

# Computer programming

## Final Project

Report

I.E.S. San Vicente  
San Vicente del Raspeig (Alicante)  
2014/2015

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## 1. Introduction

Project name

- Tails

Made by

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### Short description of the project

Is the typical game arcade “sonic” but only play with the protagonist “Tails” (friend's sonic), a slightly altered, instead of his colour, he will be black colour, and he will move from left to right in the screen to end the level. I will use a graphical application with SDL graphics library, created by the teacher.

## 2. Functionality of the project

After entering the program, a welcome screen will be displayed, where the user can choose between:

- Play.
- See score the best players.
- See help for play.
- See Credits.
- Quit the game.

Screen Play:

The player will use to Tails for the purpose of complete this level. Tails can move to left, to right, jump, he can do a curl to kill the enemies or can to slide.

He can run and take items (rings).

If Tails has any ring and hit him then he lost all rings.

If take 100 ring before hit him then, he will create a life, if he has not any ring then he lost a life, and he will start a new this level.

Tails start the game with 3 lifes.

If lives of Tails are 0 then finish the party, and you must put your name, if your score are into the 10 best it will save in a file.

Screen Score:

it will see 10 best scores and use Esc for to go back.

Screen Help:

it will see all keys to use.

Screen Credits:

it will display data about the programmer

### 3. Screen prototype

The game screen will look like this:



### 4. Analysis

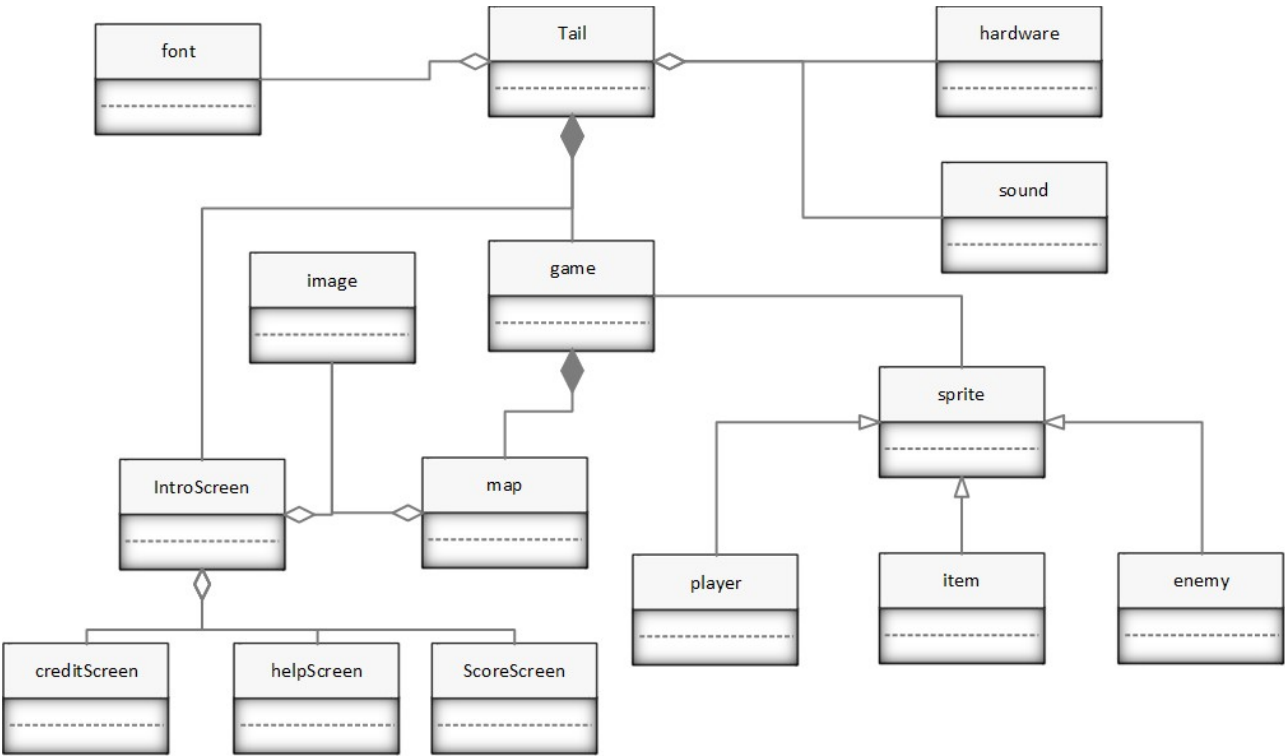
#### 4a. Requisites

Requisite	Date achieved
The game will start showing an intro screen	Implement To Do
The intro screen will allow he user to enter a Help screen, which will display hints on how to play	
The intro screen will allow he user to enter a Credits screen, which will display data about the programmer	
The game can be paused pressing "P", and then returned by pressing any other key	
Tails will can move right, left, jump, and slide correctly	
The program will allow finish the game when Tails go the end and take "BIG RING"	
Tails must take the ring	
Tails must see with movement with sprite	
The intro screen will allow he user to enter a Score screen, which will display High scores	
When the program are in play, must display background map, score, life	
The player will must see the enemies, the items, and Tails	
The player will listen the music when start play	
The player will listen the sounds when Tails jump, or slide	
Tails must kill the enemies correctly	
Tails must catch the rings correctly	
(...)	

4b. Basic pseudocode

(...)

4c. Classes diagram



## 5. Initial planning and expected deliveries

### 5a. Expected deliveries

1. create class Hardware, using Tao.SDL
2. After the Intro screen, create Class Sprite, class player and class enemy
3. create class help
4. create other class (only for "To Do")
5. move with using the arrow keys left and right (only player)
6. testing movements of player correctly
7. must enter and exit the options on IntroScreen correctly
8. draw enemies (minimun 2)
9. create class items (for rings) and draw
10. create method to colisions in class Game
11. colisions with items
12. colisions with enemies
13. create map class and draw
14. implement movement with background(map)
15. implement score, life, number caught ring in game
16. create movement sprite to Tails
17. implement names in class ScoreScreen
18. the enemies must move
19. create movement sprite animation to ring
20. must Restart game
21. Collisions with background
22. inplement other item (box)
23. create movement sprite animation to the enemies
24. implement name in class credits and draw
25. create method to gravity (jump)
26. create method for effect to quick
27. create method for use the curl
28. implement colisions only when Tails is in mode curl
29. use "p" for pause the game
30. save the game in a text file
31. implement sound for main screen (Intro Screen)
32. implement sound when jump
33. implement sound when use the curl
- 34.

(...) Note: You must plan **33 deliveries**. Each one of them will correspond to 1 hour of work in the classroom.

### 5b. Real deliveries

1. 0.01 06-03-2015: create class Hardware, Font based on SdlMuncher 0.14, class Init (Initial version).
2. 0.02 06-03-2013: create class Image Initial version.
3. 0.03 27-03-2015: create class Sprite, class player.
4. 0.04 22-05-2015: reestruct classes Tails (now is Main) and Intro, create class Game. The game can be quit (ESC) or start (SPC) correctly.
5. (...)

## **6. File formats**

### **6a. Plain files format**

...

### **6b. Entity-Relationship Diagram (If needed)**

(...)

## **7. Problems found and solutions**

(...)

## **8. Improvements or restrictions to the starting design**

(...)

## **9. Screenshots of the final project**

(...)

## **10. Source code of the final project**

(...)