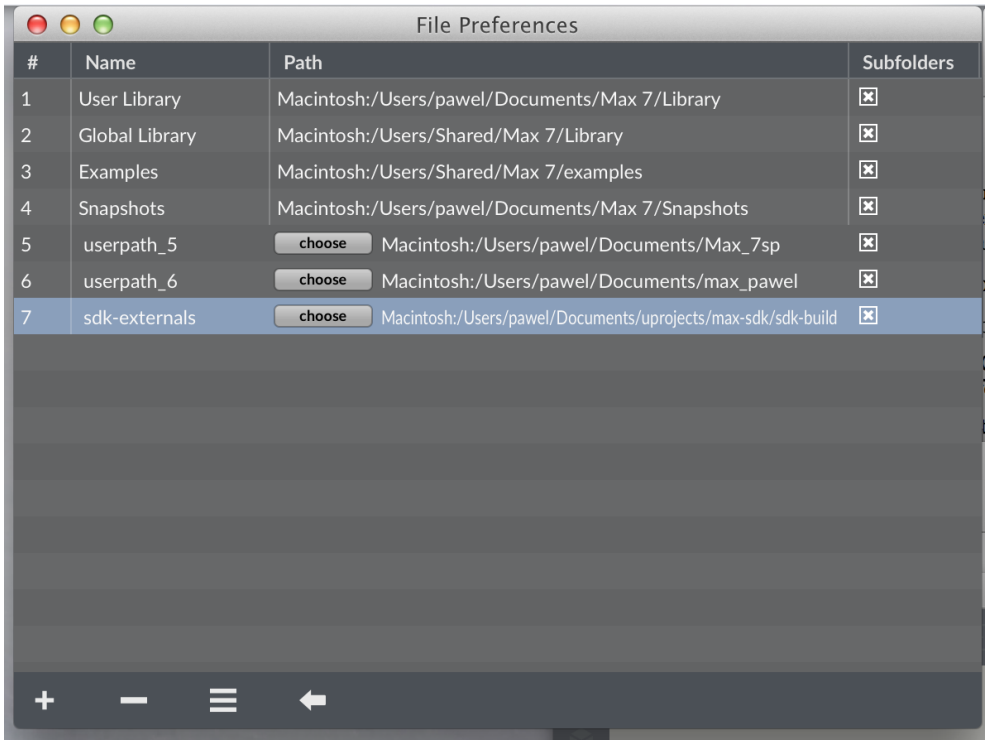
How to build own Max/MSP externals in C++ using maxcpp kit version by Francesco Petrarca from Goldsmiths, University of London.

1. add our externals folder (in blue) to search paths in **Options** -> **File Preferences** (obviously on the same system enough to do it once).

