**6 day Course on Building iOS applications in Swift - Preparation**

Each participant will need the following:

* An Apple Mac computer running at least version 10.15 of the operating system
* An Apple ID - this does not need to be a paid developer account: it is possible to do the course with a personal Apple log-in
* Xcode installed on the Mac, at least version 12.4 (present version is 12.5.1). Do not upgrade to version 13, as this course has been prepared under version 12.
* Apple Develop in Swift books installed in Books on the Mac.

Instructions for making sure that the third and fourth items are ready before the course are included below.

**1. Installing and testing Xcode**

Xcode is Apple's IDE for building apps for all their devices (phones, iPads, watches, Macs). It is not included on a Mac by default, but can be downloaded from the Mac App store. Install the item outlined in red below.

Graphical user interface, application, website

Description automatically generated

Xcode will be installed in the Mac's Applications directory. You should run it from there to make sure that it is working correctly. When starting up Xcode for the first time, you should see the dialog below:

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Choose "Create a new Xcode project" (if the dialog does not show, you can also do this from the File menu by choosing File/New/Project). You will see the following dialog:

Graphical user interface, application

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Choose the items outlined in red - first *iOS*, then *App*, then *Next*, which will bring up the following dialog:

Graphical user interface

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Fill in *test1* for the Product Name, and *com.elm* for the Organization Identifier (unless Elm uses a different identifier, in which case fill that in). Check that the other items are set to the values shown. Choose *Next*, and a final setup dialog will be shown:

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This final screen asks you where to save the project - just save it on the desktop so it is easy to find and throw away.

You will now see a project screen like the one shown below.

Graphical user interface, application, Word

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You can run this test app by clicking the Build and Run button (outlined in red above). You may be prompted for permission to install further items in Xcode -you should agree to this. Eventually, the Simulator should start up, and you should see an iPhone with a blank screen except for the time at the top.

You can then quit both the simulator and Xcode, as everything needed seems to be installed.

If you want to try your apps on real devices as well as the Simulator, you will need an iPhone or iPad with an up to date version of iOS, plus a cable to connect the iPhone to the Mac. However, almost all the example projects will run on a Mac in the Simulator with no problems.

**2. Downloading the books in iBooks**

Apple have produced several books to assist people learning Swift and iOS programming. They all come under the general theme *Develop with Swift*.

While they are intended for people learning programming from scratch, they have a lot of useful detailed material on iOS development. We will skip over the introductory programming material, but use some of their more detailed examples and exercises.

The books are available in Apple's *Books* app on both the Mac and on all iOS devices. When you are following an exercise, it can be helpful to see the instructions on an iPad. Whatever device you are going to use the books on, you should start Books, and then search for *Develop with Swift* by typing in the Search dialog. You should see a list of books as shown below.

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The two books that you want are *Develop in Swift - Fundamentals* for Xcode 12, and *Develop in Swift - Data Collections* for Xcode 12.

**3. Course materials**

These will be available for download in a Github repository. Cloning the repository will enable people to pull updates as they happen.

Address is: https://github.com/chrisinaber/iosdevforelm

The repository will be fully populated by Monday 13th September.