

Management system for the VIAFit fitness centre

The Case for SEP1, Spring 2018

VIAFit is a small, but relatively successful fitness centre. After many years of running every aspect of the centre, the owner has recently decided to start preparing for retirement, by leaving the daily management to his son, former spinning instructor superstar, Bob Sixpack.

As his first big task after taking charge of the fitness centre, Mr. Sixpack wants to move VIAFit into the digital age, by replacing his father's old-fashioned way of managing the centre, with a new management software system.

Rumour has it that we have access to some of the best new, up-and-coming programmers, so we have been invited to VIAFit for an interview with Mr. Sixpack to talk about the requirements for the application.

The Interview

"Please tell us about the VIAFit centre, Mr. Sixpack."

Mr. Sixpack: "My father started the centre all by himself, 30 years ago, with nothing more than a dream, hard work, and a few millions he inherited from a rich uncle. It's a small fitness centre, but we are doing quite okay. We have a group of loyal members, who are happy with what we provide, and most people stay as members for several years."

"Sounds great. So what is it we can do for you Mr. Sixpack?"

Mr. Sixpack: "Since the beginning, my father has been running the centre in his own old-fashioned way, which isn't without problems. He keeps paper lists of the instructors working at the centre, and even does the same for the members. We have managed to do it like that until now, but I have a dream of recruiting a lot of new members, and it simply won't be possible to keep track of all of them, unless we stop having all the information on paper. Not to mention "the candle incident of 1997" where we lost the information about half our members. What I need from you is a software system that we can use to store all the information that we have. By the way, just call me Bob."

"Okay, Bob. So you keep information about the instructors working at the fitness centre, and the members of the centre. Anything else?"

Bob: "Yes, we also keep track of the various classes our instructors teach at the centre."

"Is that also done on paper?"

Bob: "No, we have a big whiteboard near the entrance of the centre and at the beginning of every month my dad, and now I, create a schedule for that month. We list which classes will run at which days, and at which time, so the members will know when to show up. Furthermore, we add the name of the instructor who will teach each class, so that the instructors can take a look to know when to show up for work."

“Are you happy with that way of doing things?”

Bob: “No. The members actually seem to like the big whiteboard with all the classes listed, but I don’t want it to be the only place the information exists. Last week some kids from the neighbourhood ran into the centre, and before I noticed what was going on, they had erased half the schedule and started drawing on the whiteboard! I managed to recreate most of it from memory, but I’m not completely sure some of the members will not show up for some classes at the wrong time, or that a few instructors might not end up showing up to teach the same class. I would like to be able to use the system you are making to register the date and time that a class will run, and the instructor teaching it. Then when I know it’s safely store in the computer, I can add the same information to the schedule on the whiteboard for the members to see.”

“Is it always the same kind of classes you are scheduling?”

Bob: “No. New trends occur, which the members start asking for, and then we have to start doing that. Once it was all about spinning, but then one day almost no one came to my classes anymore, and instead all you heard from the members were Zumba this, and Zumba that. Then there’s nothing else you can do than start learning how to dance and do some Zumba classes instead. For situations like that, I would definitely like to be able to add new classes to the system, when needed.”

“About the classes, is that something all members can just show up for?”

Bob: “Actually we have two different kinds of memberships; I should probably have mentioned that. We have a regular membership for €19 per month, which allows the member to use all the equipment at the centre, and a premium membership for €29, which also allows the member to sign up for the classes. Sometimes a regular member will ask whether they can also sign up for a class, and we are actually thinking about maybe allowing them to do that in the future, by paying a fee for each class they sign up for. For now, the only way is for them to upgrade to the premium membership instead, and we are okay with that solution at the moment.”

“Oh, so they have to sign up for the classes. How do they do that?”

Bob: “They talk to the receptionist at the front desk, and if the class is not already full, then they are added to the list of participants, which you have probably already guessed is stored on a piece of paper.”

“I see. How many participants will be able to attend a class?”

Bob: “It varies quite a lot from class to class. With the spinning classes we are limited by how many bikes we have, only 10 at the moment, but for things like Zumba we have room for a lot more people. I suppose the maximum number of participants is something it would also be nice to be able to state when I add a new class to the system.”

“We can do that. Would you like it to be possible for members to sign up for classes by themselves online?”

Bob: “No. What I would like from you is a system that runs on a single computer at the front desk. Then one of the receptionists, or I, can enter information into the system using that. From now on there will be at least one person at the front desk at all times, to prevent those damn drawing kids from coming back, so whoever is there at the time will handle the signup. Oh, that reminds me; since the computer is now also guarded all the time, then we don’t want passwords and logins and things like that for the system - it will just slow down our work.”

