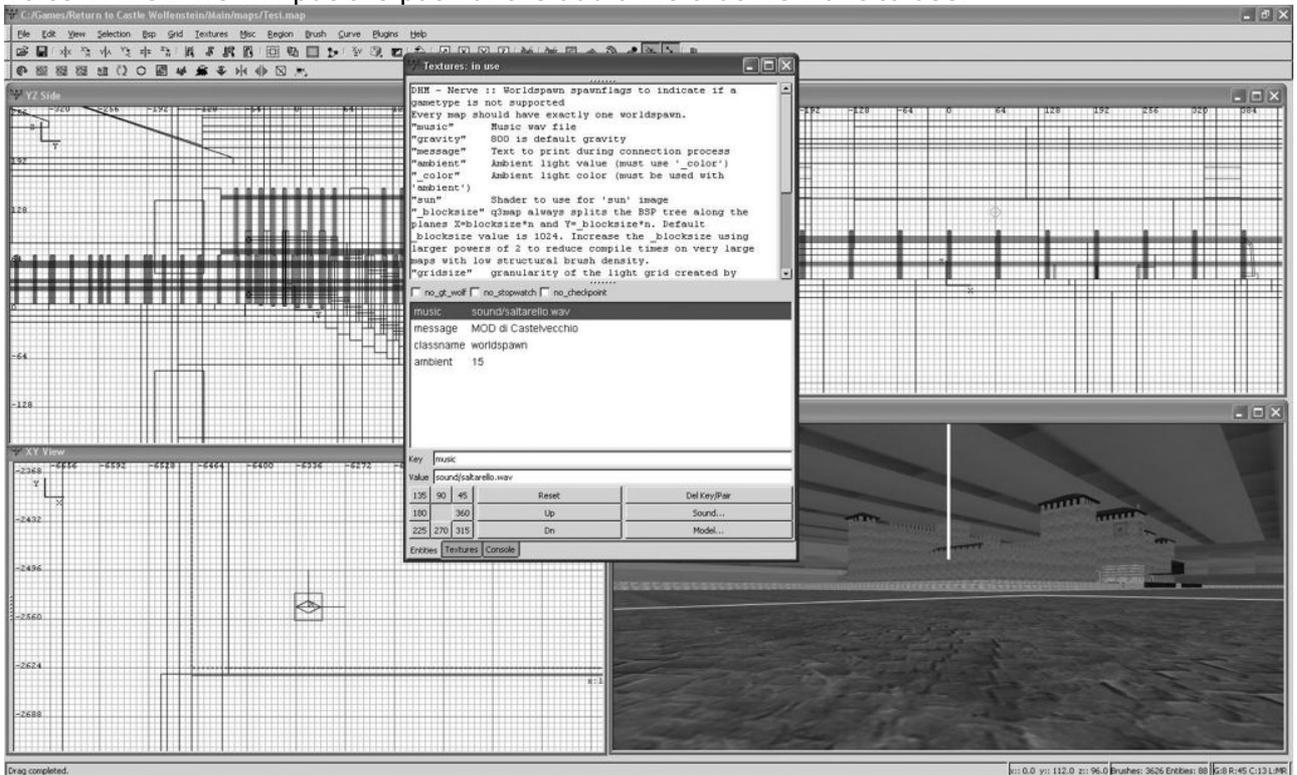
It is now necessary to create the point from which the player will have access to the level. To make this we right click on the created map: by doing this, a menu it appears and in it we have to choose **Info** and then **info_player_start**. In this way a red figure it appears (we can put only one of this inside any map). From that point, once compiled, the game has beginnin. This object, as you can see in the image above, it is endowed with an arrow and this points out the direction in which the look of the character is facing at the beginning of the adventure.

Now we have to complete the elements that compose the scene, the models and the camera, that is is managed by the player and that he can modify his liking, by inserting the lights, whose purpose is, besides to illuminate the scene, to create pathos in the player by lowering the level of brightness in certains moments of the game.

The light is inserted by right clicking with the mouse in the part of the level in which is wanted to position it: a menu will appear and here we have to choose the voice Light: a dialogue box will appears in which it is asked to indicate the intensity of the bright ray. In this way it has been created a light point that can be duplicated as much as you like.



Inside the map just created it is possible to insert an environmental sound, that is activated in the moment in which the level is loaded: to do this we have to select any brush of the map, activate the **Entity View** and insert **MUSIC** as value in **KEY**; in the voice **VALUE** we will put the path of the audio file that we want to use.