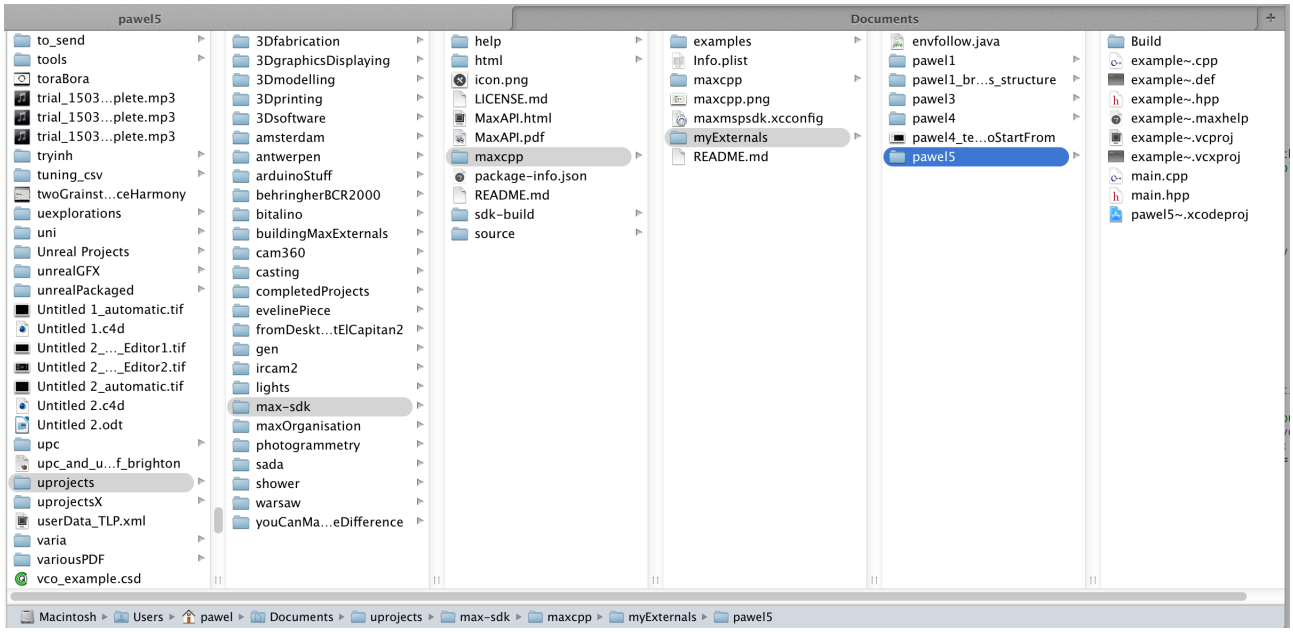


2. duplicate some folder from:

Macintosh:/Users/pawel/Documents/uprojects/**max-sdk/maxcpp/myExternals**

in this case we duplicated folder **pawel4** and named it **pawel5**

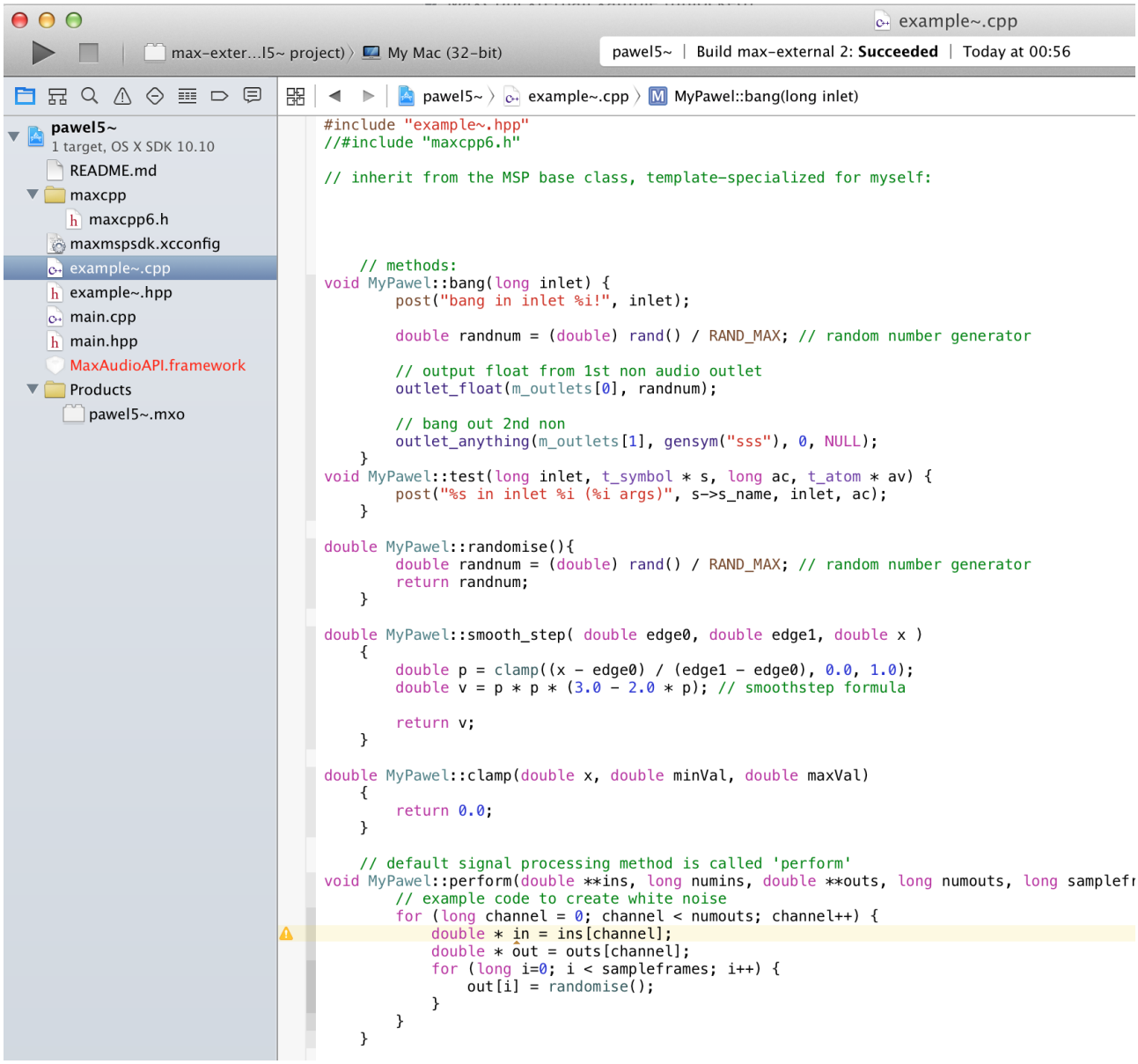
I think it might be possible to establish another folder inside maxcpp and called it otherwise like e.g. myExternals2 and this should also work but need to test.



