



## EASY CODING STUDENTS' HANDBOOK

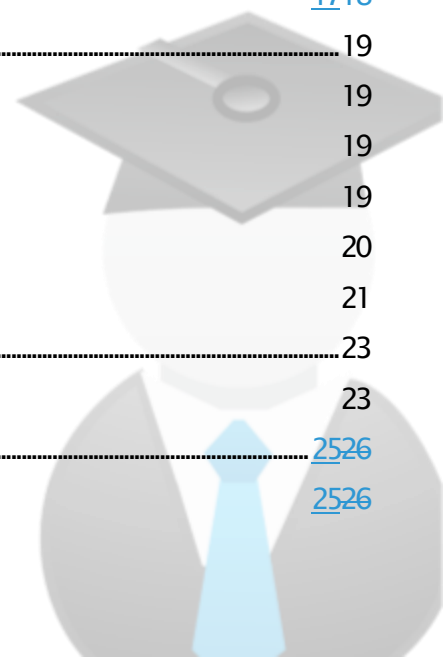
### PROGRAMME OF THE COURSE

1. THE BASICS OF WORKING WITH LAYERS IN PIXLR EDITOR
2. PICTURE ADJUSTMENTS, FILTERS, RETOUCHING
3. GAME DEVELOPMENT WITH CONSTRUCT 2
4. THE EXPLOSION EFFECT, KEEPING SCORE
5. ANIMATIONS BASICS, GAME LEVELS
6. DESIGN, WHY IT'S IMPORTANT: GAME INTRODUCTION SCREEN, GAME OVER SCREEN, GAME RULES, EXPLANATIONS
7. COMPUTER GAME PROJECT WORKFLOW: GAME SCENARIO, GAME RULES, GAME DESIGNER
8. GAME PUBLISHING, FTP SERVERS, HOW USE IT
9. ELEVATOR PITCH, WHY IMPORTANT TO SPEECH ABOUT YOUR WORK



## Turinys

Lesson 1 .....	3
Objective .....	3
Introduction .....	3
Finding images on the WEB .....	3
Did you know? .....	5
Question to blow your mind: .....	5
The basics of working with layers in Pixlr Editor .....	5
Cutting things out the easy way using the Magic Wand in Pixlr Editor .....	6
Step-by-step: how to use the magic wand .....	6
File formats in Pixlr Editor .....	7
How to use layer mask .....	8
Question to blow your mind .....	9
did You know?: .....	10
More online editors? .....	10
Lesson 2 .....	11
How to use the clone stamp tool in Pixlr Editor .....	11
Cloning, step-by-step .....	11
Example of usage .....	11
Picture adjustments .....	12
Question to blow your mind: .....	12
Lesson 3 .....	13
Objective .....	13
Game Development with Construct 2. .....	13
Add new picture - sprite for background .....	<a href="#">17</a> <a href="#">18</a>
Lesson 4 .....	19
Explosion effects .....	19
Add event on Collision Ball with Bird .....	19
Scores and Creating a heads-up display (HUD) .....	19
Tablo Scores .....	20
Sounds import .....	21
Lesson 5 .....	23
Animated sprites .....	23
Lesson 6 .....	<a href="#">25</a> <a href="#">26</a>
Design .....	<a href="#">25</a> <a href="#">26</a>



Simplicity	<a href="#">2526</a>
Questions to blow your mind .....	<a href="#">2526</a>
Did you know?.....	<a href="#">2526</a>
Lesson 7 .....	<a href="#">2628</a>
Lesson 8.....	<a href="#">2729</a>
Game publishing. FTP servers, Google drive. How use it.	<a href="#">2729</a>
<i>UPLOAD YOUR EXPORTED GAME FOLDER TO GOOGLE DRIVE</i>	<a href="#">2729</a>
Annotation .....	<a href="#">3032</a>
Questions to blow your mind: .....	<a href="#">3032</a>
Did you know?.....	<a href="#">3032</a>
Lesson 9.....	<a href="#">3134</a>
Explain your creation shortly, but impressive. Elevator pitch.	<a href="#">3134</a>
Creating the "Elevator Pitch"	<a href="#">3134</a>
Questions to blow your mind: .....	<a href="#">3235</a>



## Lesson 1

### Objective

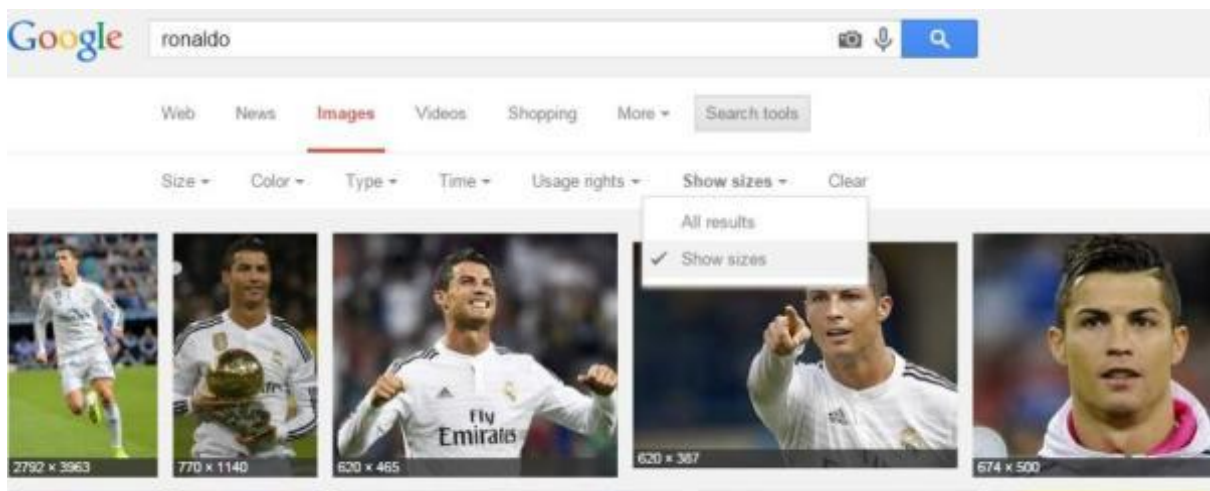
#### Introduction

Before we will start computer game creation, let's spend some time on images editing.

#### Finding images on the WEB

You can search Google for images, just like you can search for websites. Go to [images.google.com](http://images.google.com) and search for a word or phrase. All the results will be images.

When you do a Google Search, you can filter your results. Once you've decided which type of results you want, you can refine your results even further using "Search tools". Search tools can include things like location, colour, size, and the date a page was published. You can also use advanced images search [http://www.google.com/advanced\\_image\\_search](http://www.google.com/advanced_image_search) to turn on showing images sizes: Search tools, Show sizes, Show sizes.



#### Reverse image search

You can use a picture as your search to find related images from around the web. Search using an image works best when the image is likely to show up in other places on the web. So you'll get more results for famous landmarks than you will for personal images like your latest family photo.



If you're on Chrome or Firefox 4+, you can drag an image from your computer into the search box.



*Exercise 1:*

Find and download the biggest picture file as you can find with Apollo 11 astronaut Buzz Aldrin when he walks on the surface of the moon near the lunar module "Eagle".

*Exercise 2:*

Find and download the medium size transparent PNG type picture file (about 800px at long edge) with red car and simple background.



Advanced Image Search

Find images with... To

all these words:

this exact word or phrase:

any of these words:

none of these words:

---

Then narrow your results by...

image size:

aspect ratio:

colors in image:  any color  full color  black & white  transparent  this color:

type of image:

region:

site or domain:

SafeSearch:

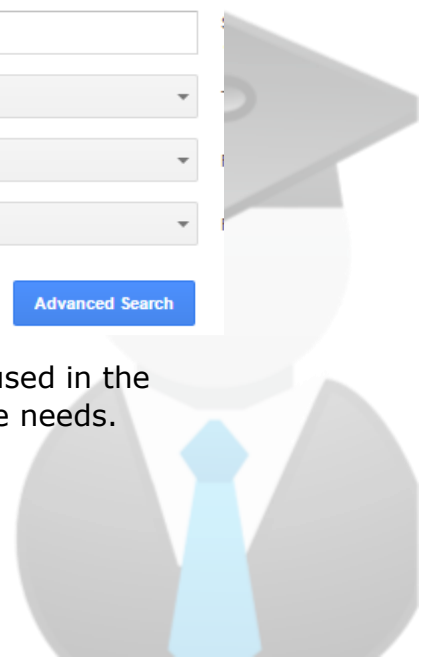
file type:

usage rights:

[Advanced Search](#)

(Teachers need a place to access safe images that are available to be used in the classroom and for educational purposes. "Photos for Class" meets these needs.

<http://www.photosforclass.com/>)





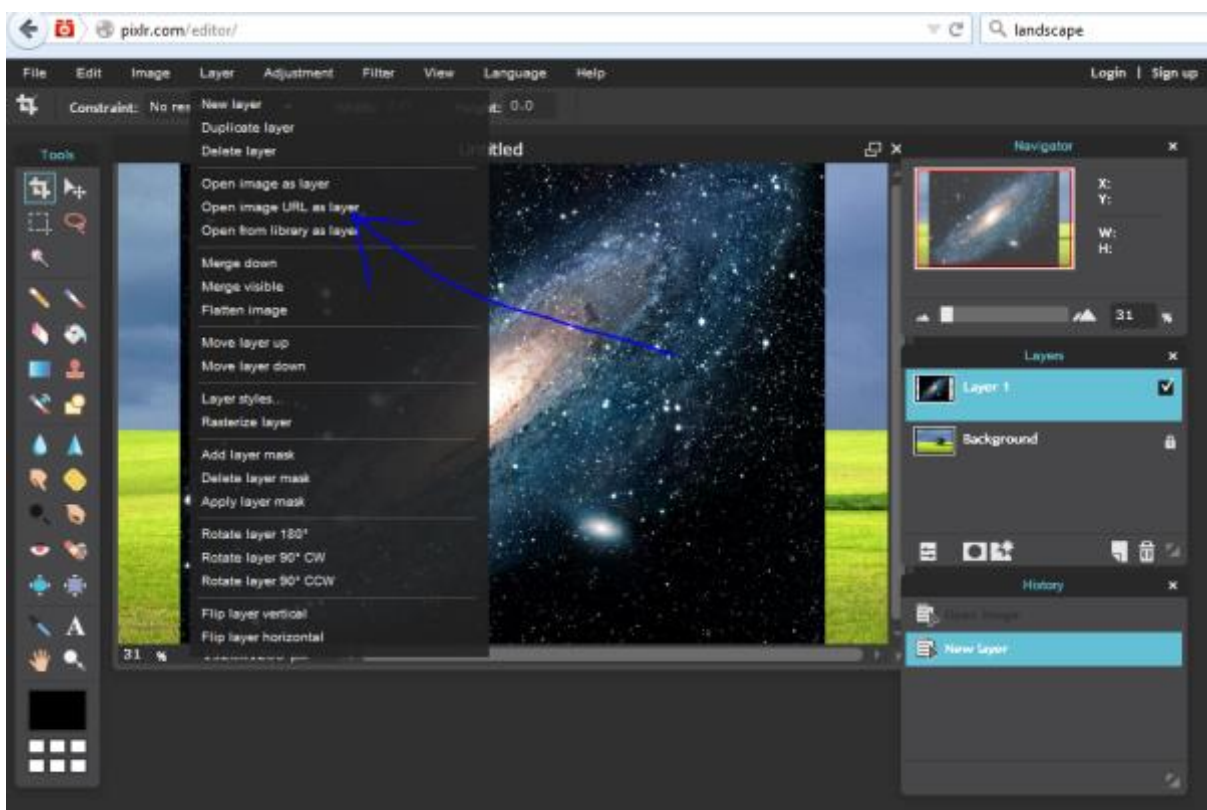
**Did you know?** Depending on your computer's operating system, you can probably drag-and-drop images to your computer. For example, if your computer runs Windows, you can drag-and-drop images from the Image Results page to your Windows desktop or to a folder within Windows Explorer.

**Question to blow your mind:** How it is possible to make algorithm for looking for similar pictures? Why sometimes computer makes mistakes on this?

### The basics of working with layers in Pixlr Editor

Layers are what make [Pixlr Editor](#) a powerful graphic design tool. We are going to open two images and to join it to third one "strange" landscape image with changed sky made by telescope. Open to Pixlr Editor Landscape picture. We will use this <http://goo.gl/29oVjN>. (You can work with your favourite pictures). Its background layer.