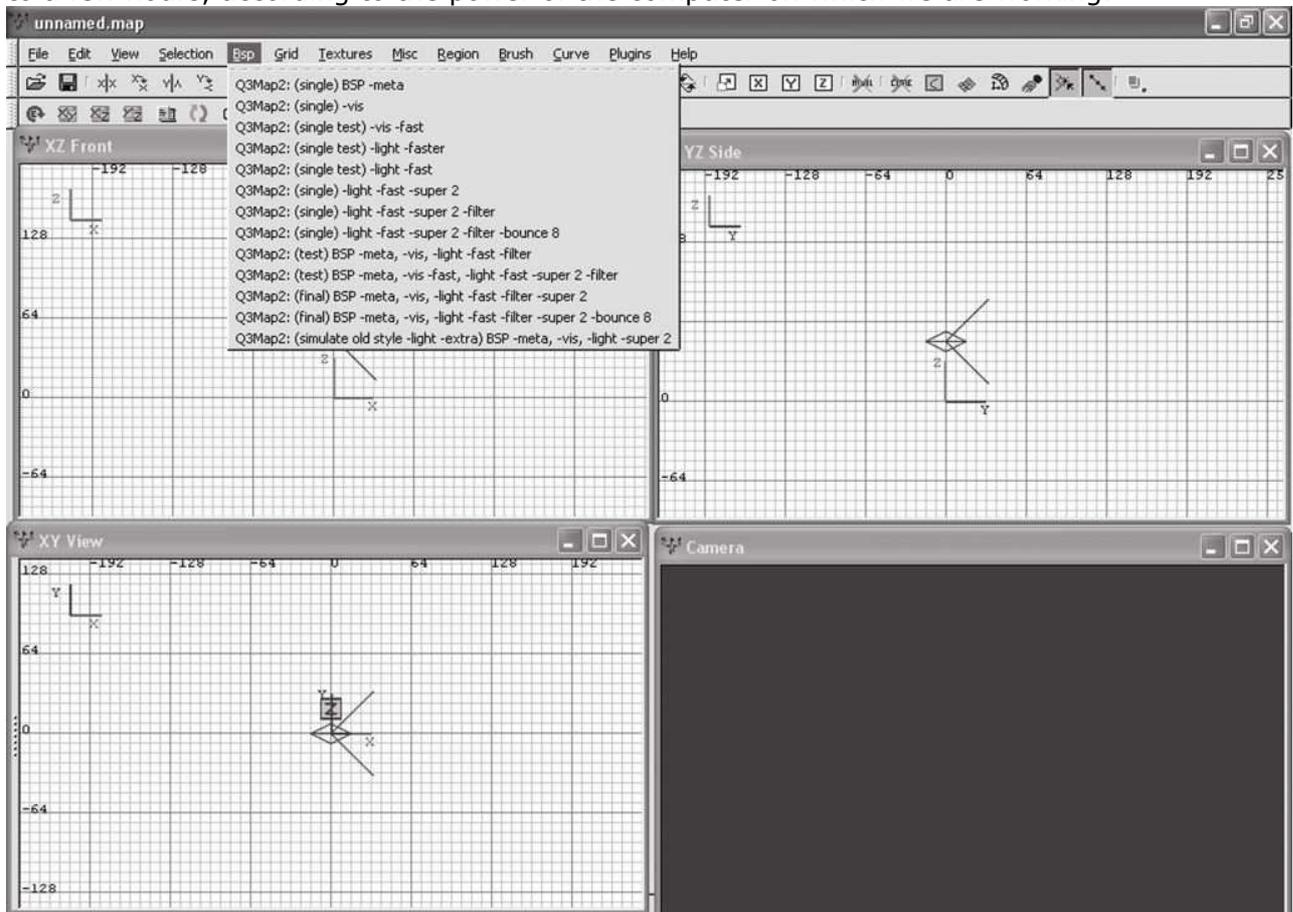


As has been mentioned above, the map, once completed, must be compiled. This operation has a double motive: the first one is to allow some controls aimed to discover malfunctions or errors of coding; the second and most important, is to allow the diffusion of our own work through various channels, such as the peer-to-peer, the e-mail or simply the upload on sites or forums from which other users can download it.

To create a map so that to have a preview, we have to click on **Bsp** and then on **Q3Map2: (single) BSP - meta**: it appears in this way a MS-DOS window in which there are shown the elaborations that are running and the percentage of completion.

After having ascertained that the map correctly works and that it is in conformity with what we have established, we have to click on **Bsp** again and then on **Q3Map2: (final) BSP - destination, - vis, - light, - fast, - filter, - super 2, - bounce 8** for having the

final compilation of the map. This second operation needs more time in comparison to the preceding one to be completed, because all the elements of the map are compiled (the shaders, the reflexes and all the elements that improve the perception of the MOD are elaborated); for this reason the time of elaboration can last from about ten minutes to a few hours, according to the power of the computer on which we are working.



The result of the compilation process is a file with extension "BSP", acronym of "Binary Space Partition", that is the type of file used by John Carmack when it conceived Doom, due this game and others that have the same graphic engine use this type of file.

