Appendix A: Client Interview

- **Summary of the Initial Interview -** 18 April 2018

Me: Could you tell me a little about what are the things you need to consider when making the student dorm arrangement?

Client: Before the beginning of every new school year, second-year students will select their roommates basic on their own preferences, so I don't need to allocate the second-year students. But for first-years students, I need to allocate them to different buildings and rooms based on their gender, and one of the top criteria is to have a lot of diversity in the student rooms. In other words, we want to have students from different nations and continents in each room.

Me: So, the necessary condition is that the students in each room is of the same gender, and with that being satisfied, the optimizing parameters are the diversity of student's nationalities and continents in each room, right?

Client: Yes.

Me: Have you faced any difficulties in this process?

Client: Yeah, a lot. First of all, given the demographics in our school, it's not possible to have all rooms allocated with students from different countries. Therefore, a lot of times I ended up with students with the same nationalities in the same room. Whenever this happens, I need to go through the entire allocation to see if it's possible to switch two students to avoid such issue. Secondly, it is really a tedious and time-consuming process. I have to spend days just on the allocation but still I can't make it perfect.

Me: If a computerized system can do this job and produce better result, would you be willing to use that system instead?

Client: Of course. I will be more than happy if I can do this by just clicking buttons.

Me: Thank you. I'll get back to you about some technical part of the questions.

- **Summary of the Second Interview** - 23 April 2018

Me: After last discussion, I have drafted a solution which uses the genetic algorithm to optimize the allocation. But before I started to develop the software, I have some questions regarding the input and output specifications. First of all, I would like to know does the school maintain any form of database of the student information including their names, genders, nationalities, and continents.

Client: Yes, the school does have the data of the students' names, genders, and nationalities stored in an excel sheet. However, we do not have the data of the continent in which their nation is located.

Me: Okay. Do you need to adjust the allocation manually, or is it fine to just follow the allocation produced by the algorithm?

Client: I will need the ability to adjust the allocation manually. The reason is that the allocation is not final. Changes can still be made in the middle of the school year in certain circumstances, and it's always better to have this kind of flexibility.

Me: Okay. As for the output of the software. Would you prefer the data to be store in a relational database such as MySQL, or in a simple excel sheet?

Client: I think the excel sheet will be just fine. I only have very basic skills in computers so I won't be able to operate that kind of database. Just make sure that the excel sheet has the building name, room name, and students labeled, so that it's clear and readily comprehensible.

Me: Sure. That's all the questions. Thank you for your time.