3. go to newly created folder **pawel5** and what we get is a bunch of classes and an Xcode project.

to start with perform follwing steps:

a) Open project in XCode.
b) Rename project in XCode from **pawel4~** to **pawel5~**. Press enter to confirm twice
c) Rename the project file **.xcodeproj** in the folder **pawel5** to **pawel5~** as well, if it does not happen automatically after step b)
d) Go through classes in Xcode anywhere where you see name **pawel4** rewrite to **pawel5** and save classes. The Xcode window will look like below



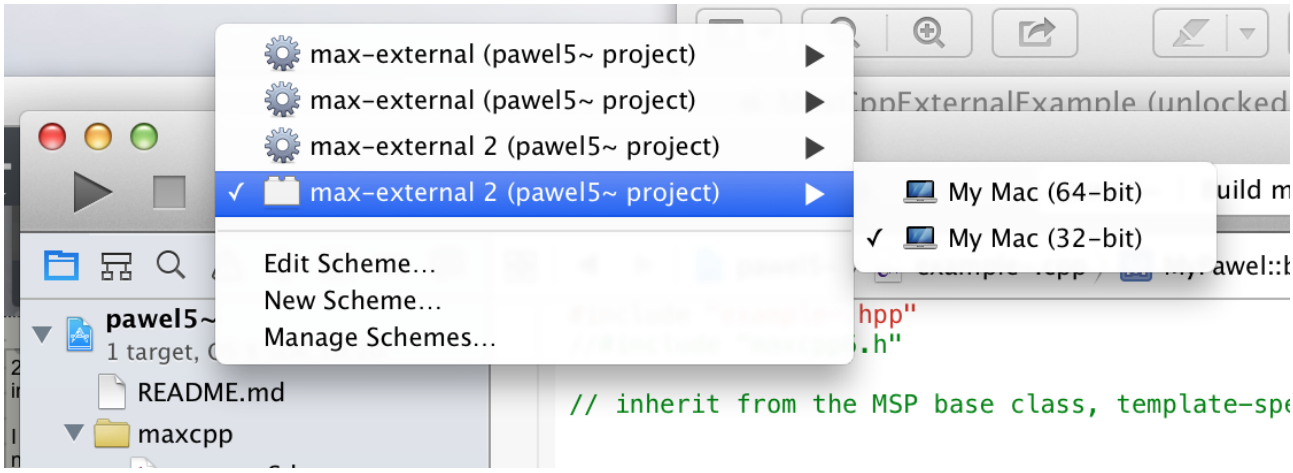
4, IMPORTANT STEP: write your custom code, The most important file to work with will be example~.cpp seen above. MIght need to also check
into modifying the header example~.hpp. It should be possible to link extra librairies. The CPP structure has got few limitations. To find out about them please read the readme.md in our maxcpp folder.

It might be worth to look at the main.cpp as well in terms of registering methods. To test what is needed there.

5. Now you need to make a build. Just set it like on the image below in the Xcode main window top bar before making a build.

I assume that we do 32bit external. But I think 64 bit is also possible (to test).

To make a build just press Command + B (but maybe we can set it also to do automatic build). Remember we don't run the stuff, just build it



6. Now our external file called pawel5~.mxo should pop up in the folder:

Macintosh:/Users/pawel/Documents/uprojects/max-sdk/sdk-build like on the image below. From here we can copy it for other Max users and computers.
And just if we happen to run a patch using our external on another system we just put it in the same folder like the patch and it will be avaialable.

We can create a patch callsed pawel5~.maxhelp for it as well if we like and put it in the same folder, or somewhere in Max search path on given system.

Also our external is ready to be opened in Max! Just create a new object box and type pawel5~ and it will come up. Now just connect inlets outlets
and make some noise. Try if it doea sth on a bang, float, int, if it is implemented.

7. Now you might want to modify the code in Xcode and rebuld the external.

Thid is cool thing to do, so just write some new code in Xcode and press CMD + B to rebuld.

