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CS361 – Fall 2017
Reflective Journal A

## Week 0

**Wednesday 9/27/17 – Lecture 0**

This is my first journal entry for the reflective journal for Software Engineering 1 CS361. This initial entry is a few notes I took while watching Lecture 0, which is a prequel to the course clearing up some misconceptions of the course.

Designing programs is only part of the process of software development. Software engineering has a **quantifiable approach** to developing software. This can involve scheduling time of an available workforce, quantifying the available funding, and coordinating many factors to lead to an estimate of time, money, and labor needed to meet the deadline. Requirements are necessary to fully understand the project in advance to anticipate problems – understand the goal, how it will be attained, and must be detailed for a proper estimate. It is a bit like project management. Engineers design the project but also remain available to address problems and find solutions.

After watching this lecture, I definitely do have a better idea of what software engineering is all about. Initially I had a vague idea that software engineering was mostly about coding, but now I understand that it has a lot more to do with project management. I have some experience in this area so I can see how that can be very useful for a large software project. It is surprisingly difficult to get all of the parts and pieces to come together at the exact right time to make a project successful. Carrying that over with development software can be quite a task.

**Wednesday 9/27/17 – Vision Statement**

I have decided to make my Vision Statement be about disaster relief both domestic and abroad. Just a couple of weeks ago I went through Hurricane Irma in Central Florida. We were in the north-eastern quadrant of the storm which is the most damaging. We did not get the eye of the storm, but it was a very scary experience, and afterwards we were without power for several days with trees down, traffic lights out for up to a week or more, and flooding as well. I remember we were looking on internet forums to see if we could find out if the curfew was lifted, what restaurants were open, and what areas to avoid. It was very disorganized and I see a need to fill there, especially for areas like ours where cell phone towers are functioning but many other services might be down.

I think this could be a good candidate for a software project because it could be a simple website or phone app to gather resources together for both victims and relief workers alike.

## Week 1

**Tuesday 10/2/17 – Lecture 1**

This journal entry will be my notes on lecture 1 and my thoughts as well. Software development is not just about computers! It is about people and solving a problem and a need. Examples include reducing poverty, helping in natural disasters by tracking victims, reducing energy consumption, fomenting revolutions, medical uses (like imaging). It is about solving real work problems without making the world work and without incurring excessive costs.

Using diagrams can assist in laying high level system of how the software will work, e.g. with useful databases, hardware that will be used, and the people that will interact with the system. Great software contains the right features for the right data. Software engineering is also a team effort that requires several people to develop software from the requirements to system delivery.

I found it surprising to see database terms being used in a high-level way of software engineering. For example, how both entities and attributes immediately prevalent in laying out features for data that will be used. Looking back at my databases class and their use it actually does make a lot of sense to use these terms and their usefulness in designing a piece of software. It helps you breakdown exactly what you need to do so you can determine what you need to make it.

**Wednesday 10/3/17 – Lecture 2**

Quality attributes of great software: Reliability, Efficiency, Integrity (of the data), Usability, Maintainability, Testability, Flexibility, Portability, Reusability, Interopability. Each of these has many sub-qualities that feed into what makes these great, often with overlapping attributes. Planning is essential especially for large projects.

The Life-Cycle is the process of building a project. Process = a set of ordered tasks, which implies some planning and risk management. Different processes order tasks differently.

The requirement analysis involves figuring out what the system should do. Meeting with customers to find out what they want is essential. Creating diagrams, watching what they do in "daily life" to see what they need, and negotiating a contract with all involved are part of this process. Design includes both architectural design and program design. Finally, implementation and documentation of the system and testing. Lastly, the Operation portion of the system involved distributing code, providing documentation and support, debugging as users "break" the system, and adapting it for new markets.

Kinds of processes: Waterflow – processes flow downwards (good for small systems whose requirements can be fully understood before any design or coding). Spiral – going back and forth between parts of the process (good choice for larger systems with vague requirements and many alternatives for designing and coding). Agile – a more circular cycle going through the stages of the process (good for systems where you can rapidly create something very small but useful and then expand from there).

