SDAT Interview Transcript 2

Minuets 45:00-59:59

[Dr. Gates] Are people who will just sit there and you know no matter what you say there not gonna accept it, no that’s not you have to know balance but asking those questions is what we’re trying to teach you right now. I said earlier that the biggest cost of development is maintenance, why? Because you didn’t develop what the customer wants, so you have to keep going back and fix it, and its because you didn’t have a good design and all of that, and you didn’t design for change, because the system is not a good system to begin with. The more time you spend on requirements the better it is in terms of developing what the customer wants, this is an important job to go into this area of elicitation. So this woman is speaking at five o’clock at the Undergraduate Learning Center you should go and hear her talk, because she’s gonna talk about innovation and where she spends a lot of time, she goes into cities so she’ll go she went to New Orleans, stayed there for a whole month, and just talked to people and talked to people in government trying to understand what are your needs as a city to rebuild, how can we help you. So she it took them a whole month and she said they were in a hotel room everyone was there, they have financial people cuz of separation of concerns of financial issues, there’s the technical issues, there’s the people what people need and want and so there look at you know, they’re just sitting there brainstorming whole time to come up of these new solutions its really kinda an exciting job. I would love to have a job of innovation. So you’re doing that that’s what we’re training you to do right now is its not just something you have to do in the class, its something I hope you take with you in the work place. Ok so Marik what questions do you have?

[Student] . . . .

[Dr. Gates] huh? None? Off of your, everything got answered in your interview ok, anyone else going back?

[Student] Going back to the maintenance umm I don’t know if this got asked already, but can we anticipate something. So lets say you have um at the moment you have these sensors that measure W, X, and Y, and how likely is it that a, is it possible that a new sensor that comes in that measures Z is that likely at all or do you just

[Dr. Gates] Yeah its likely, yeah its very likely umm you’re adding sensors all the time and I don’t know if you’ve seen it we’re missing our visualization person that I can show you actually on this wall. You can see there is robotic trams that are miles long that they are collecting data, reflectance data and then there’s satellite imagery that’s also collecting data, that those two there’s a relationship between those two types of information. They have towers up in Hornado, the towers are really high and there’s sensors on the tower at all levels and so they may be adding new sensors to that tower and then may want to say, ‘well ok now I wanna look at the relationship of this reading with another reading or historical reading,’ to see you know there’s something interesting there that I can deduce from that. So yeah it’s likely adding new sensors, and so when you add new sensors you still may want to reuse a property right? But just change the sensor, maybe change the threshold, so reuse is gonna be important.

[Student] We talked a little bit last time that the sensor will feed data in a specific format, is it our job to change that format into a unified format that our system can use? Or will that already be happening? If not if a new sensor does show up we have to give the user the ability to create some conversion point?

[Dr. Gates] Yeah good question, I’ll have to think about that one, umm ok I think it’s the job of the scientist, I wish we had Diana come back. It’s the job of the scientist if you have a new sensor to set it up in a way that they can do comparisons, but I think its more their job to set that up, not your job not the system’s job. The system’s job is to be thinking about queues or thinking about questions to prompt some of the questions you asked, I think you can prompt the user to say you know, ‘is this calibrated with this or this sensor is recording at a different level than this sensor.’ So providing information back, that’s my answer for the scientist answer, so I think you should document that question it’s a good one and I’ll validate on site.

[Student] When I introduce sensors on a measurement app, how are you gonna display the sensors would you display them as two different when the measurements are different?

[Dr. Gates] Right you couldn’t overlay them on the same graph that’s for sure right? And it kinda goes back to your question, I mean are we responsible for doing translations and I don’t really think we’re gonna do translations with the data. I think that so you cant do near real time if they’re not the same, but what you can do is inform the user that these are not the same and then a different part would be doing translations. Then it would be that’s something that’s added, that’s what we’re asking to do right? But the solution would be to a transformation of that data, which is done quite often you take a data set and then you transform it to what ever the time, cuz sometimes it’s a Julian dates, sometimes its Roman, sometimes, and its differences. Some things all the way to seconds and you only want hours and you’re gonna want pull out only hours, that’s preprocessing and so you couldn’t so you’ll have to provide a warning statement.

[Student] So are they gonna want not just the anomaly displayed, but also just the regular data displayed?

[Dr. Gates] No I think that well. If you’re doing monitoring and they want to see as data comes in what it looks like, and you’re graphing that they’re not gonna ever want to see the data itself. It would be on a scaled graph right? And then the important thing is there are two things, as I understand it, this is a question that goes back to the scientist, but you would stream in the data and show it. Now there’s gonna have to be a lot of question that you’re gonna have to ask about, how am I gonna graph it? Because are you really graphing it by the second, by the minuet, by the hour, again it should be a user choice. I set it up the way I want it, and then what they care about is when an anomaly occurs. So as I heard Dr. Pennington last time talk, she said I wanna know where the anomaly occurs and what that anomaly was, ok so that’s one mechanism on a graph and maybe using ok. How you do that? Again that’s a how it goes back to prototyping. The next question prototyping and asking questions from the user, you know, someone did that last time, and someone asked do you want particular colors? Do you want us to mark it? Those are the types of questions you need to be asking for the graphing piece, it may be that you want to create a report of the anomalies, so at the end of the day I wanna see the anomalies and when they occurred where they occurred.

