

# Individual Contribution and Retrospective

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## a- Contribution

My contribution to this project is on 2 areas: project management and software delivery.

### Project management:

At the very beginning, I have volunteered to be the project manager within my team and after consensus by all, I was so for about a month. My aim was to be the best team in terms of management as I was set to introduce industry standards of IT project management. During my short period as project manager, I have implemented a Scrum methodology and made use of Taiga.io for this purpose. I have also elaborated an on-boarding document to serve as a guide for the team to start up on the project by getting the tools of interest installed. I have run regular meetings online with Skype Enterprise which is used by many companies for efficient team work. For each meeting I will set reminders and document the points and ideas discussed. Also, I have delivered few knowledge sharing sessions. Finally, I have contributed to the final report mainly on the technical section.

### Software delivery:

Firstly, the environment set up was a burden to most people due to very poor installation guidelines from previous projects. I have therefore come out with a comprehensive and step-by-step installation guide tested on a fresh Windows 10 environment that will make it much easier for future students (full length screen-recorded videos are also available). Secondly, as part of the initial technical work partition done within the team, I was tasked to pick up and handle OpenCV. I was therefore taking some time to get deeper on OpenCV to acquire strong fundamentals of it and be able to effectively use it for the project. I later had to break from OpenCV to start learning about PCL as the team faced reasonable difficulties with it and therefore it needed new ownership. This was unfortunately done in a very short period and late stage but I could manage to wire up things and come out with the different modules of the software. Additionally, I have used CMake as the build management tool for our project.

## b- Retrospective

For me, this project was very interesting as it exposed me to a new theoretical topic evolving about 3D registration. I would hear about and see people using the Kinect for playing video games but little had I known about the mysteries it inboxes or the way it works or can be employed to do cool things such as 3D scanning. I also discovered the world of lenses from studying calibration. I appreciated how some of the concepts I have studied in other courses such as Linear Algebra and Image Processing revealed to be very much relevant. I have used previously different frameworks and libraries in Java and JavaScript (Spring MVC, Hibernate, AngularJS, Cordova, etc.) but this was the first time I make use of C++ external libraries or interfaces such as Boost, OpenCV and PCL. It was not an easy task at first and the learning curve was rather steep initially but soon I started to get the hang of it and could pick up the skill. Also, I have to admit that I did not give proper and enough time to tackle this project. This was due to my heavy load schedule during the whole semester. In fact, I struggled a lot with the courses as the last time I attended a class/studied was back in 2014. Rarely I would understand much from the lectures and it would take me several hours of self-study to cover an hour of lectures. This is in addition to the multiple

homeworks which I would give priority as they were the earliest in terms of deadline. So basically, the only period I could really start putting my focus on this project was after the final exam week and I can estimate it would have been enough for me to deliver a very decent software but unfortunately, I ended up with other courses' projects which similarly I couldn't progress extensively during the lectures and examination periods. So, I can say that I've put on my sweat for a couple of days only, unfortunately. This being said, I wished we could have been given until the far end of the semester, so I would have been able to refine, improve and optimize the software.