Retrospective on Managing through the Pandemic

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Introduction

Last year was an unconventional year because of the Covid-19 pandemic and with it came an increased amount of risk. When we first started this unit in August, we were right in the middle of the pandemic. It affected all aspects of this unit from the way it was conducted to how we interacted with one another, how we attended workshops, and how we interacted with our client. We, as the Pandemic Response Team (PRT), were tasked with managing the usual risk of a project in addition to the extra risk brought on by the pandemic. Most of these were listed clearly on a live risk register within the shared drive. Furthermore, we took feedback from our team members and also led and prepared the retrospectives.

With everyone aware about the risk register and the mitigation plan we had set out, we can confidently say that most of the risks that we had planned for did not come through. This was partially attributed to our mitigation plan but also that we were lucky enough to come through this unit without any major incidents occurring to any one of our teammates, lecturers or clients.

We followed the mitigation plan as planned in our live risk register as best as we could. The whole team were very comfortable working online and were constantly communicating which made all the risks much easier to manage than initially expected. This was because it allowed us to be able to catch any issue that was about to come up and nip it in the bud before it became a full blown incident.

Overall, we would say that our team managed well through the pandemic, given the risk assessment and mitigation plan that we have proposed throughout the two semesters.

How Well the Agile Release Train(ART) Managed the Coronavirus Situation

We felt the Agile Release Train (ART) managed through the coronavirus situation well. Our release train proceeded without many issues throughout the entirety of the project. Release train related tasks such as managing the Git repository were easily notified through our shared communication platform, Discord. Within it we were able to segregate the chats and notifications to different channels. For example, we had an update channel to make it easier to notify about updates. As a result, all Git related tasks were done without major delays as the ART engineers were notified about it early. The product was able to be rolled out on time every two weeks and in a good state with most of the requirements completed.

In addition, our ART was also able to successfully conduct and complete all our retrospectives, product increment meetings, discussions and other ART-related tasks. Despite us not able to meet in-person, we were able to fairly and transparently distribute the tasks among the team. This distribution further improved through every iteration as we understood better the system, task and our capabilities. This enabled our ART to have a known velocity within a fixed iteration. In addition to that, opinions and suggestions were asked and consulted among the team members when decisions were being made. Everybody was also willing to hear about ways to improve in their respective roles and acted on them to better help the team. Any issues within the team were resolved within the team. This made us more autonomous.

Our team was also very stable as there were no personnel changes and everybody was given the opportunity to grow within the team. Each agile team member had a particular role that was in accordance with the Agile Release Train roles. These were Scrum Master, Product Manager, Release Train Engineers and System Architects, with the addition of a Pandemic Response Team. These roles were split evenly between the two Agile teams, Clayton and Malaysian. We were able to learn from all of the other roles either through collaborations or discussions. These allowed either sides to help each other out even when not on the same team.

Team communications were also strongly encouraged within our ART throughout the two semesters. Although we doggedly went about our allocated tasks, we also asked questions within the team when required. This was particularly important when working on parts of the system we were unfamiliar with but were worked on by other team members. Tasks were split differently each time in different kinds of teams, allowing for everyone to get exposure on different parts of the systems. This made our team cross-functional, able to help on any parts of the system when required.

All the things mentioned were in line with a successful Agile Release Train. Therefore, the whole team was in agreement about how well our Agile Release Train managed through the coronavirus situation.

Which Approaches Worked Well and Which Did Not

One of our most common approaches to mitigating our risks was to constantly communicate whether it was routine updates, urgent incidents, major and minor bugs, or blockers faced. Using this approach, we can confidently say that it worked very well for us throughout the whole duration of the project. Furthermore, sharing expertise, knowledge and burden for each task to at least two members, preferably crossed-teamed, were particularly helpful in our situation. This was because, although there was mostly constant communication within the team, nobody could be online or available at all times. This was more pressing in our case due to the time zone difference between the two agile teams. Therefore, with two or more people able to do a certain task, more often than not, at least one person was able to complete the task or answer the question when the need arose. This helped reduce bottlenecks and delays to completing tasks.

Another mitigation plan we had that worked well was preparing mockups. Although, we could and should have started with a mockup earlier, proved extremely useful in nailing down a consistent user interface that was at first just agreed upon within the team but was later also approved by the client. Preparing and presenting the mockup helped significantly to reduce the amount of potential back and forth, both within the team and with the client, regarding how the user interface was expected to look like. We no longer had to spend time asking and waiting for a reply on how a user interface should look like. Instead, it was discussed and decided upon in a single session until a redesign was required. This also prevented any unusual and out of place components or pages.

