DAT257 / DIT257 Agile software project management

Final Report

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Team reflection of the project

Customer Value and Scope

- the chosen scope of the application under development including the priority of features and for whom you are creating value
    - A: In the first sprint we reflected on the scope and our goal only for the coming week, but during week 40 we understood that the question was about the scope of our end product. We created our minimum viable product (MVP) late in the project. When we had the MVP we changed the scope of the application quite a bit. We decreased the number of features and focused on the most important ones to the MVP instead. In the end of the project we realized that we didn't have enough time to finish the MVP. We discussed with our stakeholder and we came to an agreement to decrease the scope of the MVP to allow us to finish the most important parts of the application. The scope was always focused on creating value for the users of the application.

    - B: In the next project we should create what we think is a realistic MVP for the end product. Then, we can break it down to all the necessary user stories and either increase or decrease the scope based on if we think it's doable in the timeframe. Eventually we would have an MVP and a set of user stories that would work for every sprint.

    - A->B: To close the gap, we need to tailor an MVP for the project well-suited to the time we have available for project development in an early stage of the project. In addition, we need to adapt the project's scope as we move forward and the deadline gets shorter. Finally, we should separate the user stories so that there are small tasks for everyone.

- the success criteria for the team in terms of what you want to achieve within the project (this can include the application, but also your learning outcomes, your teamwork, or your effort)
    - A: We wanted to make an app that gives weather predictions from several weather services. We also wanted to learn about scrum and working agile. This did not change throughout the course. We feel we have succeeded according to this criteria.

    - B: In the next project, we should base the success criteria off of the MVP as it changes. We should also continue learning scrum and agile even further.

Because it lets us adapt change quickly, work more effectively and be able to deliver values that meet customer needs.

- A->B: To reduce the gap, we must not change anything in this section. We must act as in the project we have developed.

- your user stories in terms of using a standard pattern, acceptance criteria, task breakdown and effort estimation and how this influenced the way you worked and created value
  - A: The few first sprints our user stories were not written correctly. They had no acceptance criteria, delivered very little value to the customer and task breakdown was not done properly which led to blocked tasks. This led to us not finishing many stories in the first two sprints. Third sprint showed a clear improvement because we used the INVEST criterias. This led to it being easier to divide work and everyone had an easier time understanding the tasks. We didn't however create any epics during the course, which may have been a good idea, as some of the stories were too big to be an actual story. In hindsight the "overview page" story should've been an epic.

  - B: In the next project, we should spend more time writing the user stories at the beginning and each sprint keeping INVEST criteria in mind. We should also make sure it involves the acceptance criteria that we define based on the MVP. We should consider making stories and epics in order to work on them more efficiently. Some of the time spent on the sprint planning should also be making sure that everyone on the team understands what is expected.

  - A->B: We will follow the INVEST criteria from the outset to close the gap. We will spend more time creating user stories and turn large stories into epics that contain a clear description of what is expected of them. We will also try to ensure that everyone on the team understands each user story.

- your acceptance tests, such as how they were performed, with whom, and which value they provided for you and the other stakeholders
  - A: Tests were done by reviewing each other's completed user stories. This brought value to the person reviewing, by giving them insight into more parts of the code. The person being reviewed got better at following the definition of done, which improved the quality of our code.

  - B: In the next project, we should do the same process, with someone not involved in a story reviewing the code done by someone who did. This

worked well for this project and made it a lot easier for people to understand the code they didn't write.

- A->B: To reduce the gap, we must not change anything in this section. We must act as in the project we have developed.

- the three KPIs you use for monitoring your progress and how you use them to improve your process
  - A: One KPI was for monitoring our completion rate, how many tasks and story points we completed each sprint. We noticed quickly with this KPI that we needed to estimate better. We tried to improve our estimation techniques, but next sprint this KPI was not improved. Instead we figured out the solution was to create less stories and work more together as a group. This led to a big increase in completion rate. The other KPIs, customer satisfaction and teamwork, were not as useful as we already knew where we needed to improve.