You might need to reatart Max though to see the new revision acrting instead of the old one :(

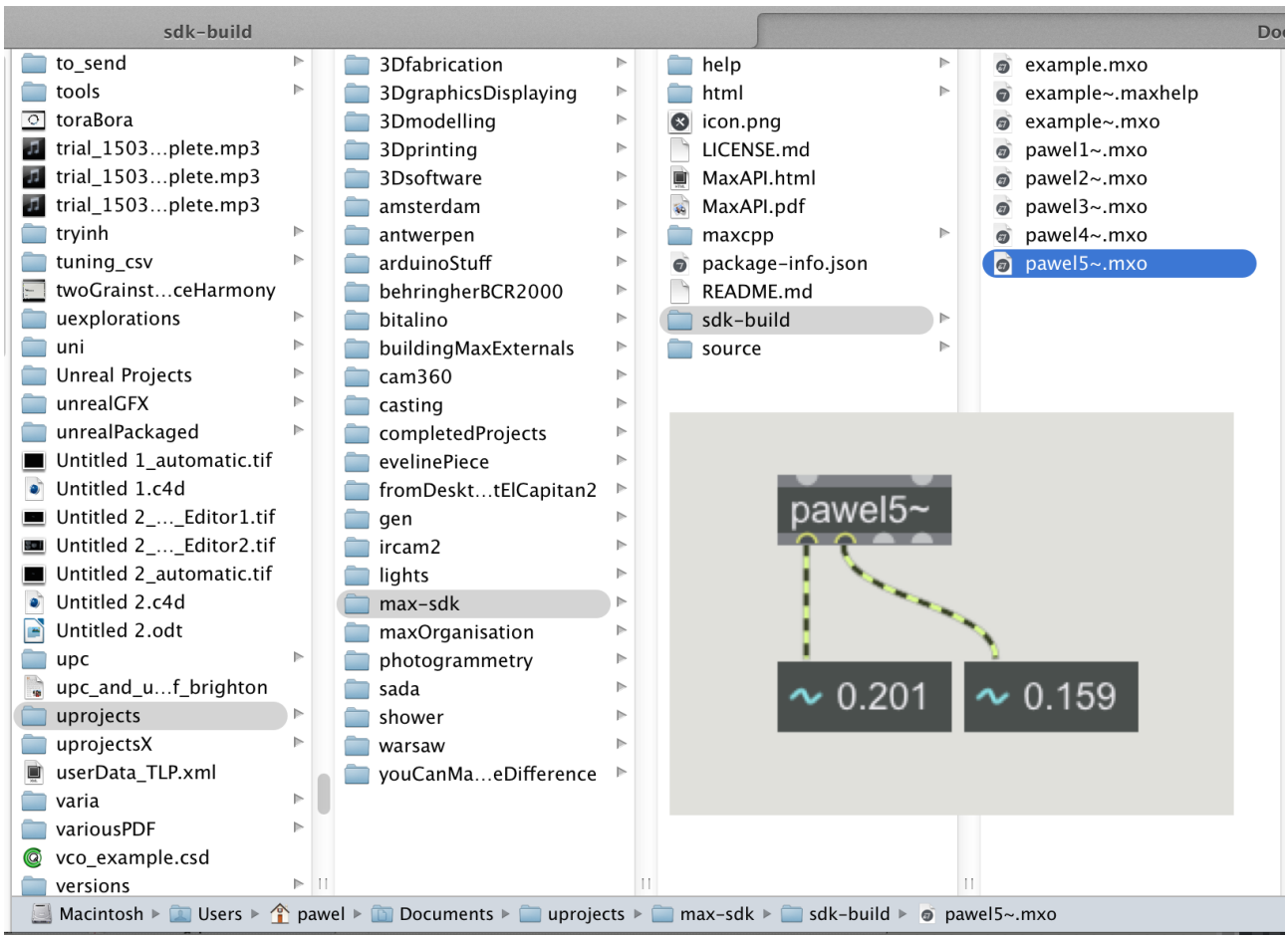
It's unfortunate that it seems that when we just refresh the object in our Max patch (e.g. CMD + X, CMD + Z, just like we did with Java mxj) it won't be enough to use our newly rebult revision!

The object is kind of cached in Max memory so although we can see that in the sdk-build folder the file, in our example pawel5~.mxo acquired new date when we use it in Max it will be the old revision running.

As such as said already to get the new revision running we need to restart Max. I know it sucks but for now we haven't come up with a better method.

Happy patching using own CPP externals!!!

Pawel Dziadur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Unreal Projects
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Untitled 2_..._Editor1.tif
Untitled 2_..._Editor2.tif
Untitled 2_automatic.tif
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3DgraphicsDisplaying
3Dmodelling
3Dprinting
3Dsoftware
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antwerpen
arduinoStuff
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gen
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lights
max-sdk
maxOrganisation
photogrammetry
sada
shower
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help
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MaxAPI.pdf
maxcpp
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README.md
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