Another picture <http://goo.gl/kC6TFK> we will load second layer by menu Layer, Open Image URL as layer.



As we see, loaded pictures have different sizes. Make Layer 1 picture a little bit bigger. Edit, Free transform (Ctrl+T). Drag on the corner and for finish press Enter. Use eraser tool to understand how it's possible to reveal background. Opacity of layer 1 we can reduce temporary. It helps us to see where horizon begins and where we should avoid erasing Layer 1.



### Exercise:

Find picture with beach with boring sky (without clouds) and add another picture with beautiful clouds in the sky.

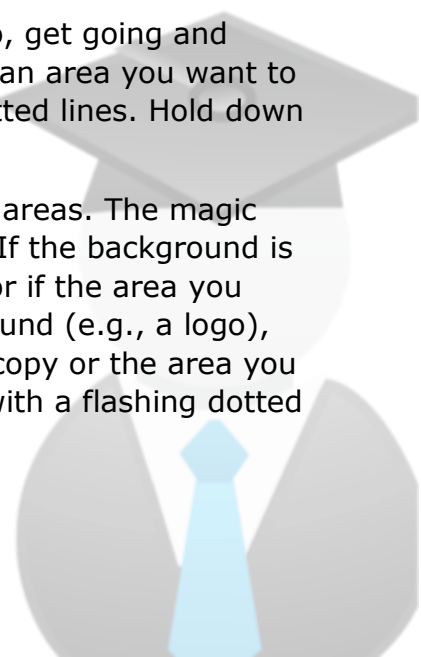
### Cutting things out the easy way using the Magic Wand in Pixlr Editor

There are two main ways to cut things out from a background using [Pixlr Editor](#): the lasso tool and the magic wand. We're going to use the magic wand. (Once you've tried that, you might want to graduate to the lasso tool.) (Cutting things out can be the first step to merging two images together if that is your goal. It's also a great way to erase a background.)

### Step-by-step: how to use the magic wand

You've got nothing to lose and an undo button with you at all times. So, get going and make it happen: Select the magic wand tool from the toolbar. Click on an area you want to sample. The magic wand will outline the area selected with flashing dotted lines. Hold down the shift key to add more areas to your selection (if needed).

Hit the delete key or choose Cut from the Edit menu to delete selected areas. The magic wand is magically effective when your background is simple in nature. If the background is one colour or monotone or without a lot of complex shading or tones, or if the area you want to cut out has a strong outline that sets it apart from the background (e.g., a logo), you can simply use the magic wand and click on the area you want to copy or the area you want to cut. Once you do that, you'll see the respective area outlined with a flashing dotted line.

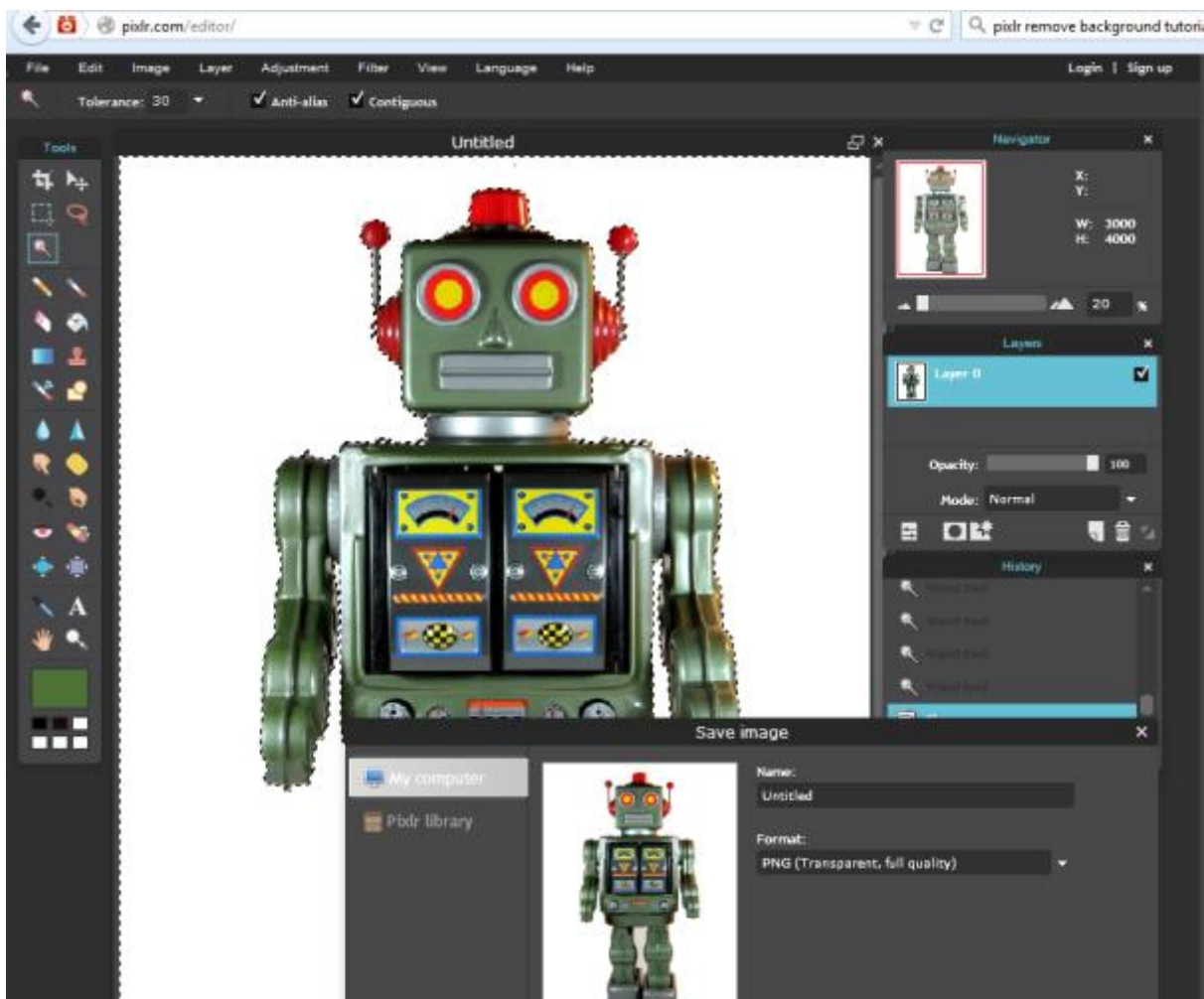


*Exercise:*

Try to remove background in jpg picture with simple background for example <https://goo.gl/TJHuD0>

You will need to add more selections using shift key. Tolerance – about 30.

Add new layer, move it down (You will need unlock background layer by double click to lock pictogram). Fill a new colour to background by Paint bucket tool.



Save image as PNG file. File, Save, Format - PNG (Transparent)

**File formats in Pixlr Editor**

[Pixlr Editor](#) has its own file format called PXD (which preserves image layers for future editing), but you can save or export your images in many popular and web-friendly formats:

PNG files can be transparent and of high quality. This is a good choice for the web, especially for logos or images that contain text or blocks of colour separated by sharp lines.

JPEG (or JPG) is one of the most popular file formats and one that many cameras output. This is a great choice for images taken from real life (e.g. photos) that will end up on the web.



BMP files are larger and capture more data, which may be desired for higher quality images (e.g., for printing), but this is not a good format for displaying on the web.

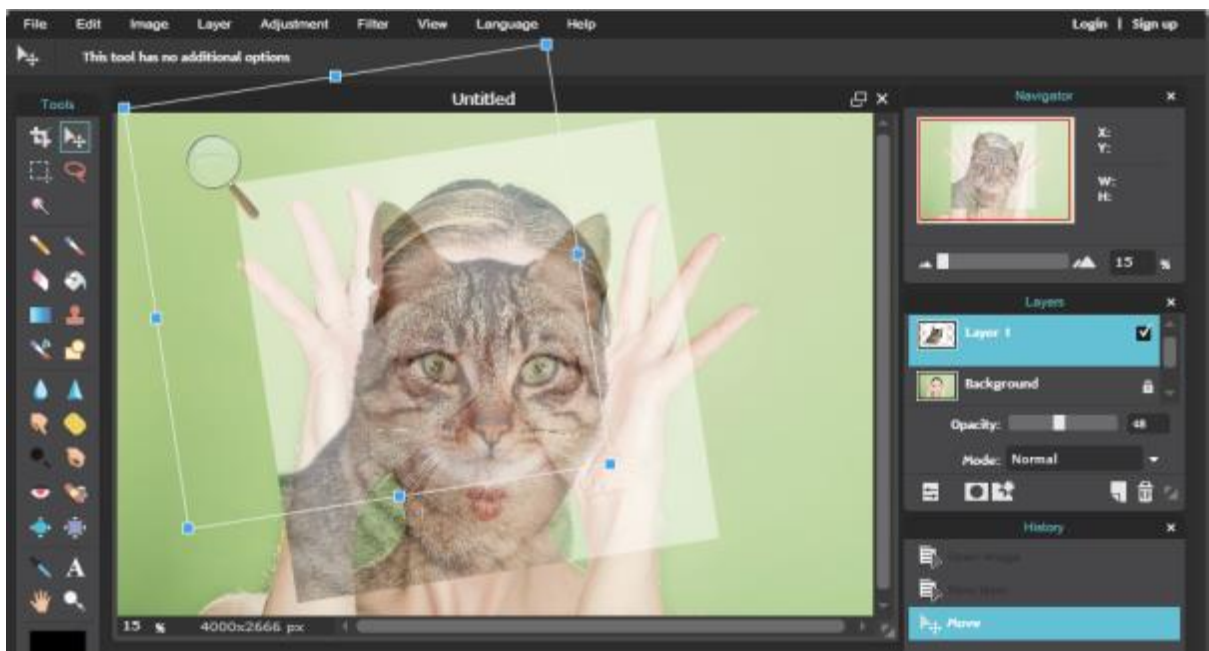
TIFF is similar to BMP and is used by some graphic design professionals as a preferred format. If you need to export as much data as possible (e.g., as high quality an image as possible), your best bet is to choose the TIFF format.

Keep in mind that .psd is the only format that will preserve layers for editing later.

### How to use layer mask

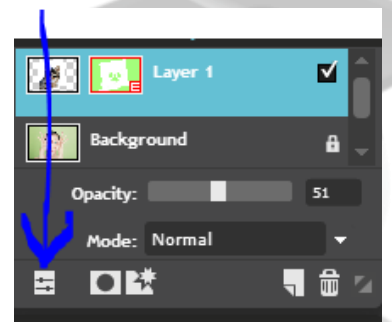
We will join two pictures - funny woman at <https://goo.gl/pCB4mC> and classic cat at <http://goo.gl/Bv8QYq>

Open pictures in two layers - first you can open by File, Open Image URL, second - Layer, Open image URL as layer. Make Layer 1 transparent and transform to fit woman and cat in the same position.