Besides that, communicating with the client and getting his availability early was another effective mitigation plan. Although not always available whenever we required, communicating with the client early helped provide us with a clearer picture of how we should plan our project due to our need for feedback from the client. Furthermore, we were able to get more suitable times than if we were to ask our client later on. This helped reduce blocking. Dr. Chong was also very helpful in informing us about the client's possible holidays and absence weeks in advance.

One of our mitigation plans which did not work quite as well, particularly during later periods of the projects, was conducting spikes. This was because oftentimes we did not have sufficient time nor expertise to conduct the spikes. Therefore, aside from the React and TypeScripts spikes that were had before we started working on the system, we did not have much of a chance to implement other spikes. Although the impact of not doing so was not severe, since we manage to complete our allocated tasks on time, we might have been able to do a better or more efficient job after learning from a conducted spike.

Should these changes be considered for other exceptional circumstances

As the nature of exceptional circumstances are always unique, it is not possible to judge whether or not our mitigating plans and changes to our process would be effective in a different situation. However, the key factor that underpins the majority of our mitigating plans is having a clear and effective communication channel. Clear and effective communication is essential to any project and should be heavily considered if and when a group is required to work together in similarly exceptional circumstances. In our case, a key enabler is the effectiveness of servant leadership in our group with each specialisation group taking responsibility for their own tasks while maintaining full trust with the other specialisation groups. This has allowed the team as a whole to progress without much administrative overhead and focus on delivering increasing client satisfying products with each iteration. Our experience has been a good proof-of-concept that clear and effective communication is a team characteristic which teams should strive to emulate even in other exceptional circumstances.

As with all our meetings with our client, meetings were conducted virtually through Zoom. This proved a challenge when it came to deciding on our user interface design. Client feedback was harder to visualise as compared to a face-to-face meeting where we could use a whiteboard and marker system to quickly prototype and brainstorm ideas and receive feedback from the client. We still managed to get our user interface mockups aligned with the client's requirements and approved within a relatively short time frame but we feel that this migration to virtual meetings should be considered sparingly unless in very exceptional circumstances which prohibits in-person meetings. A lesson that could be learnt from our experience is to have a mockup sketched from day one and improve on it with each product increment. This gives the client a longer period of time to think if they really liked the proposed user interface and provide higher quality feedback about how they want it to look like and behave. It also gives the development team a clear vision of how the end product should look and feel like.

Communicating with the client early should definitely be an approach that is implemented in all circumstances. The strong engagement with our client allowed us to be very comfortable with our working timeline which allowed work to be done without shock deadlines such as bringing forward a demonstration or a sudden announcement of a meeting due to the client's busy schedule. Demos, milestones and meeting schedules were very clear to the entire team which also reduced administrative stresses and allowed all developers to focus on their deliverables. The value of communicating the client's availability early can not be understated and should be a key consideration for all product managers.

Should these changes be considered for integration into day-to-day work practice post-pandemic

Lessons from the success and failure of our changes can be broadly categorized into two main categories: 1. Effective Communication and 2. Contingency Plans.

From these two categories, we feel that effective communication is critical in any situation and should definitely be integrated into day-to-day work practices post-pandemic. This could take on many forms, such having a common communication channel (e.g. Discord or Slack) to pairing developers of different skill sets up and performing a rotation and pairs to build stronger relationships and camaraderie. Upon reflection, the advent of non-face-to-face interactions has shed light on how much we took for granted communicating with colleagues and clients pre-pandemic. We should use this opportunity to remind ourselves to never take for granted the ease of communication with our colleagues, clients and lecturers and inculcate the lessons learnt about effective communication into common work practice.

Our contingency plans with regards to circumventing the restrictions of Covid-19 mainly revolve around the use of virtual technologies such as Zoom, in-place of traditional means. This has introduced a number of inefficiencies as described in the previous sections and also when conducting our spikes. As such, the changes under the contingency plans categories should only be considered for integration into day-to-day work practice in unique circumstances, such as a geographically distant team environment. In normal circumstances, traditional methods of conducting spikes, with the entire team huddling around, learning and absorbing from one another and prototyping with clients face-to-face should be the preferred option post-pandemic.

Conclusion

As members of the Pandemic Response Team, much of our work has been novel and peculiar. Consideration of additional project risks for all involved stakeholders arising for the global pandemic across multiple countries has been a very valuable learning experience for the both of us. Much of our early risks relate to a member of the team or a relevant stakeholder possibly contracting the Covid-19 virus or a member of the team or a relevant stakeholder becoming inhibited from working due to inabilities to work remotely for various reasons. We are immensely grateful that neither of these risks were realised but we also recognise the value of putting in place these mitigation and contingency plans to the team. It is with great fortune that much of our realised risks were technical risks, which although brought us some inconveniences, also gave us valuable learning lessons. We hope to carry this unique experience with us, to embark on our journey as more ‘risk-aware’ developers, and bring our unique experience to future projects in Monash and in the industry.