Comparison from Stage 1 to Stage 2.

In the Stage 1, we have developed our program using **a waterfall method**, which is translated in that we design the full program before implementing it and writing the code: all the classes that were going to be implemented, the instance variables and all methods. To help with the class design, we used CRC cards, and UML diagrams. For the design and also for the code part, we divided the work in parts and each person worked individually, meeting regularly once every two weeks and then more regularly for the last weeks before the submission with the purpose of being in contact about our work.

In this Stage 1, we highlight that having to design everything before implementing it made us have clear general idea of what outcome to expect, even if after a few changes were made.

In the Stage 2, a new method of work was implemented: **Agile**. First meeting consisted in deciding which Agile methods we were going to use for this second stage. As described before, we used **Scrum** and we included the planned poker, sprint reviews and pair programming methods. These new method and the more regular meetings ease our implementation as we were able to fix any problem or struggle we had during the development of the different stages of the program. We divided the work in different parts and we also worked independently in them.

For this Stage 2, the implementation of the Agile methods we all think has helped us to enhance our communication as a group, to share our ideas, struggles and achievements, which eased our work through the different tasks. The use poker planning gave us an overall idea of what to expect in terms of time and helped us to motivate ourselves to work base our goals and work to be done for the next meetings or “mini-deadlines”. The regular meetings and stand-ups/sprints helped us to understand better what every person in the group was doing and struggling with. It also helped us in gaining feedback about the work done and to overcome the struggles we suffered (coding not working, ideas about how to implement threads, logger… in general the different new tools we were taught in the lectures). We highlight the use of peer programming as a very useful method for us: since we have different levels of programming knowledge, see live-coding from our teammates and being able to ask why mention some ideas not only enhanced the communication of the group in terms of understanding all the parts implemented but also in gaining experience and knowledge for programming.

Our general opinion about both stages is that a **mix of both methods will work the best for us**: starting the project having a general overview of what to expect (designing before implementing) but continuing working with the Agile method and meeting regularly to obtain feedback but also to understand what other people in the group are working and struggling with. A good communication in the group is the key to success, and with the Agile method we could achieve a better communication than in stage 1, which we think it is already a point to highlight for our teamwork.