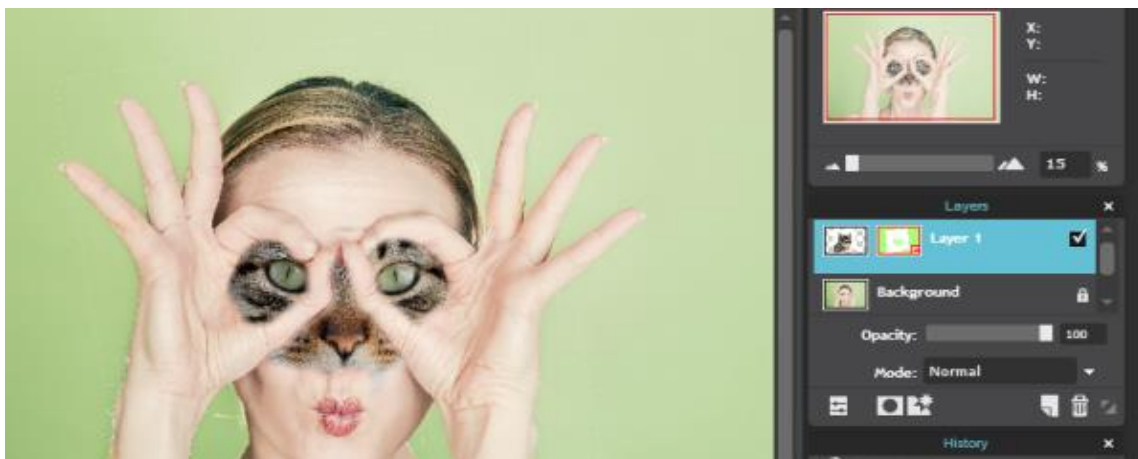
Opacity you will find by pressing sliders icon you can reduce transparency of Layer 1 for it. Finish transformations by "Enter" key. After transformation return opacity to 100%

Magic wand tool with tolerance 15 will help you select white background. Invert selection Edit, Invert selection and press "add layer mask" tool (it looks like Japan flag)





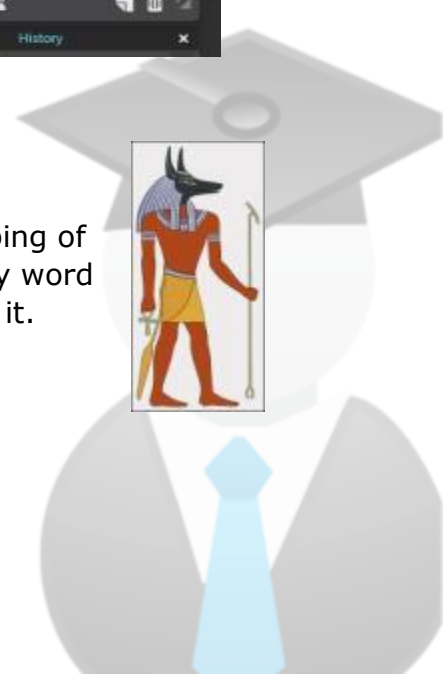
You will see a new rectangle near Cat layer. It's layer mask. You can erase cat pixels by eraser tool and paint cat pixels by brush. Make some creative and funny picture.



**Exercise:**

Join two pictures human and animal in one. This kind combination of images in art is known like "Zoomorphism". Zoomorphism is the shaping of something in animal form. For Your inspirations find more pictures by word "Zoomorphism" and create a few your creative versions. Have fun on it.

**Question to blow your mind:** Why „Zoomorph“ pictures looks so impressive?



**did You know?:** From the beginnings of human behavioural modernity in the Upper Palaeolithic, about 40,000 years ago, examples of zoomorphic (animal-shaped) works of art occur that may represent the earliest evidence we have of anthropomorphism. One of the oldest known is an ivory sculpture, the Löwenmensch figurine, Germany, a human-shaped figurine with the head of a lioness or lion, determined to be about 32,000 years old

**More online editors?** Share other online photo editors, if you have your favourites.



## Lesson 2

### How to use the clone stamp tool in Pixlr Editor

The clone stamp tool in [Pixlr Editor](#), as you might imagine, does one simple thing: It copies image details and pastes those details in the place of your choosing on the same layer. But, the clone tool can be used for more than just straight copying. Many people use it to create natural-looking blending when they are touching up a photo they've manipulated. Here are a few instances that illustrate some of its uses:

You want to add a dozen golf balls to the shot of your uncle concentrating on sinking that one golf ball that's currently on the putting green.

You like the clouds in your landscape shot, but you want more of them — and they need to look authentic.

That close-up of your sister smiling looks great, but those two scratches on her cheek from the briar patch in the backyard need to seamlessly be painted away.

### Cloning, step-by-step

The tool looks like a rubber stamp. Once you choose it, your clone options will appear at the top of your image. Adjust your options if you wish.

Place your pointer in the exact location you want to sample. Hold the CTRL button down. You'll notice the mouse pointer has turned to a target to indicate that it's time to pick the target area you'd like to clone. Click on the location you want to sample. Let go of the CTRL button.

Move your brush to the area you want to apply what you've cloned and hold down the mouse button to paint. You'll want to experiment with this tool to get the hang of it. Try small circular motions until you become more confident.

### Example of usage

Clone Stamp Tool - it allows you to duplicate part of an image. Press CTRL + CLICK from where you want to copy or duplicate and then use as Brush

Let's learn to "heal spots" by cloning pixels from one part of image to another. Load to Pixlr editor picture with the ladybird (also known as the



ladybug) is a small colourful beetle found all around the world. Here is the link to this picture <https://goo.gl/b74BGs>, but you can find similar picture yourself. Press "S" for using Clone stamp tool. (The tool looks like a rubber stamp.) Hold CTRL ant click to red part of wing. Release CTRL key ant paint on black spot. You will see red colour will be painted on black. The same you can clone more black spots for exercise if you want. Clone stamp tool is useful for retouch.



*Exercise:*

Find few pictures with spotted portrait and retouch it. If you want, you can use this picture <http://goo.gl/CmpVdv> for beginning.

*Exercise:*

Remove and change the background in some pictures, make some collages with animals, berries, bugs birds and what you want. Save these images and show it for relatives.

Make selfie and change background for strange, unbelievable view.

**Picture adjustments**

Images that come straight from a digital camera aren't always perfect. As you start to gain more experience with image editing, you may notice some recurring problems with images that you'll want to fix. For example, some images may be too bright, while others may be too dark or too blurry. There are many different corrections that can make your images look dramatically better. Some of the corrections we'll cover in this lesson include:

- **Brightness and contrast:** If an image is too bright or too dark, you can adjust the brightness and contrast.
- **Colour:** If the colours in an image are muted or dull, you can use a variety of colour-correction tools, such as saturation.
- **Sharpness:** If an image is less clear than you'd like it to be, you can sharpen it.

Open the same picture with ladybug image <https://goo.gl/b74BGs>.

Try to change colours, brightness, and contrast by menu Adjustment, Brightness & Contrast, Hue & Saturation. If you are interesting on photography - ask teacher about levels, curves and sharpening. If not - we won't use all features of Pixlr Editor. You are creative person, so try yourself how filters work. Have some fun on it.

Pixlr is free and useful tool for editing pictures and we will use it when we will need to make some changes on pictures in our next lessons. Make more practice at home to feel this tool is clear and simple for you. Always ask teacher or another student for help if you need it.

**Question to blow your mind:** Why We Believe What We See?



## Lesson 3

### Objective

Create PC game (model).

### Game Development with Construct 2.

#### Installing Construct 2

Construct 2 editor is created for Windows only, but the games you make can run anywhere, such as Mac, Linux or iPad. [Download Installation](https://www.scirra.com/) file from <https://www.scirra.com/>

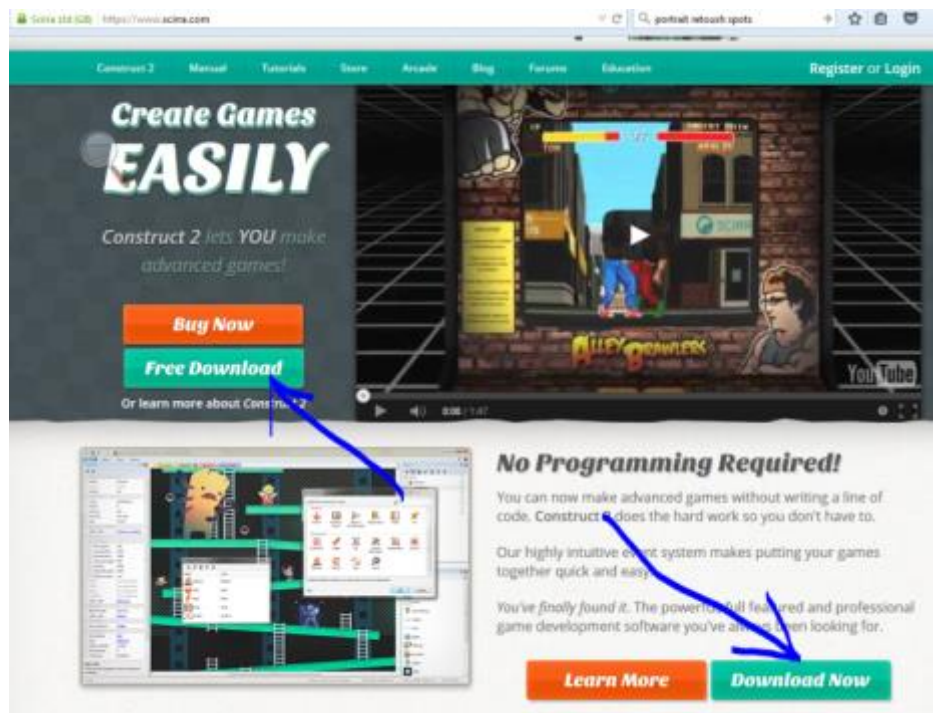
Or directly from here: <https://www.scirra.com/construct2/releases/new>

Once you've downloaded Construct 2, the Setup will begin to install it to your computer. Click Next > to advance through the steps.

Your browser or Windows may show a security warning before running the setup. You should check the publisher is listed as Scirra Ltd before running. This helps ensure the setup is a genuine Construct 2 setup from Scirra and not something malicious from a third party.

#### Portable installation

Construct 2 can be used as portable software. In other words, you can install it to a removable drive (like a USB stick) and use it on any computer. If you want to do this, set the install folder to a folder on your removable drive.

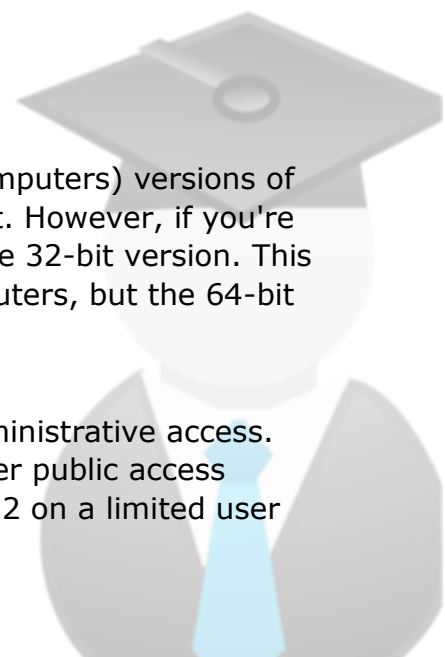


#### 32-bit and 64-bit versions

There are both 32-bit (for older computers) and 64-bit (for newer computers) versions of Construct 2. If you're not sure you can leave the setup to auto-detect. However, if you're installing to a removable drive, you may want to specifically install the 32-bit version. This is because the 32-bit version will run on both 32-bit and 64-bit computers, but the 64-bit version will not run on 32-bit computers.

#### Limited user accounts

Construct 2 can still be installed on limited user accounts without administrative access. This is common in workplaces, schools, universities, libraries and other public access computers. You should still be able to download and install Construct 2 on a limited user

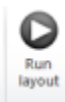
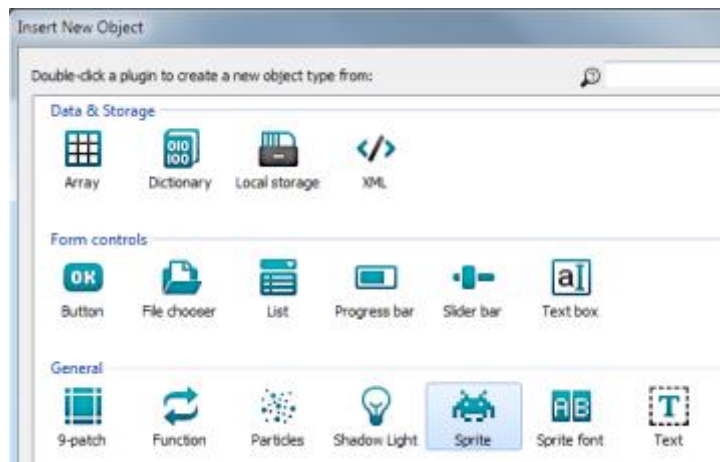


account, as long as other restrictions are not in place. In this case the setup cannot access the Program Files directory. Instead it will install to a folder in your user account. Other users may have to install the software for themselves as well. Some systems will also uninstall the software when you log out; you may need to reinstall every time you log in.

If setup fails due to other limitations (e.g. not being allowed to download EXEs from the internet), try a portable installation instead. Install Construct 2 to a removable drive on a computer you can run the setup on, then try taking the removable drive to the limited computer and running it from the drive.