  - B: In the next project, we should continue creating less stories rather than more for each sprint and also working together more as a group. We should also create more KPIs to monitor our progress apart from just tasks completed so that we have a better picture of what part of the process needs to be improved.

  - A->B: To reduce the gap, we must reduce the number of stories, better describe what these stories consist of, and try to solve them as a team to make the work more efficient. In addition, we should create a KPI to monitor the completion rate as we have done in this project, and several more to monitor our progress as a team and to address any hiccups that arise quickly.

Social Contract and Effort

- your social contract, i.e., the rules that define how you work together as a team, how it influenced your work, and how it evolved during the project
  - A: Social contract was updated a few times in the beginning, but was not referred to until late in the course when one member could not work on the project anymore. This time we updated the social contract so that we had clear rules about how much a person needs to do. We think we should have used the social contract more when someone didn't do what they were supposed to. Instead of changing the social contract we discussed opinions in

the meetings and did not officially write them down in order for everyone to see what we agreed on.

- B: In the next project, we should have a much better social contract by writing down things that we don't think would happen. For example, if someone drops out of the course. We should also write down decisions made as a group whenever they happen, no matter how small they are. We should update the social contract throughout the course, instead of just at the beginning and end.

- A->B: To reduce the gap, we should update the social contract on a weekly basis, noting all changes and thoughts about the development of the project, hold more weekly meetings on a scheduled basis and make sure in time that all team members understand the task at hand.

- the time you have spent on the course and how it relates to what you delivered (so keep track of your hours so you can describe the current situation)
  - A: We feel we could have spent more time in the beginning of the project, to finish more stories. We also feel we should have spent more time working together, since we did not know if everyone understood what was needed of them and what their actual task was. We should have spent more time organizing meetings since we sometimes missed parts that we should've done during the meetings.

  - B: In the next project, we should spend more time at the start of the course to make sure everyone is on the same page and understands the technology being used as well as we should let other team members know where we don't follow. We should also keep doing the regular meeting each week even though at some sprint we know what everyone has done and what they have delivered. We should let team members who are unable to attend some meeting take a screenshot of what they have done and update where they are in their task so everyone can follow the situation.

  - A->B: To reduce the gap, we need to spend more time explaining the stories we need to tell for each sprint and ensure we all understand the project situation. We will also manage our time better by allocating a schedule for the various meetings we will hold throughout the project development.On the other hand, we should have the roles assigned from the beginning of the project, especially the scrum master to make sure that everybody understands their task.

Design decisions and product structure

- how your design decisions (e.g., choice of APIs, architecture patterns, behaviour) support customer value
    - A: From the first week we decided to use a trusted and well used API(SMHI) to get the most accurate reading of the weather. We used a loading screen to get a better user experience when we were loading the data from the API's.

    - B: In the next project, we should again start with a well trusted API or library to make it easier to get started with a useful product. We should also immediately begin creating the necessary components for a good user experience like a loading screen.

    - A->B: The gap can be reduced by leaving nothing unchanged in this section, acting the same way as in our project.

- which technical documentation you use and why (e.g. use cases, interaction diagrams, class diagrams, domain models or component diagrams, text documents)
    - A: We had a prototype in figma that we referred to when creating the UI.

    - B: In the next project, we should have prototypes for the UI through figma or another service. We should also have technical documents and not only a plain text document for what exactly is involved in the MVP and what it should do so that we have a clear idea of what each sprint should involve.

    - A->B: First of all, before completing a sprint, we must have technical documents to know the exact involvement of MVP and to know what exactly he must do to achieve the best results in the sprint. We could use different programs for that such as figma, inVision Studio or Adobe XD that helps UX designers and developers to work more efficiently thanks to the browser-based and cloud-hosted platform. We should also create class diagrams from the beginning and update them through the project in order to get a clearer vision of what the system is supposed to look like. That way everyone will have a better sense of what to do with the different parts of the system and how they are supposed to connect.

