



Portfolio: Pizza Game

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Abstract

A popular urban legend holds that the archetypal pizza, Pizza Margherita, was invented in 1889, when the Royal Palace of Capodimonte commissioned the Neapolitan pizzaiolo Raffaele Esposito to create a pizza in honor of the visiting Queen Margherita. Of the three different pizzas he created, the Queen strongly preferred a pie swathed in the colors of the Italian flag: red (tomato), green (basil), and white (mozzarella). Supposedly, this kind of pizza was then named after the Queen as Pizza Margherita, though recent research casts doubt on this legend (Wikipedia).

Modern pizza originated in Italy as the Neapolitan flatbread. Nowadays pizza is one of the most popular dish in the world. For this reasons we decided to create a game entirely dedicated to this fabulous dish.

In this document, I present the process of creating the website (assignments), initial skill level, acquired skills, the problems that occurred and the final project: **Pizza Game**.

Introduction

Assembling, arranging and presenting information in the structure of a digital multimedia, which can include text, audio, as well as moving images. This is a partial definition of multimedia authoring. This process requires a tool known as author ware, a program that helps in writing hypertext or multimedia applications. Now I show my initial skill level.

Skills

JavaScript, HTML, CSS were already part of my knowledge, but I had no experience with HTML5 and CANVAS technology. However, I did not find it difficult to follow the course.

I was not new in the development of web applications, but I improved my JavaScript object-oriented programming. My preceding use of JavaScript was principally small scripts for checking form in a website. I learned to use the canvas for creating animations and dynamical effects. This will change my future way of programming.

Technologies and IDEs

Assignments and final project were mainly developed using the following technologies:

- JavaScript.
- HTML5.

I used **NetBeans** IDE in order to develop quickly and easily my code for our web application. I have chosen this IDE mainly because is free and has many plugins for programming.

Another software I have used a lot is **GIMP**. We spent a lot of time in choosing images and image editing.

The Website

We have created our own website from scratch. We started creating the template using HTML and CSS technologies. After we started doing the three assignments: create a **logo**, a **media viewer** and an **annotation editor**. In the creation of the website, our principles were harmony and multimedia.

LOGO

This was the first assignment for us. Our idea about what we wanted to do and the website were confused.



Figure 1. Logo.

Proud of our nationality we decided to create the logo in figure 1. It is animated by a bouncing ball on the "I" letters that compose it. In order to realize the animation we used the HTML5 CANVAS tag, this was the first time I used the canvas technology. The animation consists in a uniformly accelerated motion of the ball, attenuated by the impact with an hidden floor. This was the first challenge for us: apply the physics laws in our canvas.

The logo is present in each page of our website and contains a link to home page.

MEDIA VIEWER

The second assignment is the first time I used the HTML5 video tag in a web page. I learned how it works and its properties. We combine all the multimedia elements (videos and images) in a single viewer. As shown in figure 2, it allows you to view various recipes by clicking on the arrows. To create a really "full featured" slider we used the **AnythingSlider jQuery Plugin**. This tool, starting from simple HTML list (tag) allows you to have a gallery full of dynamics and effects.



Figure 2. Media viewer.

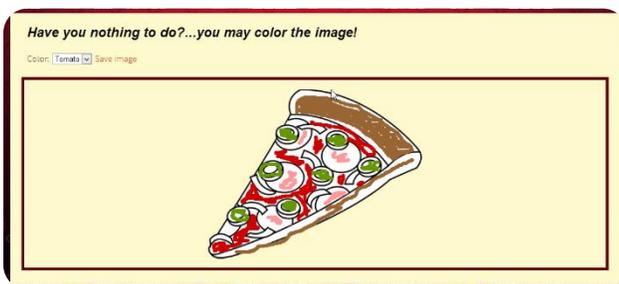


Figure 3. Example of annotation editor.

ANNOTATION EDITOR

I did not know what an annotation editor before this course was. What we developed can be considered as an introduction to the Pizza game. By providing the possibility to change the color of the lines used for drawing, you are called to color your pizza slice. After colored the pizza slice, it is possible to save, as an image, your masterpiece.

