

3APL - Swift and Cocoa development

Project

Where's Cage?

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1 OBJECTIVES

This project is a research project that will allow you to complete your overall skills in Swift development.

You will have to understand the differences between OSX development, that you have seen during this course, and iOS development, that you will have to use to complete this project.

2 THE PROJECT

Your final goal is to create an iOS game based on the famous “Where’s Waldo?” books’ rules but playable on an iPhone/iPad.

As long as it is able to run Swift 2.0 built apps, the targeted device doesn’t matter and can be chosen freely.



3 THE RULES

The game's goal is simple: Find Nicolas Cage.

In every picture, Nicolas Cage's face has been photoshopped and has to be found by the player. The less time the player spends searching, the better it is.

3.1 ZOOM

The Where's Cage? pictures usually are big enough to make it pretty hard to find without zooming in. Especially on little screen devices like iPhone 4S.

You will make this possible by using the pinch:

- Two fingers on the screen getting further for zooming in
- Two fingers on the screen getting closer for zooming out

Once the player zoomed in, he has to be able to swipe the picture in every direction so he can explore every little part of it.

3.2 VALIDATING

When Nicolas Cage has been found, the player has to validate his answer by clicking on him.

To avoid players cheating by clicking everywhere, once a click is made in a place where Cage isn't, the player has to wait 2 seconds before submitting another answer.

3.3 TIMER

To see which player is better than the others, you will have to implement a timer that will count the time a player spends searching. It has to be visible during the game and will be used to display score when player has finished.

3.4 DISPLAY SCORE

When the player finally finds Cage, a message will show up telling him how much time it took him to finish the game and asking his name so he can record his score in the hall of fame.

3.5 HALL OF FAME

The game will provide a hall of fame which keep stored the 10 shortest time spent to find Cage and the name of the player who did each of them.

This hall of fame will be displayed automatically every time a game is over and will be accessible on demand by a way you will choose.

4 BONUS FEATURES

The features described as follow are optional and can give extra bonus points if they are fully and well completed.

4.1 MULTIPLE DIFFICULTY

Finding Cage in only one picture is pretty easy once he has been found the first time. To harden the challenge, you will provide multiple Where's Cage? pictures that will be shown randomly when the game starts.

4.2 CHRONOMOD

In the same spirit of hardening the game, you will provide a new gameplay in which the player has a given amount of time to find Cage. Once found, the time shrinks and another picture is shown.

For example: The player starts the game and has 120 seconds to find Cage in the picture. He finds him. A new picture is shown but this time he only has 100 seconds to find him. Etc...

The player deserves to have his name displayed somewhere if he's really good but time doesn't matter. In this gameplay, the best player is the one who find the more Cages so the hall of fame must be adapted.

4.3 CHRONOMOD 2

You will implement a new gameplay based on time but, for this one, the total amount of time is given from the beginning and never rises up.

For example: The player has 300 seconds to find has many Cages as possible. He finds the first one after 43 seconds. A new picture is shown but the timer continues from $300 - 43 = 257$ seconds.

Another hall of fame based on the number of Cages found is necessary.

5 CONDITIONS AND DELIVERY

Although you can perfectly do this project on your own if you decide to do so, this project has been designed to be done by a group of 2-3 students. There is no need to declare your group before the delivery: Will be considered part of the group all students mentioned in the final delivery. All members of the group present in the delivery will get the same mark.

You have to hand back the following to your local trainer:

- A list of the group members with their CampusID
- A compressed archive of your Xcode project
- If your Xcode project's compressed archive is too big to be sent by mail, you will send a MD5 checksum of this archive and a link to it from the place you put it. Remember that you have 1TB One Drive space with your Office 365 account.

Warning: You're going to send checksums. Be sure they're good and prefer offline tools like md5 (Mac OS), md5sum (Linux) or Summer Properties (Windows) than online websites that can sometime give false hashes (<http://onlinemd5.com/> is a perfect example of what **NOT** to use).

6 DEADLINE

You have 1 month to complete this project.

You must have sent your delivery to your local trainer by the **13th of March 2016, 23h59 UTC+1**

7 RESOURCES

So you can start quickly, 2 Where's Cage? pictures are provided to you with this subject.

Photoshopping Nicolas Cage into crowds may be a little annoying but people already did that a lot on internet. You can find more Where's Cage? pictures in the subreddit:

<https://www.reddit.com/r/spotthecage/>

8 GRADED ITEMS

Items	Points
Zoom with pinch	2
Swipe when zoomed in	3
Validating	2
Player has to wait 2sec on false answer	1
Timer	2
Display Score	2
Hall of fame displayed	2
Score saved even when app is closed	3
Code clean and well commented	3
Bonus: Multiple Difficulty	1
Bonus: ChronoMod	1
Bonus: ChronoMod 2	1
Total	23