Contingency Plan

Q1:

The project that the author had been involved in had a couple of issues. One was described as an internal risk, the other as an external risk. The internal risk was that the team realized that there might not be enough disk space to accommodate the volume of updates scheduled for processing. An external risk cited during the project was the possibility of a winter storm during a weekend of the scheduled processing. Both of these issues could have potentially led to processing not occurring within the mandated time frame.

The author's team addressed these issues with mitigation and contingency. Mitigation involved minimizing processing time in order to complete processing on schedule. The contingency plan involved reserving extra disk space and disk drives in case of need. The contingency plan addressing the snow storm involved team members bringing sleeping bags to the work-location site if a snowstorm was being predicted. This would allow for processing to continue through the snowstorm.

Q2:

Some similarities and differences exist between the author's disc space example and the Covid-19 outbreak. There are two types of risk: internal and external. Internal risks are "things that the project team can control or influence", while external risks are those that are out of control of the team. Clearly, the author's example of risk is internal, while COVID-19 is external. The author was able to plan for the internal risk, while Senior Design teams were caught off-guard with the Pandemic. This is generally the main difference between internal and external risks.

They are similar in how they affect the project plan of the team. In both scenarios, the team is going to have to do something to mitigate the risk, regardless of whether or not they planned for it. The author states " time lost impacts the project since it may mean that the process would need more time to be completed than the time frame allowed for processing. Thus, the project would be completed later than scheduled and advertised." I see this as being strikingly similar to our situation. Not having easy access to hardware and being able to collaborate in the same space is going to increase our risk of not completing the project on time, therefore we must come up with a contingency plan outlining steps we can take to mitigate the risk and deliver the product to our client on time.

Q3:

There are various impacts caused by COVID-19 impacts on our senior design project this semester. As described in the paper, there are internal impacts and external impacts. As this project requires the team to meet in a physical location to discuss the teams progress, but due to limitations of working online there are a number of factors which are causing the hindrance to achieve the goal. The hindrances includes but not limited to is slow and unstable internet connection, hard time having online meetings and not able to express the detailed plans with the team members, not able to work on the hardware due to campus being closed. The main problem we are suffering is we don't have access to the hardware machine which our client has, due to this we can't check the previous teams work and analyse the work that needs to be done to successfully complete the project. External impacts are classes being online for summer as well, if the university restrictions keep extending then we will be having a hard time working on the hardware with the team members as the social distancing rule. These factors contribute to the overall progress of the team's motivation and completion of the project.

Q4:

Due to the hardware reliant nature of our product, steps are being forced to be taken to accommodate the unique situation surrounding COV19. Our plan is to focus on implementing the interface that the Admin and user will use. We will create a dummy database that will simulate the locker that we do not have access to.

This database will contain the different simulated objects the product may hold, such as arduino boards, pi's, etc. This database will be connected to ISU's student database, which will be used to check that a given student is in good standing. To accomodate for the lack of access to our product for testing, we will use a command line interface to interact with our product. This command line will also be used for demoing our product to the faculty board.

To simulate the hardware portion of our product, we will have a raspberry pi with a light. This raspberry pi will be synced to represent say "Unit 21". If we told the command line that a student named "Alex" wanted to checkout a arduino board from unit 21, our software would check the ISU database for Alex and make sure he is in good standing, followed by a quick check that the arduino board is in unit 21 (represented by our dummy database used to represent the product).

Following this, the software would tell our raspberry pi to turn on the light, which would represent the unit opening up for the student. If you repeated the process with the same set-up, but asked for "Unit 22" instead, the light would not turn on, as it represents "Unit 21". This command line would be embedded in the front end interface for demoing purposes, as when we are allowed to access the product again, would begin integrating the logic explained above into the actual product.

This will lead to our second semester being focused on integrating with the physical product. It will be during this time the rest of our tasks related to hardware would be completed.

Q5:

Throughout this exercise, we learned quite a bit about challenges we will likely face in the real-world in the future and ways to cope with these challenges. While COVID-19 is one of the larger challenges to face humanity in its history, proper planning can be done to ensure that its impact is kept to a minimum. Time does not stop for issues like these (as well as projects we will be working on once we graduate), as we still have two semesters to complete the project whether or not we are able to be at Iowa State in person. We also learned about what aspects of our project can best be completed remotely, and decided on how to prioritize these items to still have a great demo/presentation to the panel at the end of this semester.

We are confident that we will be able to overcome these obstacles and hope to come away from this knowing much better how to handle unforeseen circumstances like COVID-19 in the future.