In this assignment we used the mouse events in order to add a text line to the canvas. In detail, when the left mouse button is down (*mousedown* event) a boolean variable is setted to the *true* value. So, as soon as the mouse starts to move a line is drawn on the screen until the left mouse button is released (*mouseup* event). The latter event set the boolean variable to the *false* value. Thanks to this simple mechanism you can create a funny Pizza annotation editor, as shown figure 3. The last feature on which we worked is "save image". It allows you to download your creation!

Pizza Game

What Italians can do better than the others is pizza! We are a generous people, so we decided to show you how to make a real pizza. However, learning can sometimes be boring. For this reason, we decided to create a game that would allow people to learn by playing.

CONCEPT

We started from the conviction that pizza is not just something that you can eat. For us pizza is aggregation, party and friends. Throughout my life, I have never met a person who does not like pizza.

Pizza is a dish and, as all dishes, has a recipe. This is what we want people learn from the game. You are called to be a *Pizzaiolo* in order to make your own pizza.

The mainly challenge was to create something new. We did not want to copy other games or applications.

STORYLINE

The **real** pizza is cooked in a wood-burning oven. The game starts with a Pizzaiolo that puts the wood in the oven. The oven temperature is very important; it should be 400° C. After, looking at the high variety of ingredients and without seeing the recipe, you will become the **master** of pizza!

LEVELS AND DIFFICULTY

The game offers two levels of difficulty. The easy level shows you the recipe, in this way the choice of ingredients will be easy. The hard level shows you only once the recipe, so the choice of ingredients will be harder and linked to your memory skill.

Each level offers you two lives. This means that you have two attempts in making pizza.

GAME DEVELOPMENT

In our project, we used HTML5, JavaScript and CSS3 technologies. The first problem I encountered is playing a video (the introduction animation) into a canvas. For solving it, I used the canvas function *drawImage()* to draw each video frame on the canvas. The final effect gives something special to the game's storyline.

Another problem faced was finding the best way to present the ingredients to the players. What we came up with was to show the ingredients like a slot machine screen. The result is in the figure 4. A canvas represents each column of the screen. The movement of the columns is allowed by the following:

```
canvasArray[i].setAttribute("style", cssTransform+":"+ 'translate3d(0px, '+ newY +'px, 0px)');
```

This instruction modifies, at each time interval, the CSS3 property that set the position of the canvas on the screen. To create the effect of rotation of the columns we used modular arithmetic. The result is an amazing ingredients slot machine.

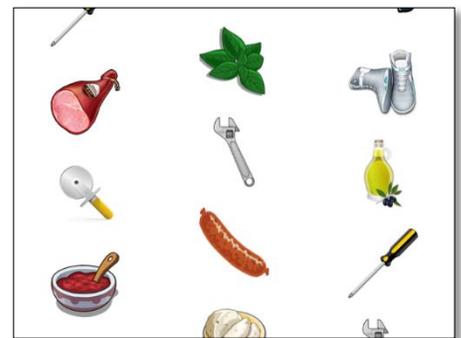


Figure 4. How ingredients are shown.

To increase the difficulty of the game, every time you select a right ingredient, ingredients change position on the screen disorienting the player.

Other important development choice is the game soundtrack. We chose a typical Neapolitan Tarantella. The involvement is assured.

Now you just have to play!

CURIOSITY

One day, while I was programming, my girlfriend asked me, “Does this game make you hungry?”. I answered “Yes, of course.”; and what about you?



Figure 5. The final result.

Future work

To improve the game, more levels should be added in order to increase the game experience. The game difficulty should be increased. At the end, it would be great to develop a mobile application of Pizza Game. This will allow more people to play the game.

About the course

If you want to explain the Multimedia Authoring course in a word, this should be creativity. Since the first lesson, the teacher encouraged us to be creative and to think outside the box. This course provides a large amount of material and examples. I did not have any significant problems in following this course.