GDAŃSK UNIVERSITY OF TECHNOLOGY

macOS and iOS operating systems

Lab 4

Class and Structures

Gdańsk 2021
Tomasz Idzi

Introduction

“Swift comes with many useful types for representing data like numbers, text, collections, and true or false values. But as you get into building apps, you'll find you want to create your own data types, with properties and functions of your own design.”

What’s mean to represent collection of data we need to define specific model. All client-server applications required this kind of data structure. Let’s take a look on your favourite mobile app.

Run Playground app (you can use online version here: http://online.swiftplayground.run) and complete the following tasks:

Find feed (1 point)

Open one of your favourite mobile app, which get data from web service and display it as collection. It can app such as Facebook, Twitter, Spotify, Instagram or typical Mail. Try to find one feed in collection interface. For example:

It's one cell from the collection which display feed from Apple profile on Facebook mobile app. Take a look, what can be behind this part of the interface? It will be model of feed component, which contain relation with user profile, assets type (such as video/photo/music) and so on.

Design and code data structure (3 points)

For feed which you selected prepare data structure which use:

- classes (don't forget about inheritance and initialization)
- structs
- enums (to define type)

Add helper funcs (1 point)

Implement bunch of helper method which print data in specific way. For example, for number of likes instead of display 413000 print it as 413k or specific date format.

Prepare test data and display in console (1 point)

Create array of you feed objects with hardcoded data and print some information (using helper funcs) in console. For example:

Profile name: Apple | Media type: Video | Data: 12.08.2018 | Number of likes: 413k

✨Additional points💫

Prepare test data based on JSON (2 points)

Create test data based on JSON structure which will be parse into you data model.

Useful links:

- Structures and Classes:
  https://docs.swift.org/swift-book/LanguageGuide/ClassesAndStructures.html
- Enumerations:
  https://docs.swift.org/swift-book/LanguageGuide/Enumerations.html
- Inheritance:
  https://docs.swift.org/swift-book/LanguageGuide/Inheritance.html
- Initialization:
  https://docs.swift.org/swift-book/LanguageGuide/Initialization.html
- Working with JSON:
  https://developer.apple.com/swift/blog/?id=37

Bibliography

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- ”The Swift Programming Language. Swift 4.0.3 Edition” Apple Inc. - Education, 2014. iBooks.