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Week 1 Cohort Exercise – Individual Submission

Question 1: Explore how software engineering on how it can be applied beyond the realm of information technology.

Applying software engineering techniques can enhance how we manage our time, as these techniques, such as requirement gathering, iterative planning, task management, timeboxing, and continuous improvement, provide a structured approach to organizing and prioritizing tasks. By adopting Agile methodology, we can enhance the flexibility and adaptability in our day to day time management. Similar to Agile sprints, by using iterative planning, we can setting short-term goals and adjusting them based on progress. Brief daily reviews can also help us assess our progress, identify obstacles, and re-prioritize our tasks. This iterative approach ensures that we can respond effectively to changing priorities. Therefore, by integrating these software engineering techniques, we can achieve a structured, efficient, and adaptable approach to time management, leading to improved productivity and reduced stress.

Question 2: What qualities do you think a good software engineer should possess? How do the qualities you had described are relevant to you as an individual?

I think a good software engineer should possess technical knowledge, good analytical skills, and personal qualities. As a software engineer, we are expected to be the subject matter expert in the field of software development as our clients would expect us to be able to provide solutions to their business needs. This entails that we know what the latest and most cost-effective technologies are, and how we can utilise these technologies to solve problems. Together with strong analytical skills, where we are able to break down the client’s big business problem into smaller easier to tackle problems, we will be able to harness technology to provide a robust and accepted solution. As software engineers usually have to work in teams, I also believe strong communication and collaborative spirit is required. This comes hand in hand with universal software development methodologies that will help the team align our goals and understanding of the deliverables more effectively, allowing us to collaborate more effectively.

I believe that by possessing these qualities, I will be able to contribute more effectively to my project groups better, and also perform better in my future internships and full time roles.

Question 3: Using your daily routine as the context, define functional and non-functional requirements from your perspective.

As a term 5 CSD student, I generally have morning classes everyday that start either at 830am or 9am, which means that I have a morning routine after I wake up to prepare for class. We can break down this routine into functional and non-functional requirements.

Firstly for functional requirements, I have to maintain my hygiene, this includes taking a bath and brushing my teeth. I also have to eat breakfast and grab a cup of coffee, which I usually do after my washing up routine. Then I will pack my laptop and ipad and head for lectures. These are all functional requirements, as it is imperative that I do them, else my basic function as a student will not be fulfilled. For example, if I do not take a bath and wash up, I will feel groggy and dirty, which will cause me to be unable to focus in class. If I do not consume breakfast, I will be hungry and tired, which will cause me to doze off in lecture, and essentially waste my time in the lecture theatre. Lastly if I do not pack my laptop and ipad, I will not have the tools required to access the lecture slides and take down notes, essentially rendering my time in the lecture hall useless as I would have forgotten the content discussed in lecture by the time lunchtime arrives.

The non-functional requirements would entail more “optional” or “good-to-have” elements that would not break my routine. Such as, should I take a cold or hot shower, both are a matter of preference and will not cause my routine fail, or negatively affect my function. Whether I make my own coffee, buy from canteen, or from d-star bistro, is also an example of another non-functional requirement.