Austin Parker,
CTIS 345
Professor Rob Whitnell
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Team Project 1

1. The end of each chapter in the textbook has problems and exercises that are labeled PE. Your team, *as a team*, will develop answers to each of the assigned questions along with whatever other requirements are listed.

That's why it's relevant to a Systems Analysis and Design course. An acceptable answer will likely need 500 words, in well-organized sentences, to address each of the two states. Your answer should refer to the Wikipedia article. If you include other sources, provide a complete and correct citation for each in a format your team chooses.

Problems and Exercises

PE 1-1. The chapter indicates that software systems cannot create new software systems because artificial intelligence (AI) lacks key the human aptitudes and skill sets necessary for software that, at this time, only humans possess. Access the Wikipedia article "Artificial General Intelligence." This article focuses on the ability of AI to match the full range of human intelligence. Based on this article, assess the state of AI research and development. Further, assess the likelihood and degree to which computer systems in the near future will replace human beings in creating new software systems.

https://en.wikipedia.org/wiki/Artificial_general_intelligence

Answer:

In the chapter, the two states of current and future and their relation to one another are relevant to systems analysis and design. The current state, as the name implies, is from both the reading and outside sources. It talks about the current state of whatever the model, object design, or business is currently at as well as the other present items and systems that are taking palace in the instance of AI for example. The Current state means "The way an organization currently operates, including problems or opportunities for improvement that may be addressed using new or improved software." The current state can also be related to consciousness as with AI's as read from the Wikipedia article as it can either have an active consciousness or inactive state/ unconscious as the main idea and point of the current state is that the thing in question is the current or present thing of what is happening to give us current state. The reason that this matter is that when looking at system analysis and design and many of the base models that are paired with the reading and the class work that we have done in the current state is that we have to have an idea and handle on what we are already doing now before we can move onto the future state of a business design or idea. Future state means "The way a business organization will operate in an environment in which the problem or opportunity identified is addressed by the new or improved software." The future state of things in simple terms is the future state of whatever the company or idea may become for the future, and this is where you will have your planners, idea makers, and other enterprising gurus stem from, as their whole objective is making sure that the future of the company is secured with whatever the new formulas software, ideas and other types of new things are

made up of so that the business can adapt as a result of something. Its relation to systems analysis and design is that with the models that are made showing off the whole idea and general layout of events that need to happen from such and such time to the next such and such time is that without the future state, the process of thinking of a "future state" of things is not feasibility as without the existence or idea of a future state no such thing can exist. About the Wikipedia article of which the central and whole idea of whom is about AI, AI has two current states as stated current and future, the current state of mind being consciousness and awareness while the other being the growth and general sentience that an Ai can have is the future state of it as many in the world don't mind too much attention to the advancement that AI is undergoing. And how the future state of things can lead to problems for the human race as the systems analysis design part of it can be laid out in ways not safe for humanity.

"PE 1-5. Read the I2C2 case study in Appendix A for I2C2's existing clinic and pharmacy business and the project to update I2C2's systems supporting that business. Consider that for this clinic and pharmacy business, I2C2 has an existing, well-understood set of business processes. Further, the systems supporting that business run well and already provide many of the features that I2C2 needs. Finally, I2C2 has been able to clearly describe the new software features needed to enhance those systems. Given this, explain the following:

a. How much is this systems project like inventing a new gadget?

b. How much is this systems project like creating blueprints to add rooms to a house?

c. Given the previous points, would you suggest an agile approach using emergent requirements versus a plan-driven approach using big requirements up front (BRUF)? Why?

A. The process of linking the systems of the local pharmacies wouldn't be too intensive using the already established individual networks. So a new gadget would not be needed, it would only require a new process implemented to tie the existing gadgets together. The task of expanding the local network to place all the pharmacies on one database would allow inventories to be displayed as well as allowing requests for items to be transferred from one pharmacy to another. This centralized system would also provide a tracker for inventory-on-hand accounting and information for reorder requests. You can also depend on the fact that if a new gadget were to be invented, it would already have access to whatever materials are needed to support the gadget.
B. This project is completely like adding rooms onto an already existing house, due to the requirements to enhance already existing systems that have been proven to work efficiently. The additional blueprints would map out and expand the functionality and thus save money and make the system more agile in its effectiveness and in turn would easily be said to support constant support to the room and whatever the house needed.

C. In conclusion, with utilizing the already existing framework of systems our challenge would be on interconnecting these local pharmacies into one framework that all communicate with one another. Thus allowing inventories to be shared and allowing requests for medicines to be transferred amongst the collective. Using this hybrid approach will in most cases save money by using the existing framework and would increase productivity. With concern to predictive ordering the BRUF would be to create a program that has the capability to interactively determine inventory levels during a particular time of year and also connect with HR resources to account for employee and dependent needs for maintenance medications. This would in my opinion be a more involved task given the system requirements needed. Therefore the cost involved for such a system would be expensive and more labor intensive but doable. The technical pieces of the project up front would make all of the difference.

PE 1-6. Read the I2C2 case study in Appendix A for I2C2's new medical and war-risk evacuation project (MWRE). Consider that this is a new business and is unlike anything I2C2 has done before. In fact, I2C2 believes that this project is a fundamentally new, unique business idea. While I2C2 has a general understanding of the business processes it will need to implement and support with new systems, many of the details are unclear and will likely evolve over time. Given this, explain the following:"

a. How much is this systems project like inventing a new gadget?

I would say this systems project shares most, if not all parallels to that of inventing a new gadget due to the nature of the project itself. For example, the case study mentions that "I2C2 would need to rapidly assess the situation" which means each situation would be assessed on a case by case basis, thereby forcing the "gadget" to need to be flexible to an extent. The gadget would also need to be in a constant state of development as new requirements or needs came up, so it's kind of like inventing a plethora of new gadgets.

b. How much is this systems project like creating blueprints to add rooms to a house?

