

Appendix A: Transcript of Initial Interview with Client

Date: [REDACTED], 2020

Location: [REDACTED]

Client: Dr. Ajay Gupta

Interviewer: [REDACTED]

Me: Good afternoon, Dr. Gupta, thank you so much for meeting me for this interview. I am an IBDP student, and I am looking for a problem that I can solve digitally for my computer science internal assessment. So firstly, can you please describe your occupation?

Dr. Gupta: I am the director of Sarvodaya Multispeciality Hospital, [REDACTED]. I am a senior consultant Gastroenterologist working alongside other doctors in my hospital too.

Me: What kind of services does your hospital offer?

Dr. Gupta: There are 4 doctors in the hospital and all of them have their respective specialties under which they can consult with patients. In addition to that, many operational procedures like endoscopy, colonoscopy and ERCP are done regularly. The hospital also has 6 rooms for admitting patients who need long term treatment.

Me: Okay, so how to store all the records of patients?

Dr. Gupta- That is the problem! All the information is stored in registers and everything is handwritten by the receptionist. When a patient revisits, it is nearly impossible to retrieve the old information, thus, all the details have to be re-written in a new register.

Me: Yeah, I can imagine! It must be hard to manually maintain all these records. I believe I can come up with a software solution to your problem. What type of information do you store for each patient visit?

Dr. Gupta: Well, there is some basic information like age, sex, phone number and address of the patient that should ideally be stored just once, but we have to re-write it all over again every time the patient visits. Then, there is some information that is unique to each visit, such as the reason of visit, which organization sponsored the visit and which doctor they need to consult in the visit.

Me: You mentioned organizations sponsoring the visits. What does that exactly mean?

Dr. Gupta: You see, there are some organizations that are empaneled under the hospital and the patients who are sponsored by them receive some discount. Since [REDACTED] is a small town, the patients

can't afford expensive healthcare and therefore they get either health insurances, or they are associated with some organization.

Me: Okay, so, tell me more about the services offered by the hospital and how exactly do you maintain records for that?

Dr. Gupta: So, every time a patient comes to the hospital, he/she is assigned a visit number. This helps us serialize the patients for the day so that they are treated one by one. Then, the patient consults with one of the four doctors depending on his sickness, and then, he/she often has to get a surgical procedure, or some tests done. These services are then entered in a separate register for each service, one for endoscopies, one for colonoscopies, one for X-rays, one for lab tests, and so on.

Me: You mentioned that there are indoor rooms available to admit some patients. How does the receptionist know which rooms are occupied and which aren't?

Dr. Gupta: That's another problem! Sometimes critical patients have to be admitted to a room for long-term treatment. After the patient is admitted to a room, an indoor logs register is updated where the receptionist mentions that a patient has checked in on this specific day. Another register stores the logs for patients who have checked out. The receptionist has to check both registers to see which room is not occupied, then assign a room according to availability and preference, you see we have different types of rooms.

Me: Is there any other issue that the receptionist faces?

Dr. Gupta: Umm..... oh, yes! One of the most concerning issues is that the receptionist often commits several mistakes while calculating patient expenses. It's not entirely her fault as she has to check each register for the entries of the patient and which services he/she availed or for how many days he/she was admitted for to calculate all the expenses. The bill that we give to the patient is hand-written which is something that the patients often complain about. As the prices of the surgeries are constantly updated, these calculations are prone to error.

Me: How do you, as the director, overlook all the records?

Dr. Gupta: I am mostly concerned with the payment records for each month and each year. This is also a tedious task since I have to flip through the pages of registers and find different records. Apart from that, I am in charge of updating any information related to services umm, I mean I need to maintain a register where I note down the charges of each service, OPD slips charges of different doctors and the organizations that have partnered with us.

Me: I think I have a basic idea of the kind of software that can help you. Why do you not have a digital system already? Are there any reasons due which you are forced to use a manual system?

Dr. Gupta: I have refrained from purchasing an IT based management system because those are often complex, and my receptionist is not familiar with complex computer applications. Earlier, we used to maintain an Excel spreadsheet for the records of patients, but that was not very convenient for the receptionist because it is not very user-friendly, and the receptionist had to create all the fields herself. An ideal solution to the problem would be an intuitive and easy to use software that stores, edits and deletes information. It should calculate the expenses of a patient by itself and the receptionist shouldn't have to enter the charges for everything.

Me: Are there any specific features you would need in such a software?

Dr. Gupta: Well two main things I need is the ability to print patient bills and the ability to view monthly and yearly payment records. The second feature should be reserved for the director. If possible, the application should have two separate interfaces, one for the receptionist and one for the admin with the ability to add more users in the future if needed. And the application should be password protected so that sensitive information is secure. Also, preferably, the application should not require an internet connection because we have a weak internet connectivity in the reception area.

Me: Okay, thank you so much for taking out the time for this interview, Dr. Gupta. I will now plan a software for your hospital and get back to you with an outline of the features that I can include.

Dr. Gupta: That's great! I'm looking forward to meeting you again. Thank you for helping me out with this. I really appreciate it.