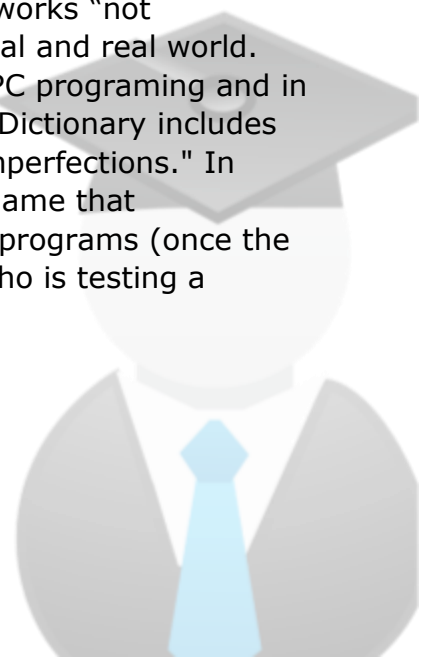
*Start new project "Breakout" game from scratch*

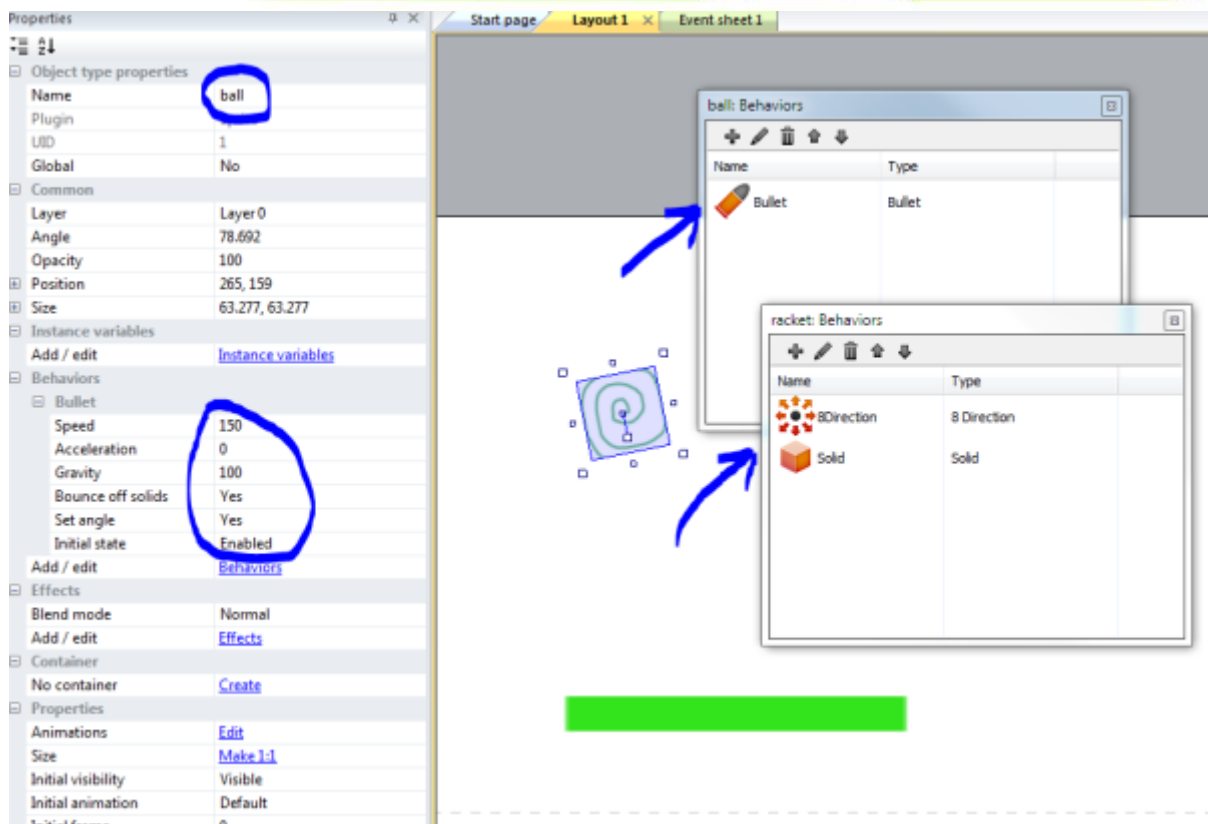
Double click on the screen or right click, insert new object - "Sprite", set place where your object should "born", fill square colour by Paint Bucket tool and make square. It will be racket model. Don't worry it's not beautiful. Later we will add perfect "body"- designed to that object. Add for racket sprite two Behaviours - "8Direction" and "Solid". Insert another one sprite. Double click on top of screen, paint this sprite. Let it be some round shape, this is our ball model. (Later we will change it to beautiful picture, so don't worry it looks not so beautiful.) Set for ball behaviour Bullet. It's important to change Bullet behaviour properties "Bounce off solids"



Press "Run Layout" button to start your "game" and look what happens. You will see - "game works". (If not - ask teacher for help). Don't worry if it works "not correctly". It's normal thing to see some differences between ideal and real world.

It's why programmers work is not so easy. The main activity in PC programming and in game creation is fixing mistakes and debugging. (Webster's Collegiate Dictionary includes the following definition of bug: "an unexpected defect, fault, flaw, or imperfections." In programming jargon, "errors" are known as "bugs". Debugging is the name that programmers give to the activity of locating and removing errors from programs (once the errors are known to exist, from testing the program). A programmer who is testing a program is often looking for new bugs to correct. )





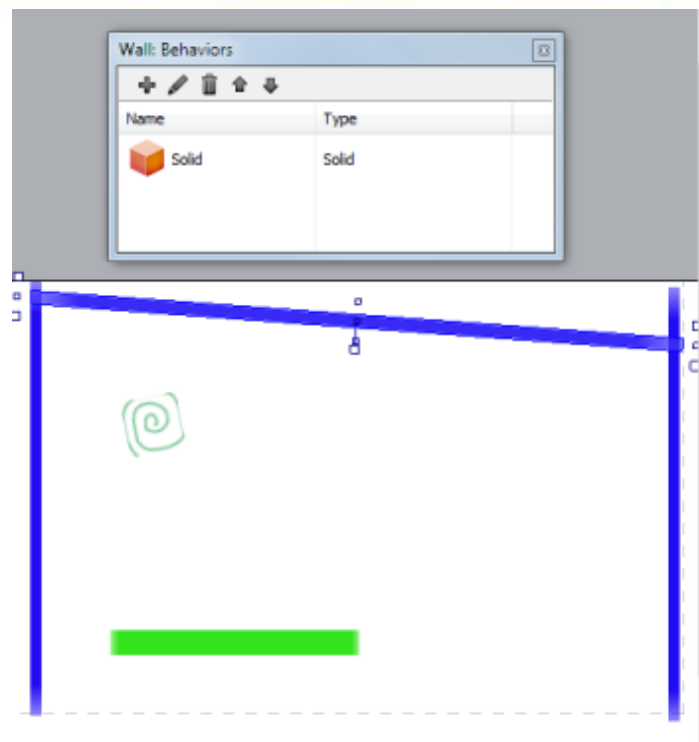
So in programmers live debugging is usual and normal activity. Errors and mistakes is normal thing and we must learn to live with it without frustration. Don't be afraid to fail. What we will do in all our lessons, we will look at working program and fix program behaviour by our ideas. Sometimes it's not easy. Sometimes we cannot found solution. We can ask for some help for teacher, for friend. Be friendly and spend some time to tray help your neighbour too. Have fun thinking about reasons why program works not correctly and enjoy fixing that.

Maybe your "ball" speed is too high, maybe moving direction wrong or gravity has value 0. Look what happens and fix your "program".

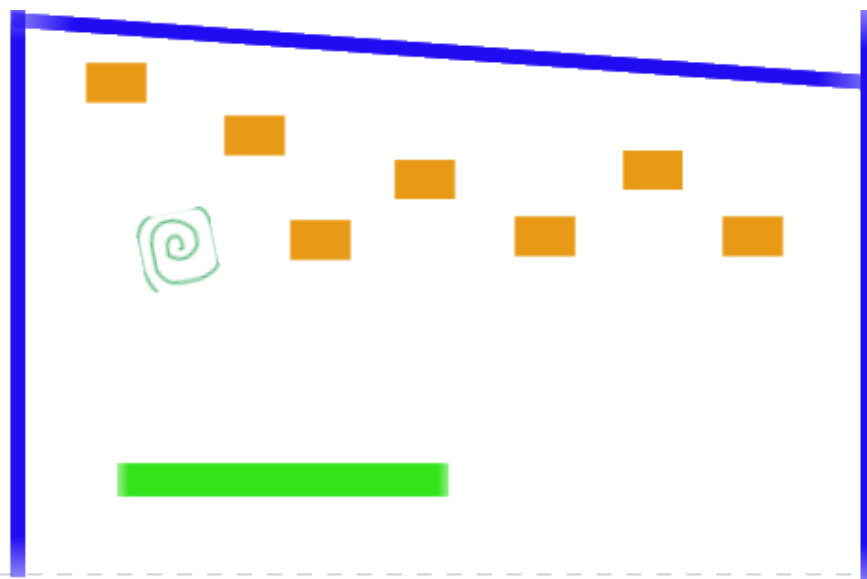
Let's make borders for our ball model. Add sprite, fill rectangle by colour and transform to "wall shape". Add behaviour "Solid" because we expect ball will bounce at solids. To make another wall don't make it from beginning but just clone wall. Press CTRL ant drag wall. You will see new copies of our object with all behaviours and properties. This way you can clone sprites with the same behaviour. Clone third wall and turn it. It will make top border of game.



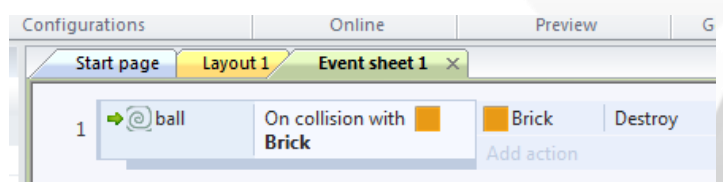




Now it's safe to add some speed to ball and have fun to play your first game. But it's just beginning. When you understand how add objects and how it could be controlled you will create something really new. Time to make "Bricks breaking" game. So add some solid bricks at the game screen. Add first brick sprite, fill colour, make shape smaller and clone bricks by CTRL and drag brick. If you add behaviour "solid" ball will bounce on solid bricks.



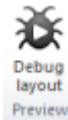
Would be great destroy bricks on collisions with ball. Go to the "Event sheet 1" tab and add event about collision ball with brick. Imagine you



must say to PC what should happen this way "When Ball is on collision with brick, brick should be destroyed". Look how it could be written in Construct 2.



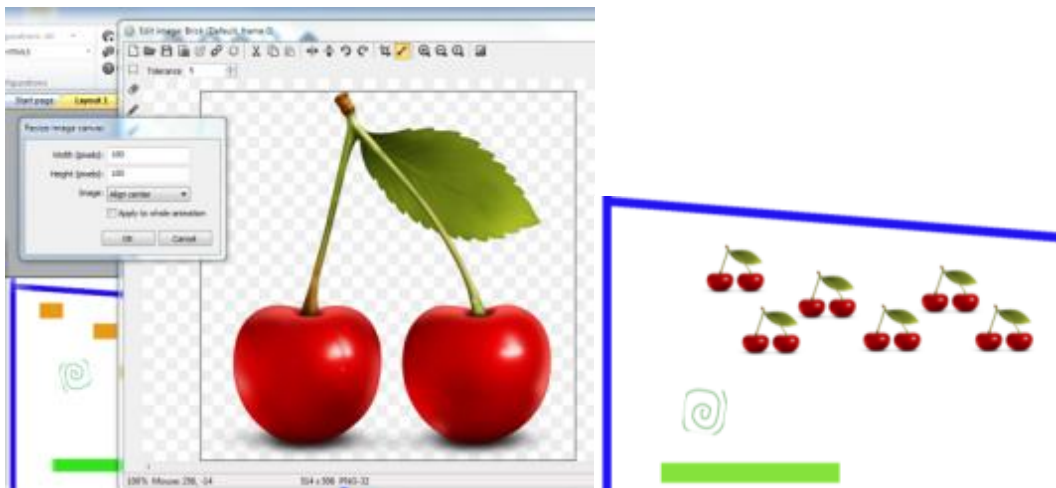
Try by "Run Layout".



If you want to see more information you can run program by "Debug layout". You will found possibility to pause and run step by step your game.