“So your members have to physically show up at the centre to sign up for classes?”

Bob: “Well, we do have a phone you know. Sometimes members just call to sign up. We prefer being in direct contact with the members when they sign up, so that we can offer advice about which classes will be best for them, answer any questions they might have about the class, and so on. This is one of the things we feel set us apart from other fitness centres, and something we are afraid to lose if we did let members sign up for things online.”

“That makes sense. How about when someone wants to register at your centre and become a member? Is that also in person, or by phone?”

Bob: “Yes, absolutely. Only in person though, not by phone. After enough prank calls, with people signing others up for memberships, you realize that’s the best way to do things. If someone wants to become a member, they need to talk to one of the receptionists in person, who will then register them on paper, but hopefully soon in your system instead.”

“What kind of information do you register about your members?”

Bob: “Well, basic contact information: Name, address, and phone number. It could be nice to be able to register their email address as well, because we have actually started doing that with some of the newest members. Other than that, we of course register whether or not they have signed up for the basic membership or the premium membership.”

“Got it. While I remember, I also wanted to ask about what kind of information you register about your instructors?”

Bob: “The same kind of contact information as for the members, plus some information about which kind of classes they can do. Payments are handled though a different system that even my father had to accept to start using a few years ago, so you don’t have to worry about that part in your system.”

“Great. Do you have any wishes for how the program should look?”

Bob: “I don’t know much about what things like this are called, but I am expecting some sort of standard looking program that we can use with a keyboard and mouse. You know the kind: Some fields to enter the data and some buttons and menus to do things: Saving and searching and what have you.”

“That should be possible. Do you have any deadline for when you want the system to be ready?”

Bob: “Yes, I would like it to be ready in the beginning of June. That will give us a little more than half a year to get familiar with the system, before we are flooded by new members on January 2nd. I don’t know who came up with the idea of New Year’s resolutions, but it sure is the best thing that has ever happened to the fitness business.”

“...Okay, then I think we have everything we need, and we will get started on the system right away.”

Bob: “Well, actually I have one last question. One of our new part-time instructors is a student. She’s studying some kind of computer stuff, and she’s always talking about something she’s working with. I think she calls it Jawas. Do you know about that?”

“Well...uh...Jawas are some kind of weird little aliens from Star Wars, so do you think maybe she’s saying Java?”

Bob: “Yes, I think that’s it! She told me that it’s awesome, so maybe you could try to use some of that when you make the system?”

“Yes, we will make sure to do that. We will implement the system in Java. Anything else before we finish the interview?”

Bob: “Yes, one last question. I realise I already said that once before, but I just thought of something else. Do you also know how to make web sites?”

“Maybe...why do you ask?”

Bob: “Our fitness centre has a really, really old and outdated website, so if you have the time, could you also make us a new one of those?”

“Actually, we don’t really have a lot of time...”

Bob: “I don’t expect anything really fancy. No functionality, put that in the Jawas system you are making instead. The website should just have some info about our fitness centre to attract new customers, some info about who we are, the various activities we offer, where to find us, and so on, I’m sure you know the kind of website I’m talking about.”

“Okay, no problem. We will make you a website as well. We are going to start on the project right away”

SEP1 Assignment hand-in

Deadline is Friday 8th of June at 12:00 Noon.

Hand in the following to WISEflow in the final hand-in:

- The project report and appendices in PDF format
- The process report in PDF format
- All diagrams in some image or PDF format
- All source code
- Javadoc documentation of source code

Content of the reports:

- Project report
 - Cover page with names and student numbers of all participants
 - Table of contents
 - List of figures and tables
 - Abstract
 - Introduction
 - Analysis (Requirements, Use Case Diagram, Use Case Description and Activity Diagram of essential Use Cases)
 - Design (Class diagram, Sequence Diagram of at least one important method or Use Case)
 - Implementation
 - Test
 - Results
 - Conclusion
 - List of References
 - Appendices (in chronological order)
 - User guide to the system
 - UML diagrams not shown in the report
 - Activity diagrams for all use cases
 - Design class diagram if not shown in its full in the report
 - Use case descriptions for all use cases
 - Project Description.
- Process report
 - Introduction, log book, minutes of meetings
 - Group description, cultural backgrounds, roles, group contract
 - Project Initiation
 - Project Description
 - Project Execution, reflections on system development method, your risk assessment and the project result
 - Personal Reflections on learning outcome from project work in a PBL context
 - Supervision
 - Conclusion, list of recommendations for group work