[Student] So there’s anomalies for different things right? One for weather and so are you gonna want us to display those separately as well as together?

[Dr. Gates] Question for the customer, that’s a really good question.

[Student] I just thought about this, we keep bringing back the sensors to the user and the way that I’m hearing it, is that each sensor and user has a one to one relationship, but is there a possibility that a sensor can be used by multiple users? And that if increments of representation so one person might say ‘I want my data to be saved every hour’ where somebody might say ‘I want it every ten seconds’

[Dr. Gates] If you’re using it that’s a negotiation with the scientist in the field, so I would imagine that if that’s the case. You would get the ten seconds data and the other person would process the data to pull out a year, that’s how that would happen, but it is being used by other people and actually the data is used by many people around the country, and actually the data is being used by people around the country. It’s international so everyone stores it in a place where we can get access to it.

[Student] And everyone would have access to the sensors for maintenance and changing the calibration.

[Dr. Gates] So someone is responsible for that at the field site.

[Student] Would it be like an individual or a group?

[Dr. Gates] usually its it could be a group of individuals, but usually someone is tasked with that job. So there’s a way to log it, you can do the calibration and so we’re getting into some really interesting questions that are center cyber share center actually works on. That’s the promiance of, who does it? What do they do? How do they do it? Do you trust that person? And when did they do it? Those are important questions but we’re gonna separate that from what we’re trying to solve, but I really like that question to document, because I actually think that I hadn’t thought about this, but I think it would be I would like an interface that where we kept the data maybe we’re already doing that, but I don’t know. That’s a really good question that’s not what we’re doing on the system, so other questions? Yall are perfectly satisfied? We’re gonna see really good interview summaries? Remember we’re gonna ask you to write an SRS and SRS is gonna be, you’re gonna do use cases, and scenarios so you need to be prepared. How to write down how the system will be used and the scenarios associated with that. You’re going to be giving requirements from a user perspective, from a functions, from a response action, you know looking at a bent of actions and a lot of different perspectives. Software requirements specification is a very large document, the information we’re giving you now is the information you’re going to be creating in that document. I expect then that over this next couple of weeks that you’re gonna be asking for additional information from the user, so you’re gonna be writing memos that go though, us the guidance team before it goes to the scientist. We don’t want you to talk to the scientist directly because she’s a very busy person, and we want to consolidate questions then send them out to her for an email response and get that back to you, but this is a process to get the rest of the requirements. Anything this is it unless you ask more questions, unless you ask for more information we are gonna have one more interview as I said on thusday. So I want you to use your time as a team to really start digging, and start saying ‘do I really understand this? Can I start doing my use case and scenarios?’ Ok so the next thing we’re gonna do after we have an exam, we have another piece of information that we’re gonna give you. We may not use a whole hour, and then we’re gonna start to feasibility reports and so feasibility reports means you’re gonna have to have your use cases done, and then as Dr. Salama eluded to, you’re gonna start looking at the feasibility of the system. From many perspectives, how will it be implemented, possible ways to implement it, challenges, how much its gonna cost, how much time its gonna take, all that stuff. So the feasibility report is then will precede some of the modeling we will do, because once you start modeling then you’re gonna understand the requirements even more of what you know and don’t know. Ok so there’s a lot of work to be done, I hope you’re enjoying it, because I enjoy this class because you get to work as a team and you really see what its like to be in a company.

[Student] So right now you’re saying all the information coming from the sensors, are we gonna be hosting anything or are just gonna be constantly pulling?

[Dr. Gates] You’re always gonna be pulling, you’re not gonna, the only pushing you’re gonna do is to document an anomaly.

[Student] So we’re gonna have to have a constant internet connection if we’re gonna be going though a browser or an application.

[Dr. Gates] Yes the customer wants a web based solution, because that’s its mainly about capturing the properties, and then initiating the monitoring with those properties. Ok so you’re kinda creating two separate things here in many respects you’re gonna be capturing the.

Summary: the topic first starts with a discussion about how to design for the addition of sensors and the relationship that some sensors may have with each other, next the topic of discussion was the visualization needs of the system in terms of what types of data to show, how to show it and how to account for unexpected events such as the visualization of data with two different units of measurements. Next in the discussion went on about who would have access to maintain the sensors, finally the discussion ended with an outline of whats to come from the rest of semester as we as software developers develop an SRS document.