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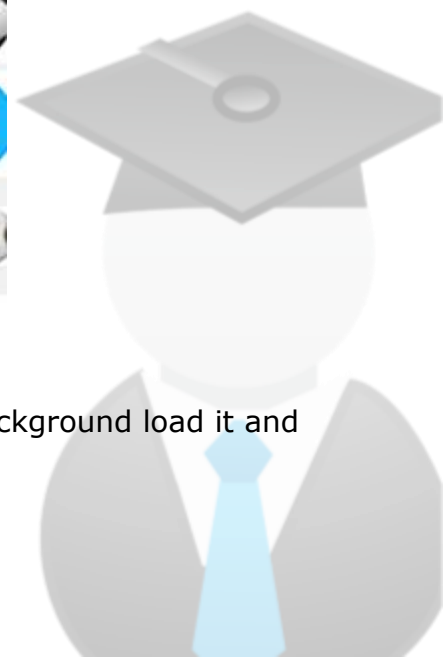
It's time to think about design! Let's change brick to some more interesting picture. Find picture and change boring brick to something more beautiful. PNG format is useful for that, because it could be transparent. Picture could be too big for our game, so you can resize image canvas.

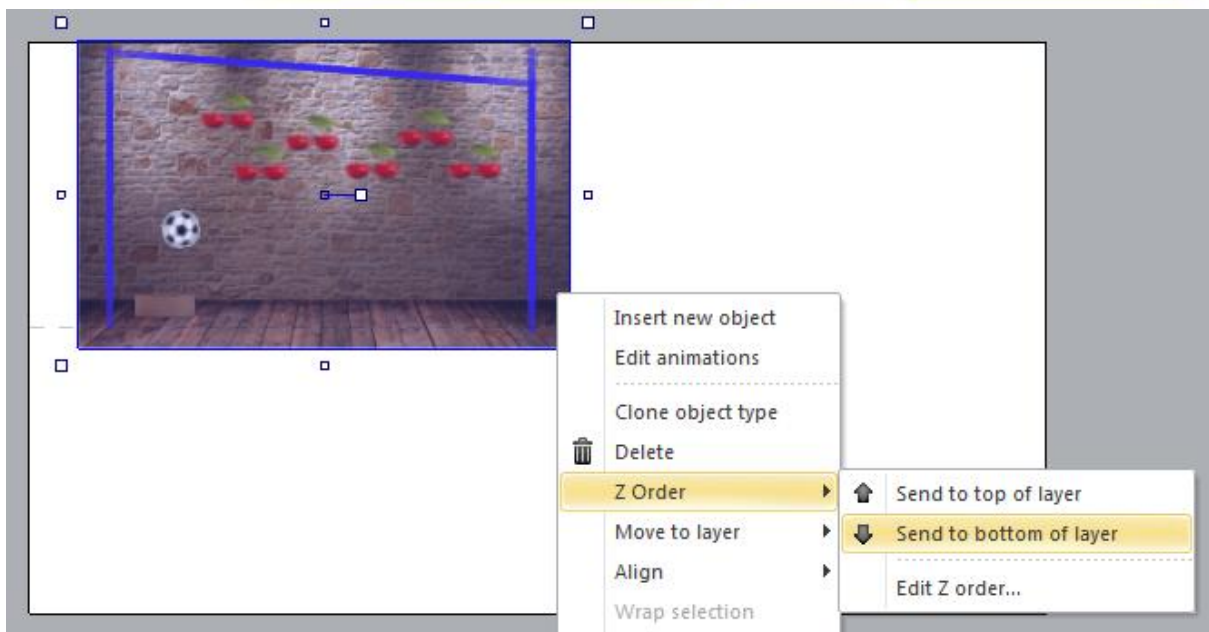


Find PNG file of ball image, download it and load more impressive ball image.



Add new picture - sprite for background. Find some picture for background load it and right mouse click send background sprite to bottom.





Now you know how change images in your game.

*Exercise:*

Spend some time to find most beautiful designed. Make a few versions of the same game. That's great how easy you can change objects look and how it changes impression of whole project. Correct object names. It will help us to describe events and behaviours later. Don't leave sprite name "Bricks if you changed image to cherries. It's time to change walls attribute "Initial visibility" to "Invisible". If you see, that background is too dark, go to Pixlr Editor and make it brighter.

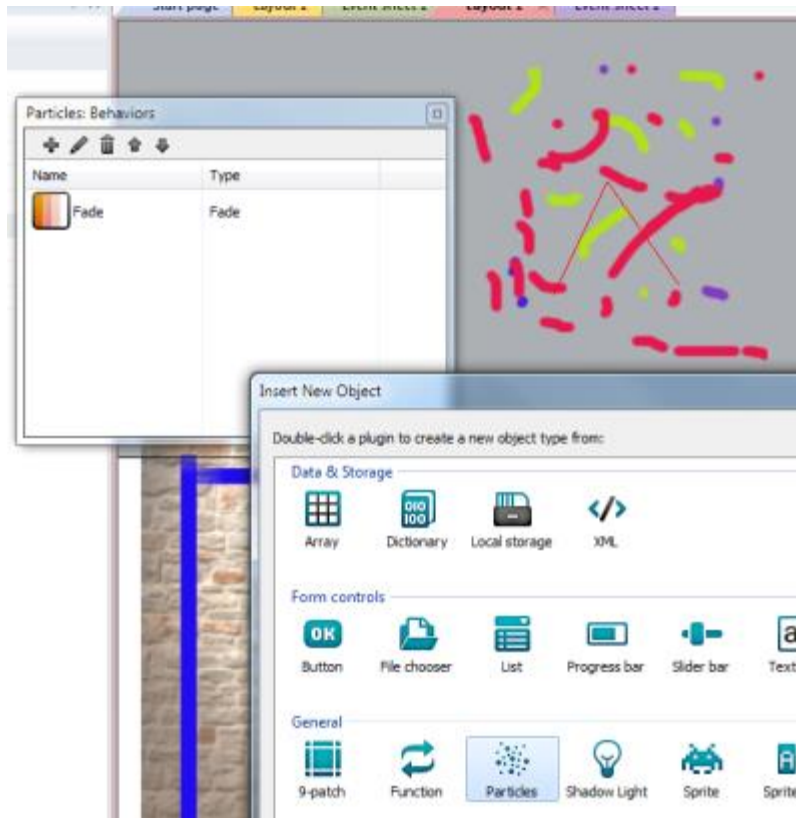
Ask friends what they suggest for you. Tell to friends what they could change for better look by your point of view.



## Lesson 4

### Explosion effects

Let's add some "Explosion" effect in our game. Add new object "Particles" paint a colourful dots in the edit square, put created object outside screen and add behaviour "Fade".



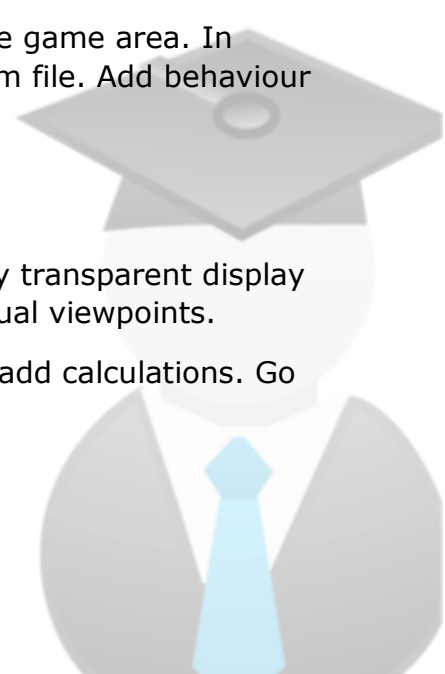
Add event on Collision Ball with Bird "Bird spawn particles". Now bird will be disappeared more interesting way. Spawn another object will be useful event in the future for us. By spawn another object you will create shooting bullets to enemies, show explosion images or animations and other similar events.

Find gif file with explosion animation and add it like new sprite outside game area. In Animation window right click you can import gif animation frames from file. Add behaviour "Fade" for explosion and change particles to explosion. Looks better?

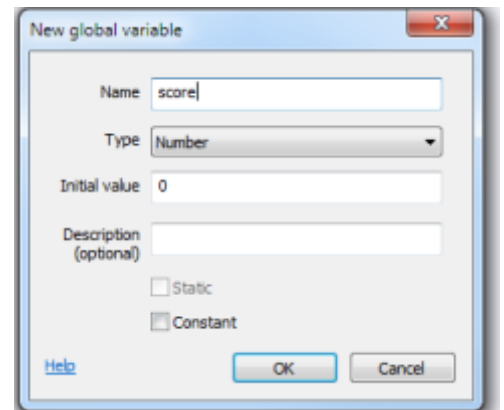
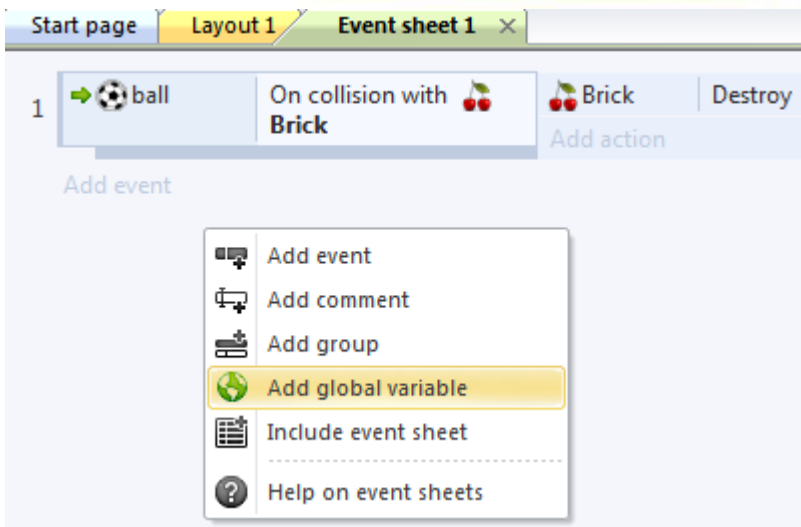
### Scores and Creating a heads-up display (HUD)

(A head-up display or heads-up display—also known as a HUD—is any transparent display that presents data without requiring users to look away from their usual viewpoints.)

We cannot imagine game without scores. So look how simple we will add calculations. Go to Event sheet and right mouse click Add global variable.

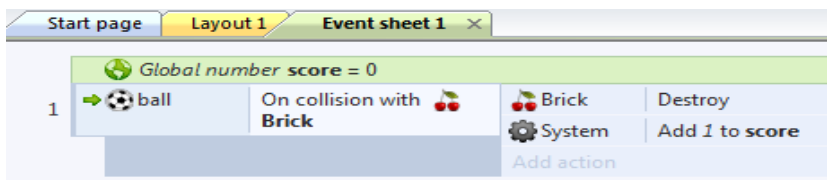






Name it "score", type "Number". Press Ok.

Add system action "Add 1 to score" in our "program" below Destroy event.

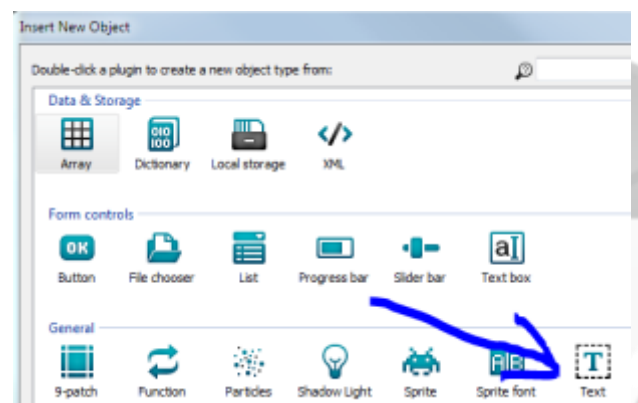


It's all maths for counting scores.

### Tablo Scores

Now computer calculate scores in variable "score", but we cannot see it, so let's add text field "Tablo"- place for scores. In layout tab add this time not new sprite, but text field.

Name it "Tablo" in the Properties You can write text for start for example "Score" and in the events add line set Tablo to "Score = "&score. It's our simple HUD. Try how it works, ask teachers help if something went wrong.