The process of compilation is subdivided into four single processes linked between them: the first one organizes and identifies the data of the map, as the audio and the textures; in the second phase the surfaces are built in a three-dimensional way; in the third phase the lights are elaborated, their color on the various surfaces and the shaders; in the fourth and last phase the file of area is created (with extension "AAS"), that gives instructions to the BOTs (characters that stir in the map and with which it is possible to interact in various way) about thing to do and how to stir in the map.

Now that the work has been completed, it is necessary to test it, and for doing this it is necessary to start the game and to access the command console; to do this we have to press the key \ and then digit the command "map" followed by a space and by the name of the map itself. After some instants the map is loaded and it becomes possible to move inside the environment just created.





Chapter Three

The Problem of Violence in Videogames

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1. Psychology of aggression

Gaming has two sides, positive as well as negative affects. Games are not just for fun - they have an effect on the player. In all compound of computer games Educational games constitute only a little part. Researches shows that more than 50 per cent of videogames contain serious violence.

The term of violence (in computer games) is not so easy to define. Is self defense or defense of the family, country, etc., the violence? If "good" is fighting against "evil", is it the violence?

Trying to answer the question, why children are aggressive, psychologist say that sometimes children do not have the social skills or self-control to manage their behavior. When children can't find the words to deal with aggressive feelings or are not encouraged to express themselves, they become frustrated. At other times, children cannot cope with growing levels of anger in themselves or in others. In both cases, children need to learn acceptable ways to assert themselves and to learn coping skills.

The aggressive kids will rarely have self-confidence and gains it through aggressive behavior. Aggressive kids are attention seekers and they enjoy the attention they gain from being aggressive. Power brings attention and the aggressor has learned this. Due to the child's weaker self-image and the fact that he or she doesn't fit in, they try aggressive behavior and soon become leaders, even though they usually know that they are behaving inappropriately.

Research indicates that playing violent games increases aggression in players in both everyday settings and laboratory studies. Scientists have noted playing violent games leads to increased aggressive behavior, thoughts, increased physiological arousal and decreased levels of helping behavior. It is an established fact that consistent exposure to violent games leads to delinquency, fighting in school and outside, as well as criminal behavior.

Since games are interactive they involve participation of the player and this tends to influence thinking as well as intuitive reactions. This being so, violent games are more harmful than violence in movies or television.

Psychologists estimated relationship between violent video game playing and brain function. Brain scans of kids who played a violent video game showed an increase in emotional arousal - and a corresponding decrease of activity in brain areas involved in self-control, inhibition and attention.

Psychologists have noted that aggression escalates in players who already have an in born tendency to aggressive behavior and that repeated exposure to violence is like a conditioning and over time, the person becomes trained or conditioned to be violent.

Computer games usually stresses the positive outcome of violence. Playing violent games teach the gamer that success can be had from being violent. Gaming rewards violence, so gamers tend to start believing that violence can be rewarding. In games

increases the impact in the minds of gamers, especially kids. Violence in gaming tends to teach gamers that violence is the way to solve differences or conflict. Repeated gaming increases a gamer's aggression and tendency to fight, argue, and use physical force to win an argument or settle differences in real life. American Academy of Pediatrics states, there are several measurable negative effects of children's exposure to violent entertainment. These effects take several forms.

Children who see a lot of violence are more likely to view violence as an effective way of settling conflicts.

Children exposed to violence are more likely to assume that acts of violence are acceptable behavior. Viewing violence can lead to emotional desensitization towards violence in real life. It can decrease the likelihood that one will take action on behalf of a victim when violence occurs. Entertainment violence feeds a perception that the world is a violent and mean place. Viewing violence increases fear of becoming a victim of violence, with a resultant increase in self-protective behaviors and a mistrust of others. Viewing violence may lead to real life violence. Children exposed to violent programming at a young age have a higher tendency for violent and aggressive behavior later in life than children who are not so exposed.

But educational games are not the same as today's commercial video games. Instruction, rather than entertainment, is the purpose of educational games. Educational game design must target the desired learning outcomes, and design a game to achieve the specific learning goals. Educational games must be built on the foundation of learning science. This requires expertise beyond the specialists that design commercial entertainment games. In fact, educational games represent a new type of product – where knowledge of pedagogy is integrated with the features of games that are so motivating, engaging, and rewarding to users.

2. How to channel competitiveness

The games' interactivity allows for a continuous stream of challenging and competitive situations that have to be resolved by the players. Competition is therefore regarded a key element of the explanation of players' entertainment experience. Competitive elements are considered the most important determinant of the enjoyment arising from playing video games. Although the simple exploration of the available possibilities to act may also be entertaining, the suspenseful coping with challenges such as tasks, dangers, and threats that may lead to highly enjoyable success appears to be the more important source of entertainment during the playing process. However, engagement in competitive situations holds the risk to lose, which would cause negative emotions and reduce the enjoyment. Playing computer games is therefore expected to be fun only if a sufficient portion of the competitive game situations is mastered by the player. For this reason, many games allow for adjustments of difficulty levels in order to regulate the probability of success and failure in competitive situations according to the player's skill.