- how you use and update your documentation throughout the sprints
  - A: When the PO and stakeholder wrote new user stories we updated the prototype before we started working on the code for the UI.

  - B: In the next project, we should update the UI prototype before working on the code based on stakeholder feedback and also the MVP in the same way.

  - A->B: Before carrying out the code we should focus both on the most important comments for the project and the MVP in the same way to end with a better final solution and then, update the UI prototype.

- how you ensure code quality and enforce coding standards
  - A: Every story is a pull request and to ensure the quality of the code our definition of done has to be fulfilled, which states when a story is to be accepted.

  - B: In the next project, we should do the same steps and requirements as this project for ensuring code quality and standards.

  - A->B: To reduce the gap, we should not change anything in this section. We should act in the same way as in our project.

Application of Scrum

- the roles you have used within the team and their impact on your work
  - A: The PO writes new user stories based on the requirements of the stakeholder and gives feedback on completed stories or tasks. Testing is done by the assigned reviewer in github. A Scrum master held daily meetings to ensure everyone knew what to do. And the PO held the Sprint planning and review.

  - B: In the next project, we should decide on roles the same as this project, but do so from the start instead of a few sprints in.

    - A->B: In order to start with the best organization for the project, the role assignment must be taken before the beginning of the project. This would guarantee a better development and progression for the project.

- the agile practices you have used and their impact on your work
    - A: INVEST criteria to write better stories. Planning poker to estimate. Sprint review, retrospective and planning to plan our sprints and find improvements for the next planning.

    - B: In the next project, we should do the same thing as we did this project, but also use them from the start. We should make more meetings in person instead of online since we are more productive in person.

    - A->B: It is really important that all the members from the team know exactly how to work in an agile project. Preparation and planification are the two main keys in what the development of the project should be based on.

- the sprint review and how it relates to your scope and customer value (Did you have a PO, if yes, who?, if no, how did you carry out the review? Did the review result in a re-prioritisation of user stories? How did the reviews relate to your DoD? Did the feedback change your way of working?)
    - A: One team member(Anton) was the simulated PO. The PO noticed in the middle of the project that we needed to reduce the amount of stories because we never had that much to show since many stories took several sprints.

    - B: In the next project, we should have a PO role as well, however the PO should be separated from the development team, so that we can balance the PO's work and the PO be able to spend more time managing the product backlog. We should also review and have them review the KPIs more frequently to see where things are going wrong sooner. We should get feedback sooner from the stakeholder to figure out what to focus on.

    - A->B: We should continue to maintain the same procedure we have followed so far but include more face-to-face meetings and use this procedure from the beginning of the project.

- best practices for learning and using new tools and technologies (IDEs, version control, scrum boards etc.; do not only describe which tools you used but focus on how you developed the expertise to use them)
    - A: We tried to help each other install the technologies in the beginning, but noticed in later sprints that we needed to ensure everyone knew how to use them, since progress was slowed by not understanding the IDE, language and git.

    - B: In the next project, we should work together as a team to make sure everyone knows how to use the technologies we decided on. We didn't help Irene and Alejandra enough to figure out how to use Git and Android Studio, so they weren't able to commit as much work to the repository. They still did a lot of work, but it doesn't show in the gitinspector.

    - A->B: Before carrying out the project, we should make sure that all project members are familiar with the technology that will be implemented to develop the project, in order to work more efficiently. Before starting to develop, organizing some internal workshops for the most experts in the group could be really helpful for having a better final product.

- relation to literature and guest lectures (how do your reflections relate to what others have to say?)
    - A: We have not considered literature or guest lectures throughout the course. We tried to improve our way of working with what we learned in the lectures/exercises in the beginning of the course and the supervisions.

    - B: In the next project, we should use the advice from the guest lectures to reflect on our work instead of just the lectures, exercises, and supervisions.

    - A->B: In order to work more efficiently, we should make some meetings to discuss and make reflections about the guest lectures and think about how we can use them in the project.