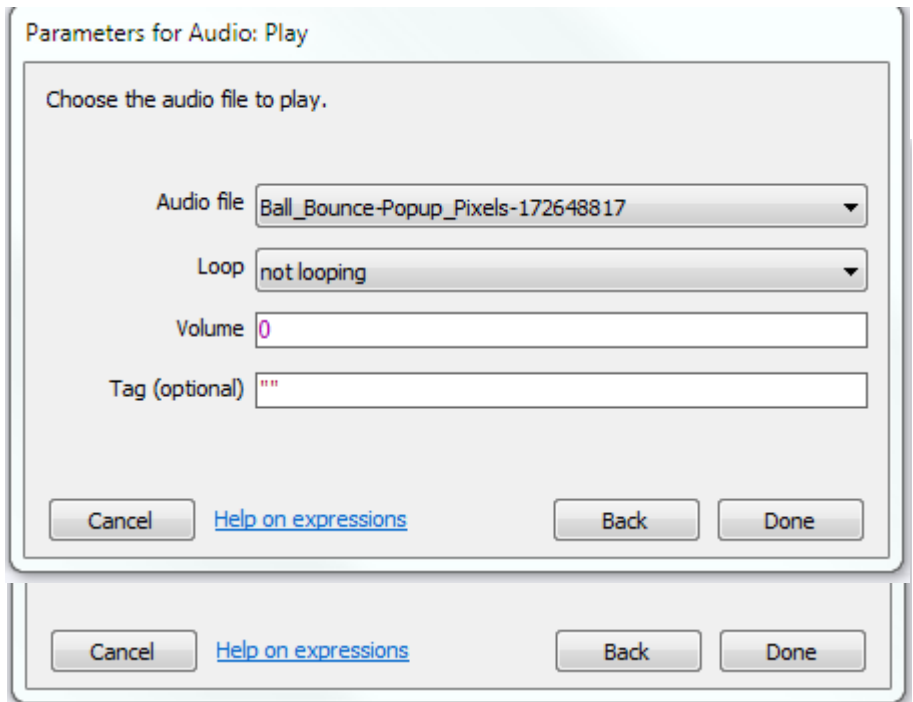


### Sounds import

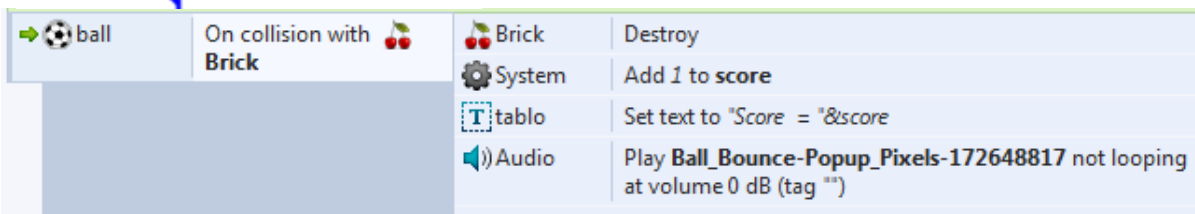
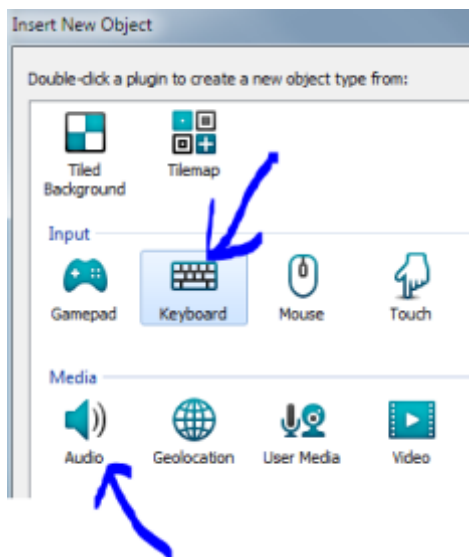
How we could be so long without sounds? Time to have fun with it. You are learning Construct 2 in the class - add head speakers check can hear sounds for example in YouTube. If everything ok, let's go search for the sounds effects for your game. One of these is <http://soundbible.com> download for the beginning Ball Bounce sound effect <http://soundbible.com/1626-Ball-Bounce.html> waw file type is ok for our game.

Right click on the Projects panel Sounds folder and you can import downloaded audio file.

After that you can add event in Events tab "on collision..."



Audio" Play Ball Bounce"



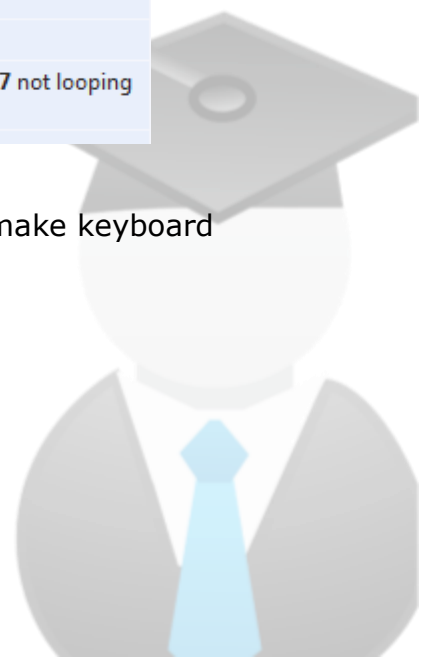
### Exercise:

Add sound for racket and ball collision. Import and add music file and make keyboard button for "music on" and Music Off" in our game model.

Time to think about 2d game, you want to create from the scratch.

### Exercise:

Create 4 levels game. Use all knowledge you learned in past lessons.



Let's learn how to control game by keyboard and how to add sounds. Double click on the layout screen and insert two objects "Keyboard" and "Audio".

We can turn on "turbo" by key "W" or turn off it by key "S"

Global number score = 0			
1	ball	On collision with Brick	<ul style="list-style-type: none"> <li>Brick: Destroy</li> <li>System: Add 1 to score</li> <li>tablo: Set text to "Score = "&amp;score"</li> </ul>
2	Keyboard	On W pressed	<ul style="list-style-type: none"> <li>ball: Set Bullet speed to 400</li> </ul>
3	Keyboard	On S pressed	<ul style="list-style-type: none"> <li>ball: Set Bullet speed to 200</li> </ul>

*Exercise:*

Make more fast racket in turbo mode and more slow when "turbo off".

Make one more text field to show

"turbo" enabled or disabled.

Now you know how you can describe game control by keyboard. Realize more ideas with text field and keyboard control.

We are known main things for creation PC games by Construct 2

Soon we will create our personal PC game, but before let's learn animate static pictures.

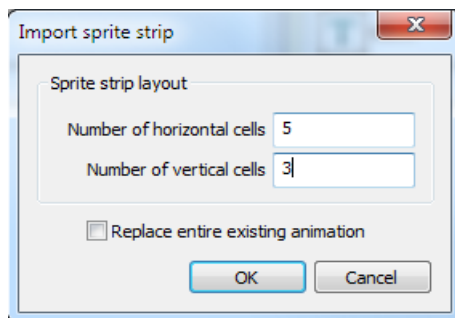
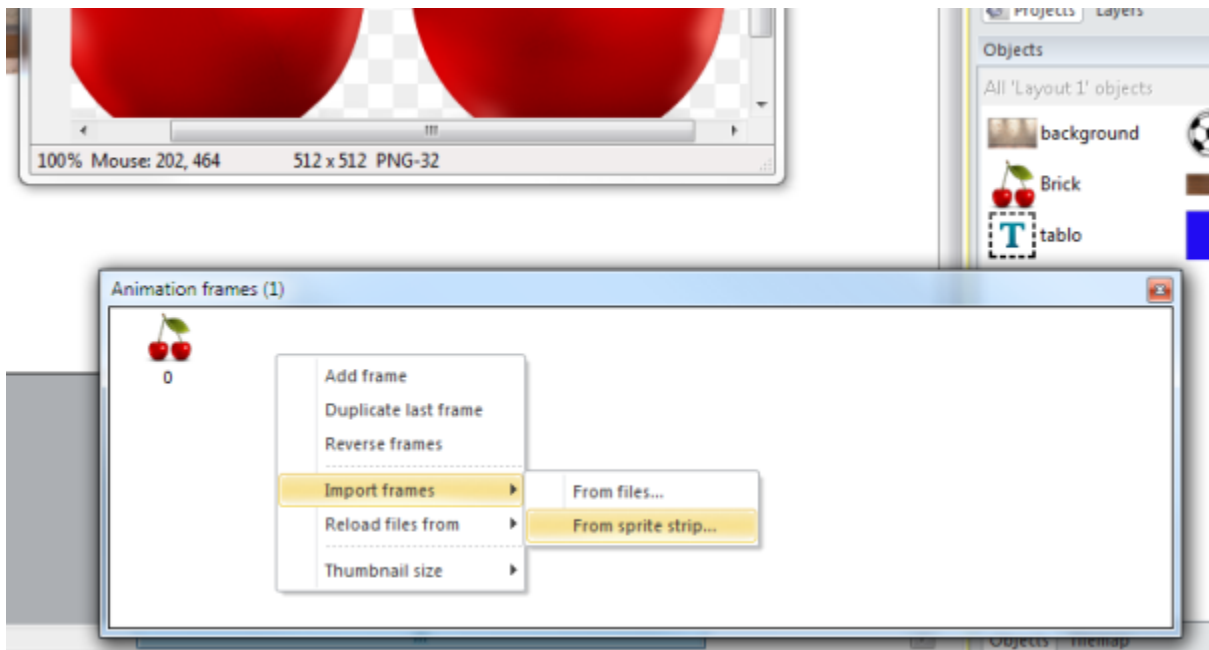


## Lesson 5

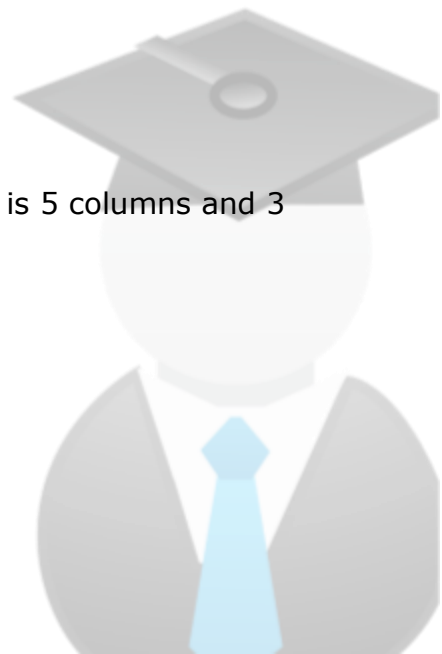
### Animated sprites

Construct 2 lets you use animated sprites. It makes our game more impressive. In our game we will show how to change static cherries to flying bird. Download sprite sheet

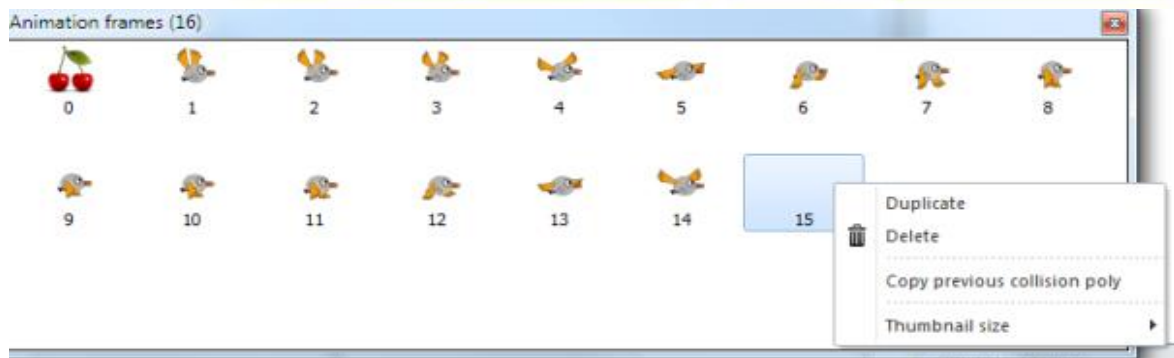
<http://www.xojo3d.com/images/sprite1.png> you can found by images.google.com a lot of sprite sheets for the games. Look to the sheets, where structure is clear and you can count lines ant columns. It this picture we can count 5 columns and 3 lines. Open sprite and in the animation frames right click choose Import frames from sprite strips.



Browse to downloaded file sprite1.png and open it. Sprite strip layout is 5 columns and 3 lines. Press ok and right click to delete frame 0 and 15.







In the animations window stay on Default animation and change properties speed to 15 and Loop to "yes". On default animation right click lets you preview animation and tune animation speed you need. Close Sprite editor and make birds bigger.

Looks strange, that birds are flying, but speed - 0. Try to solve that.