I could definitely see the similarities between creating blueprints and this systems project because you need some sort of direction for each room, after you have a general idea of the framing of the house. In this case, it seems, the initial requirements of Provider credentialing, Initiating evacuations, Engaging providers, and Managing evacuations, are quite literally the *framework* of the house. In this way, we're reading about the general requirements for a project, before creating the individual rooms that would each have their own unique requirements, depending on the application or situation.

c. Given the previous points, would you suggest an agile approach using emergent requirements versus a plan-driven approach using big requirements up front (BRUF)? Why?

> **Based on the previous points, as well as personal knowledge, I agree that agile is the best approach for this project, because of the unique and fluid environment. The level of predictability isn't ideal for a waterfall or plan-driven approach, so those approaches may end up costing more time and money in the long run. An agile approach would allow the flexibility needed for such a project.**

2. In class, your teams developed user stories for two different scenarios. Now your team will develop user stories for an organization or company that you all have an interest in.

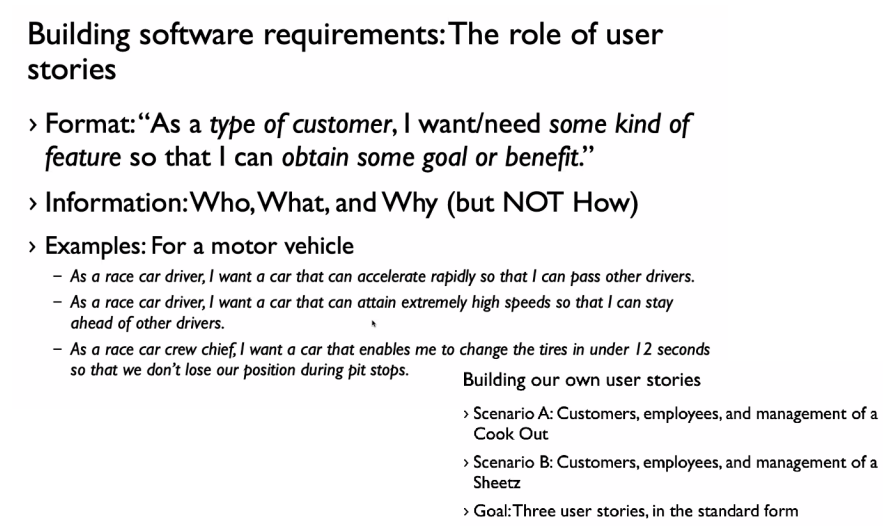
As a team, decide on an organization or company for the rest of this exercise. It should not be one that is like one of the two we did in class. It can also be a general area instead of a specific company or organization. For example, we could have used "a fast food restaurant" instead of "Cook Out".

-Write one sentence stating the organization or company your team will use for the remainder of this exercise. Then, write two or three sentences giving the reasons for your team's choice.

- Write five user stories in the standard format that are appropriate for the company or organization your team has chosen.

<u>-Now choose two of those user stories</u>

-For each story, develop two examples of design choices that deliver the features in demonstrably different ways. Use the race car example from the textbook as a guideline for what your team should deliver.



As a team, we decided that we will be emulating stories from a car manufacturer. The reason we chose a car manufacturer is for simplicity, but also due to the already in-place depth that comes with manufacturing. We felt as though the various levels of production would allow for sufficient content within the scope of this project.

1. As a floor technician, I would like to implement additional robotic automation in order to increase productivity by 50%
2. As a floor technician, I want my shop to have the top of the line tools so we can maximize production rates.
3. As a worker, I would like to have proper tools at my work area so that I can work efficiently with very little downtime.
4. As a floor manager I would like to implement a safe and productive schedule to increase overall productivity.
5. As a car designer, I would like the car to be aerodynamic in order to boost fuel economy and reduce wind drag.

1. As a car designer, I would like the car to be aerodynamic in order to boost fuel economy and reduce wind drag.
    a. As a car designer, I would like to implement wind tunnel testing throughout various stages of the design process in order to test iterations for aerodynamics, which will then boost fuel economy and reduce wind drag.
    b. As a car designer, I would like to purchase high quality designer clay, which in turn will allow for more efficient and effective sculpting. Thus, producing a more efficient, aerodynamic car in order to boost fuel economy and reduce wind drag.
2. As a floor manager, I would like to implement a safe and productive schedule to increase overall productivity.
    a. As a floor manager, I would like to implement robotic automation to help existing workers in the field better manage their schedule and productivity by having more hands on deck for any given task.
    b. As a floor manager, to create a safe environment for staff, I would like to implement regulations and rules for the workplace so that all types of accidents and random occurrences can be halted to a minimum for maximum efficiency and safety.

Submitting the assignment

- **Your team's work for this assignment will consist of two files.**
    - **A diagrams.net drawing. That will consist of two parts.**
        - **Your team will share with me the Google Drive document containing your drawing.**
        - **Your team will also export your drawing as a PNG file that can be uploaded to Canvas.**
    - **A Word or PDF document with your team's answers to questions 2 and 3. If your teams works on a Google Doc to develop those answers, then it must be exported to Word or PDF format so that it can be uploaded to Canvas.**
- **One member of each team will be responsible for uploading the two files to Canvas in response to this assignment.**

○ **Every other team member will submit the assignment with this message: "I have reviewed my team's submitted work on this assignment, and I agree with all elements of what we are submitting". Of course, you should only do that if that statement does represent your team's view. Otherwise, your team has more work to do.**