**Instaling and using Google Protocol Buffer**

**1. Download Compiler for ObjC:**

Down load Compiler from link:

<https://github.com/mingchen/protobuf-ios>

**\*\*\* Note:** We can download any version of compiler GG ProtoBuf but we have to check the supporting language, which has to include Obj-C language. (Some versions of compiler not support).

**2. Make compiler and install:**

- cd to folder, holding downloaded Compiler source.

- *cd compiler*

* *./autogen.sh*
* *./configure*
* *make*
* *make install*

**\*\*\* Note:** We need “autoconf” to compile .proto files. So we can install autoconf

* *brew install autoconf*

If brew command not found, run:

* *ruby -e "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install)”*

If there is an error : “aclocal: not such file or directory”, run:

* *brew install automake*

If there if an error like this : “undefined macro: AC\_PROG\_LIBTOOL”, run command to install libtool:

* *brew install libtool*

**3. Create .proto files:**

Use editor for creating .proto files with content like this:

Example file *MessageRequest.proto :*

*message RequestMessage*

*{*

*required string content = 1;*

*required PersionReceipt perReceipt = 2;*

*required PersionSend perSend = 3;*

*message PersionReceipt {*

*required int32 userID = 1;*

*required string userName = 2;*

*required bytes userAvatar = 3;*

*}*

*message PersionSend {*

*required int32 userID = 1;*

*required string userName = 2;*

*required bytes userAvatar = 3;*

*}*

*}*

*To make clear what is the content of .proto file please read in file “Google Protocol Buffer”*

**4. Compile file .h and .m for obj-C:**

Run:

* .*/src/protoc --objc\_out=. MessageRequest.proto*

After compiling, we will receive 2 files:

* *MessageRequest.h*
* *MessageRequest.m*

*\*\* Note: if there is an error: “—obj\_out: not define”, plz redownload right version of compiler, which support Obj-C.*

**5. Using ProtoBuf in Xcode:**

- Add all files that you have just compiled to project.

- Add ProtoBuf project for Xcode from dowloaded compiler:

*/runtime/protobuf-ios/* to project.

*\*\* Note: add non-arc compiler flag for protobuf project files : -fno-objc-arc*

* Add file config.h to project ( Generated from config.h.in by configure)
* Build “protobuf-ios.xcodeproj” (add lib: libprotobuf-lite.a after building if needed).
* Now we can use classes, which generated by protobuf compler like this:

+ To create message:

RequestMessage\_PersionReceipt \*perReceipt = [[[[[RequestMessage\_PersionReceipt builder] setUserId:2] setUserName:@"User 2"] setUserAvatar:data] build];

RequestMessage\_PersionSend \*perSend = [[[[[RequestMessage\_PersionSend builder] setUserId:1] setUserName:@"User 1"] setUserAvatar:data] build];

RequestMessage \*messageSend = [[[[[RequestMessage builder] setContent:text] setPerReceipt:perReceipt] setPerSend:perSend] build];

+ To decode message:

GeneralMessage \*genMessage = [GeneralMessage parseFromData:responseObject];