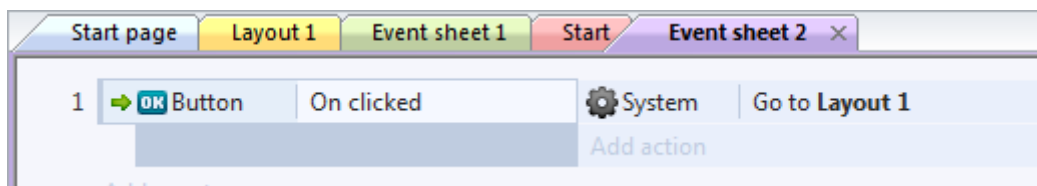
*Exercise:*

Add "bullet" behaviour to the bird and tune bird flying speed for our game.

Find or paint more sprites. Create something extra ordinary. Game players should say "Wow". Make experiments. For example, create cloud of bees or fly's!

Now you know almost everything, what you need for game creation! You know how to create sprite, how to add main behaviours to it, how sprites could be animated, how to add sounds, how to change shapes of sprites. Now you need a lot of practice. Be creative. How about adding more levels to this game? If it's boring for you - make one extra level very different from others. Use strange objects, sounds.

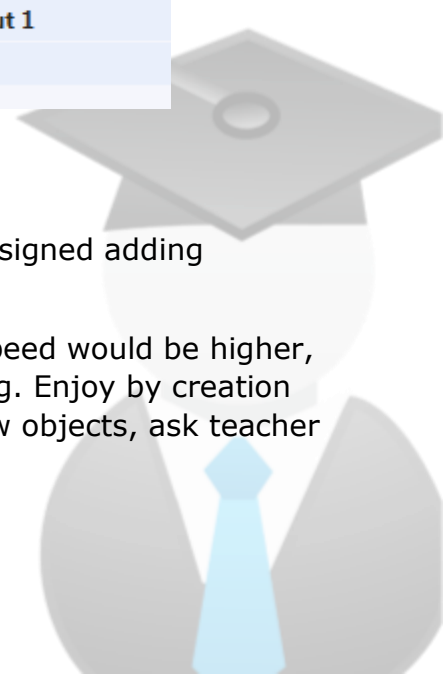
Go at Projects window to Layouts folder right click and add one more game layout. Let it be it's our game starting page. Add event sheet for this layout too. Usually we use events for all layouts. rename new layout to name "Start" add start button to that layout and make event for this layout Ok Button on clicked, system will start layout 1.



*Exercise:*

Add another game Layout for "Game Over" screen. Make beautiful designed adding background image, add game button for "Try again".

If it's really simple for you, add one more level to this game where speed would be higher, racket is smaller, enemies are smaller and faster. Tune score counting. Enjoy by creation something new. Make your game crazy, funny and unreal. Create new objects, ask teacher or class friends for ideas.



## Lesson 6

### Design

Game design is the art of applying design and aesthetics to create a game to facilitate interaction between players for playful, healthful, educational, or simulation purposes.

#### *The main principles of game design*

**Fun Comes First.** Do you have your favourite game? Think about games we play. Why some are fun, others boring? Let's talk about it in class. Tell what you think and what you know about it. Show some videos for class friends about your favourite games. Tell us what successful games of the past do you know? Explain what you like in your favourite's game.

#### **Simplicity**

Why so popular were "Angry Birds", "Tetris"? Simpler you can make the control of the game, the more playable it is. Perhaps simplicity is an aspect of game design that more designers should note. The really blisteringly original games are incredibly simple.

Many programmers are scared off from making game designed because they feel that this is a creative job, one better left to someone like an artist who has a better understand of presentation.

#### *Working in team*

All PC games today are created by teams! Time to think what you prefer - create program "code" or create funny sprites and beautiful backgrounds for the game. Designers likes create layouts and sprites, programmers prefer describe events and calculations. Choose one what fits for you better. Write your name on the paper and put it to box "Designers" or "Programmers". Choose partner from another part. You will be team in next game project.

Now we have teams. Sit together and start create something new together. It won't be easy in beginning. We must learn to work in team. Work in more than one team if designers and coders groups are not equal and you feel you can do that.

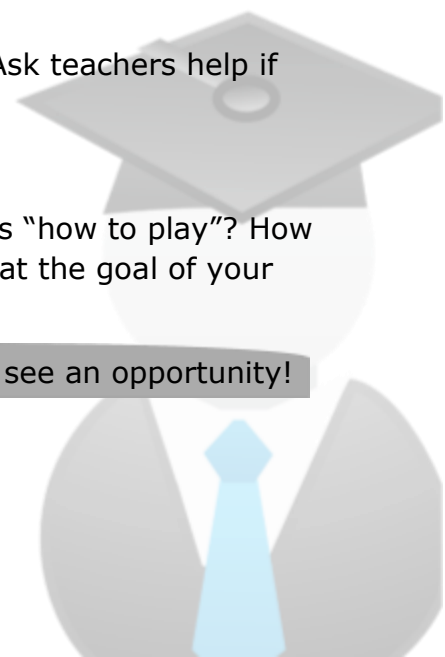
#### *Exercise:*

Describe new game. Write scenario of new game. Discuss who what will make in this next project. How your team will communicate? Do you use some cloud disks, email, Skype or something more? Start and make some simple game together.

Remember one of you is "design specialist", another "programmer". Ask teachers help if something goes wrong.

**Questions to blow your mind:** How often do you read instructions "how to play"? How player should know how to play your game? How player will know what the goal of your game is?

**Did you know?** Where most people see a difficulty, creative people see an opportunity!



## Lesson 7

### *Working on game creation in class*

In this lesson we polish our game code. Just sit and create what you think should be created. Construct 2 is great tool, but tools without creators are nothing. Let's work and get more practice on game creation

Describe a new game, make some pictures, schemes, maps. Describe rules, calculations of scores. Do you know why this game could be better than thousands other games? Why sponsors should choose to support financially exactly your game? Think about it, write if you want. Later you will explain it loudly for the audience!

Do you have idea about game, you want create? Realize it. Begin from modelling. Share responsibilities with team members. Work alone or in team. When you feel you can't find solution – leave problem, work on other part of project. Sometimes solutions come to us when we don't wait for it. Working in the class is great, because you always have occasion to ask help from class friends or teacher

"The first 90 percent of the code accounts for the first 90 percent of the development time. The remaining 10 percent of the code accounts for the other 90 percent of the development time." Tom Cargill of Bell Labs

This rule is humorous, but it does describe the typical development cycle of a game. You'll get everything seemingly running perfectly and think you're almost done... and suddenly realize you still have a ton of work to do polishing your game. Things like user interface, sounds and last minute glitches require a lot more of your time than you'd think.

### *Exercise:*

Describe a new Role-playing game of your dreams.

When you've got a design you can start develop game? Do not try to make everything polished and perfect. Make just simple game prototype first. Try it. Is it fun, is looks really simple? Ask friends to try game prototype and ask about impressions. What is fun, what is not? Later add beautiful designed, sounds and start – game over screens. Game prototype should show you and your partners - it could be really interesting game.

Create Google Form at [docs.google.com/forms](https://docs.google.com/forms) or other similar service form for collecting feedback information about game (opinions, ratings, suggestions). Ask friends to fill it and make improvements in Your game by these opinions.



## Lesson 8

### Game publishing. FTP servers, Google drive. How use it.

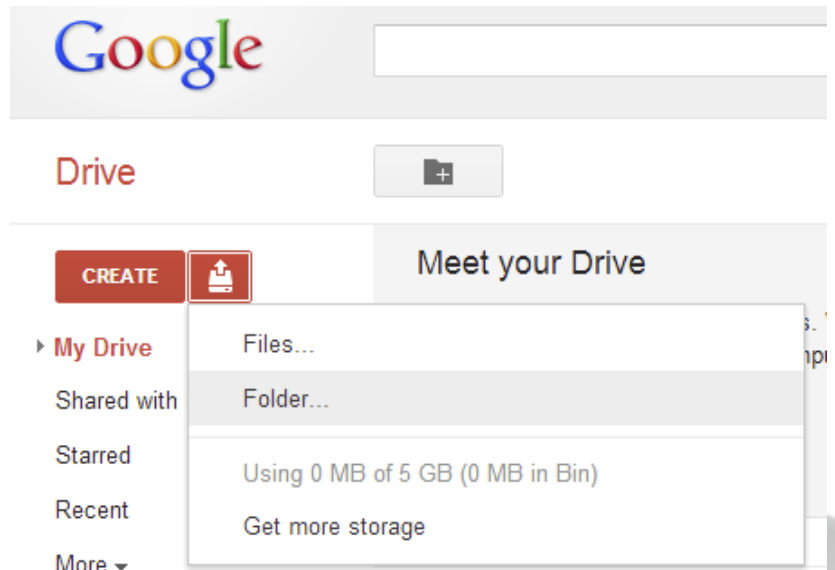
You must export then publish (i.e. upload) the project before anyone else can play it. To export your project, use the File menu, ribbon or Project Bar to open the Export Project dialog. Note exported projects, including the HTML5 export, cannot usually be run from disk. Your project must be uploaded to the web (for HTML5 export) or otherwise published before it will work. For security reasons browsers have some tight limitations on what can be done in a web page from a file:/// URL, and these usually stop Construct 2 games from working. The best workflow is to test by previewing in Construct 2 during development, and then immediately publish the game to the web after exporting. If you run a game from disk, you might see a message box reminding you of this ("exported games won't work until you upload them").

### UPLOAD YOUR EXPORTED GAME FOLDER TO GOOGLE DRIVE.

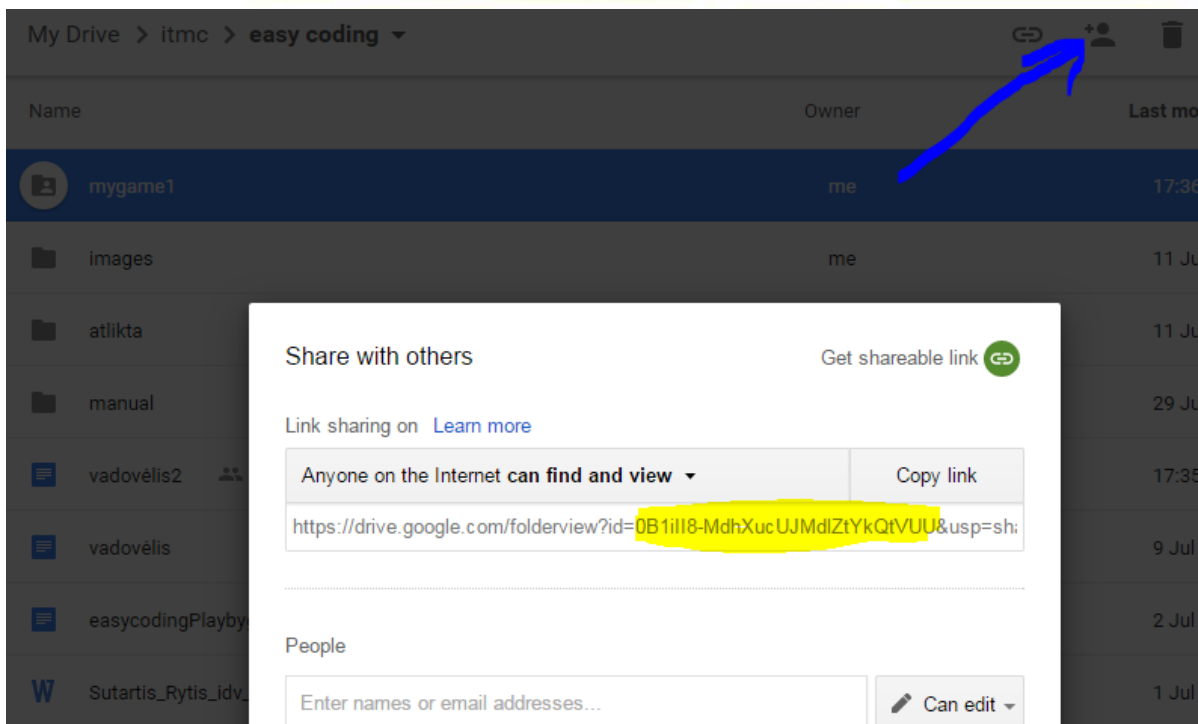
Export your project as normal from Construct 2 (make sure you choose the 'HTML5 website' option). In Google Drive, click the Upload icon and choose Folder. Select the folder with your exported game from Construct 2. The files will start uploading to your Google Drive. You might need to wait a few minutes for all the files to finish uploading.