**Friday 10/5/17 – Team Meeting 1**

For our first team meeting, we did not have the customer available as he did not respond to an email inquiry whether he was able to join. This ended up being okay as we went over the Vision Statement and discussed what requirements we would need to complete the first homework. Our entire group was able to meet and all seem prepared to do a good job which was refreshing and a relief!

The lectures regarding the requirements of the project were not up yet, so we went over them and did a little independent research (i.e. Google) to learn what each requirement meant and what was needed. After we all felt comfortable with the requirements of the assignment, we split up the work and decided to complete or respective parts and meet again the following Thursday to put it all together and make any changes needed.

We also setup a private Slack channel for the group and have already worked with each other a bit to iron out any missing details. We are hoping that our customer will be able and willing to meet next Thursday to review what we have so far so we can make an necessary changes at his request.

## Week 2

**Monday 10/8/17 – Project Progress 1**

My part of the this first assignment was to do the Use Cases of the software. We decided we will be making a website so I went through the Vision Statement and made each Use Case coincide with the three most important features the customer wanted to see. This included Location-Based Database for Elections, Registration and Customization, and Voter Registration Information. I did independent research on Google to find out what most software engineers use for this part of the process. This mainly included a description, pre- and post-conditions, a basic flow, alternate flow, and exception flow. I went through each feature and envisioned how the website would work to develop each use case.

I learned a good deal about use cases by doing this portion of the project and also what is necessary in developing a functioning website. Just by taking the time to put the pen to paper for each feature can iron out small bugs you might not think of when jumping straight into coding. For example, if a user types in an incorrect zip code or decides to do a new search. If you have a one-track mind on how they will use the website, then this can cause headaches down the road.

**Thursday 10/12/17 – Lecture 3**

Today I watched Lecture 3 regarding the requirements of the project. My first thought is that I wish I had been able to watch this lecture before I started on my part of the project!

We are starting with a waterfall model and transitioning to the spiral model. I feel like I understand both the process and the requirements of the assignment so far. I do wish we had

access to all of the homework assignments so we can see what is needed each week and plan accordingly. The lecture mentions this but they are not available at this time unfortunately.

Thankfully I feel as though our group is on the same page and has good leadership to divide up what is needed and checking each other's work frequently to make corrections to more align them with the project requirements. We have good communication and several ways to communicate. We have a Slack channel, a Google Hangouts, and a collaborative Google Docs document.

**Thursday 10/12/17 – Team Meeting 2**

Our team met again on Thursday. Everyone was able to be there this time including the customer. He was not aware that he was a customer until we sent a follow up email, but was more than willing to help us out. He seemed satisfied with what we had so far, though we asked him several questions. For example, we asked him what he was envisioning the website would look like. He thought a list view or something similar would be more than sufficient. In general, we seem to be on the right track with our project so far.

After the customer left, we went over what everyone had completed for the first homework. Everyone did a really great and thorough job which I was very happy about. We discussed what each part of the descriptions or diagrams meant and how they worked which gave everyone a better idea of how everything fits together. We agreed to meet again on Saturday as not everyone had quite finished their portion, and to put everything together in a final draft of HW1 at that time.

**Saturday 10/15/17 – Team Meeting 3**

For our last team meeting of the week, four out of five of us were able to meet to give a final look at all of the parts of the assignment and to put everything together. We talked over the coming weeks and what may we may or may not need to do. Specifically, the question on the table was how technical will we need to be? In the event that we will need much more technician specifications we agreed to keep that in mind for the future.

I feel very happy to have such a good group for this project. Everyone seems eager to get the project done as efficiently and thoroughly as possible and everyone has contributed to the team a fair amount. I am hopeful that the group will stay as strong on future assignments. We have not yet discussed homework 2 specifically yet so I am hoping we can get that done before our team meeting on Thursday as weekends are a busy time for me.