#### Share the folder

Once uploading is done, select the checkbox for the uploaded folder, and click the Share icon at the top and make folder public by "Advanced" button at the bottom this screen.







## Sharing settings

Link to share

<https://drive.google.com/folderview?id=0B1iI18-MdhXucUJMdlZtYkQtVUU&usp=shareable>

Share link via:



Who has access

Public on the web - Anyone on the Internet can find and view

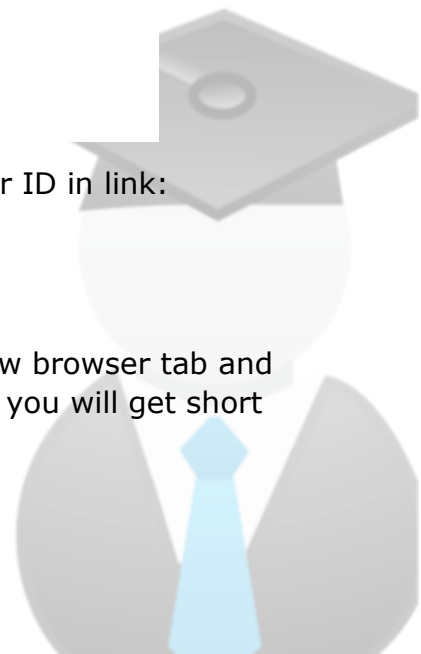
Change...

As you see yellow marker shows you special game folder ID. Paste Your ID in link:

<https://googledrive.com/host/FOLDERID/index.html>

Text "FOLDERID" should be changed by your special characters line.

This is now the URL to your game! You should be able to visit it in a new browser tab and see the game load. You can use URL shortened for example [goo.gl](http://goo.gl) and you will get short URL to Your game.



### Sharing the link

You're now armed with a public link to your game that you can paste anywhere. Paste it to your friends, send it by email, link to it from your blog, tweet it, put it on Facebook, Google+ it, do what you like! Your game is now accessible to the whole world. Have fun! :)

### Bandwidth limits

Google Drive is a convenient way to share your project with a small number of people. However, note that Google Drive is a personal file host, so the free account may have some fairly low bandwidth limits. If too many people play the game, Google may shut down your folder with a "bandwidth exceeded" message. If you want a more reliable host in case your game is popular, you'll need to find one that charges. However, there are loads of hosts out there, and many of them are very cheap, so you shouldn't have to look far.

### FTP

First we need to create account on [000webhost.com](http://000webhost.com) Click on Signup button:

Write name of your website. Then fill name, e-mail, password, captcha and tick agree with terms of service and click register. You will be redirected to admin panel, but you need active your account now. So go to e-mail and click on activation mail that you get. If your account is activated, you will be see CPanel button in your account (refresh page), click on it:

In the CPanel find View FTP Details

Manage another domain

**FTP Login and Upload Details**

FTP Accounts allow you to access your web site's files through a protocol called FTP. You will need a third party FTP program to access your files. If you do not know anything about FTP you may use our web based File Manager to upload your files.

FTP details for papartis.webuda.com

FTP host name	papartis.webuda.com
FTP user name	a8464222
FTP password	*****
Folder to upload files	public_html
Forgot FTP password?	<a href="#">Change account password</a>
Recommended FTP clients	<a href="#">SmartFTP</a> or <a href="#">FileZilla</a>

Did you know that premium users can setup unlimited FTP accounts, can assign different directories for each account, set quota limits, enable anonymous FTP, have FTP session control. Upgrade your account!

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Enter domain name, for example yourdomain.com  
 www.  .com

\* Order our paid hosting service and we will register a personal domain name : unlimited disk space / bandwidth for your website! Get learn more check our go to our premium hosting website [www.Hosting24.com](http://www.Hosting24.com) directly.

**» Email**

[Manage Email Accounts](#) [WebMail](#) [Email Forwarders](#) [Modify MX Record](#)

**» Useful Stuff**

[1-Click Website Restore](#) [1-Click Database Restore](#) [Website Templates](#) [Website Stats](#)

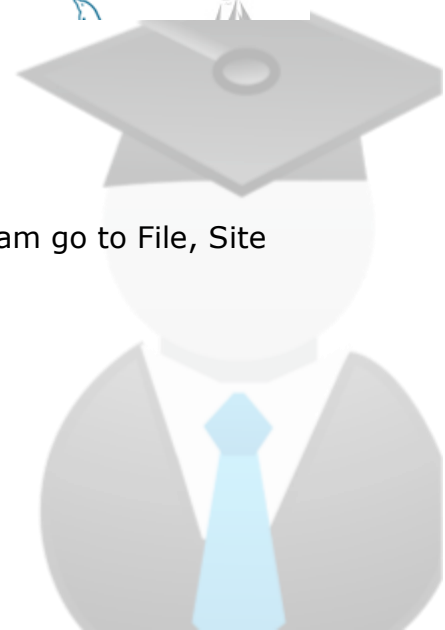
**» Files**

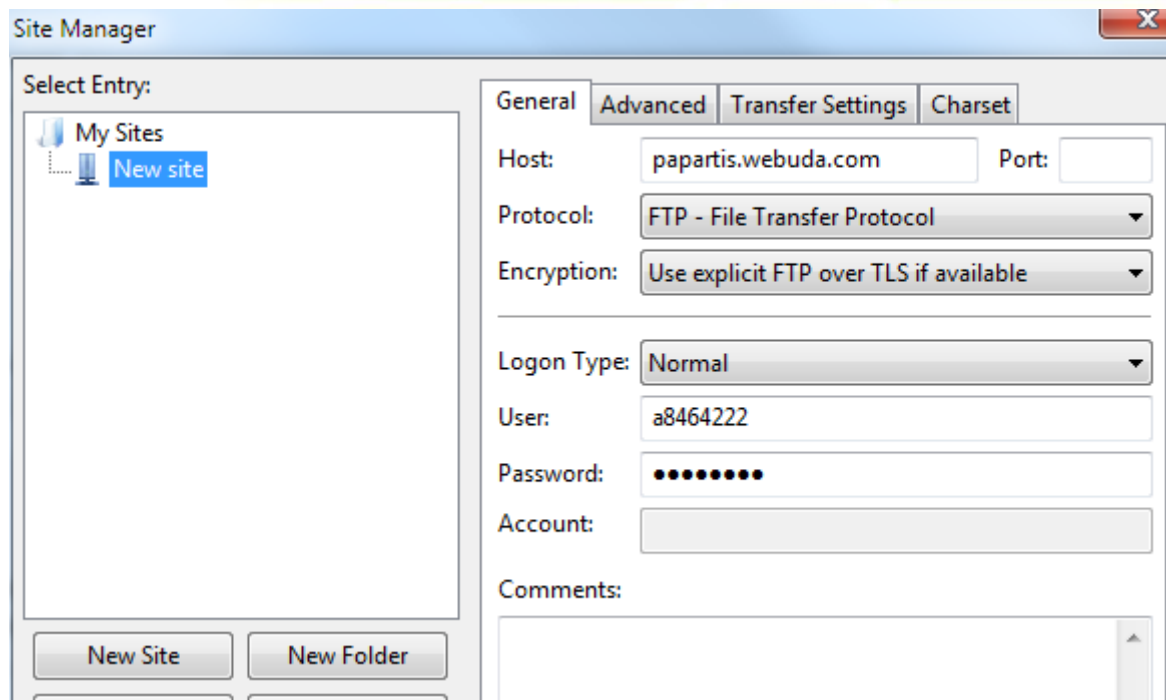
[View FTP Details](#) [File Manager](#) [Another File Manager](#) [Disk Space Usage](#)

**» Software / Services**



Download and install [FileZilla Client](#) or [FileZilla Portable](#). In this program go to File, Site manager (Ctrl+s) and fill new FTP server's data.





Connect to FTP and in the public\_html folder create folder for your game. Would be good for beginning use short name or even number for example "1" for first game. Upload in this folder exported html5 files.

Link to your game will be Host name / folder name. In Our case papartis.webuda.com/1

Ask teacher for help if something goes wrong.

If you don't like this file host, you can try <http://www.freewebhostingarea.com>

Usually teacher has her own FTP access in some servers and can create some space there for these lessons.

You always can search freewebhostingservices for your testing projects, and when you will create real serious game for market, then you will buy serious web host for it.

#### *Exercise:*

Create FTP account, folder and publish game. (You can publish it to Google drive if you want.)

**Annotation.** In this lesson we don't need to spend all hours just buy game publishing. We can use time to creating and polishing our game project.

**Questions to blow your mind:** where your game code is safer in Your PC or in the Cloud disk? Why?

**Did you know?** The original specification for the File Transfer Protocol was written by Abhay Bhushan and published on 16 April 1971.

## Lesson 9

**Explain your creation shortly, but impressive. Elevator pitch.**

What is an "Elevator Pitch"?

An "Elevator Pitch" is a concise, carefully planned, and well-practiced description about your company or project that your mother should be able to understand in the time it would take to ride up an elevator.

An elevator pitch, elevator speech, or elevator statement is a short summary used to quickly and simply define a profess, product, service, organization, or event and its value proposition.

The name "elevator pitch" reflects the idea that it should be possible to deliver the summary in the time span of an elevator ride, or approximately thirty seconds to two minutes and is widely credited to Ilene Rosenzweig and Michael Caruso (while he was Editor for Vanity Fair) for its origin. The term itself comes from a scenario of an accidental meeting with someone important in the elevator. If the conversation inside the elevator in those few seconds is interesting and value adding, the conversation will either continue after the elevator ride, or end in exchange of business cards or a scheduled meeting.

A variety of people, including project managers, salespeople, evangelists, and policy-makers, commonly rehearse and use elevator pitches to get their points across quickly.

Prepare to explain your project, your game, your mission very shortly to audience. Try this to your partner first.

### Creating the "Elevator Pitch"

Six questions your "Elevator Pitch" must answer:

✓ **What is your product or service?**

Briefly describe what it is you sell. Do not go into excruciating detail.

✓ **Who is your market?**

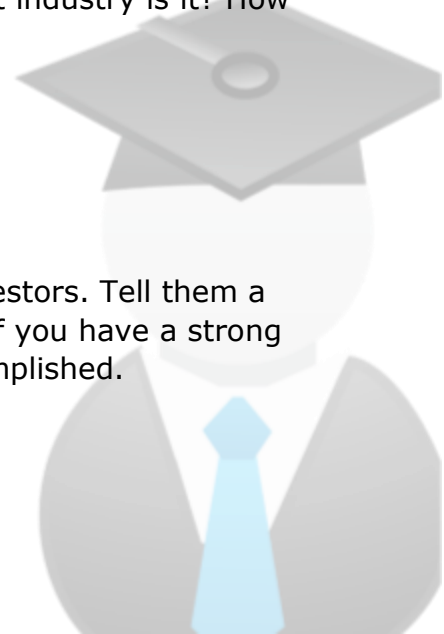
Briefly discuss who you are selling the product or service to. What industry is it? How large of a market do they represent?

✓ **What is your revenue model?**

More simply, how do you expect to make money?

✓ **Who is behind the company?**

"Bet on the jockey, not the horse" is a familiar saying among Investors. Tell them a little about you and your team's background and achievements. If you have a strong advisory board, tell them who they are and what they have accomplished.





✓ **Who is your competition?**

Don't have any? Think again. Briefly discuss who they are and what they have accomplished. Successful competition is an advantage—they are proof your business model and/or concept work.

✓ **What is your competitive advantage?**

Simply being in an industry with successful competitors is not enough. You need to effectively communicate how your company is different and why you have an advantage over the competition. A better distribution channel? Key partners? Proprietary technology?

✓ **What your "Elevator Pitch" must contain:**

- A "hook"

Open your pitch by getting the Investor's attention with a "hook." A statement or question that piques their interest to want to hear more.

About 150-225 words.

Your pitch should go no longer than 60 seconds.

- Passion

Investors expect energy and dedication from entrepreneurs.

- A request

At the end of your pitch, you must ask for something. Do you want their business card, to schedule a full presentation, to ask for a referral?

**Questions to blow your mind:** Think about programmers, coders and designers work. "Why developers should not be interrupted while neck-deep in coding"?

Finally spend some time for fun, for play friend's games. Make some suggestions to the authors how they could improve game. Change contacts with friends for future projects.