Interactive website to aid the revision of project management

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1. Digitalization projects

The product is a revision website for students of Project Management to use to assist them with revision of the course content. Its purpose is to improve the user's understanding of lecture content and project management terminology. The product is intended to provide the user with all the tools they need to revise in one platform. From early user research, we learned about study habits and tools currently used by students. We discovered most students only start revising towards the end of the course, so our product is intended for use at this time. The most popular tools currently used by students are lecture slides, past exam papers and summary sheets, we wanted our product to build on this rather than replace them. Our intention was to combine all these methods into one central platform to simplify the revision process. We learned about different learning styles within the class, the most popular being 'visual', 'doing' and 'writing', so we tried to create features that complemented these styles. We also discovered more detailed information about difficulties with the course, largely with definitions and the clarity of information - particularly when English is their second language. We wanted to address these needs and provide an improvement on current tools. Our website contains re-formatted lecture slides, summaries of content, a collection of key definitions, quizzes, video content related to the curse and downloadable past exam papers.

The main challenges experienced by the group in working on a small-scale digitalization project was in the limitations of our own digital skills. We didn't have access to specialists in programming or web design, and were limited to using free web builder sites, restricted by their capabilities. We found that we could not include every feature we had brainstormed. For instance, including a text-hover feature to show definitions in an aesthetic manner was not possible on the web builder we decided to use. Another feature we wanted to include, which we were unable to implement, was a summary sheet builder section. We envisioned a section of the website which a user could choose things to add to a downloadable and printable sheet, building a personal summary sheet containing aspects of the course they needed further study on. These challenges could not be overcome, instead, sustituted with less interactive alternatives. In a full-scale development project these issues could be rectified with access to programming experts, or more professional website building technologies. Another challenge we faced was ensuring our digitalization would be an improvement on current tools. It's seen in the literature that a project that is difficult to use, or that has issues, will not adopted as intended. This is specifically seen in the case 2.1 'downsizing by introducing speech recognition software', where the sub-optimal functionality lead to wide rejection of the technology. After looking at this case, we wanted to ensure that our product would be adopted by the end user, so we aimed to make it as smooth and intuitive as possible to use. We chose to create a website because it was familiar to the user and could integrate existing revision resources without complications.

The overall project did not have any major challenges, we were able to work through minor challenges effectively without any real setbacks in the overall project timeline. We credit this to the steps we took to avoid failures seen in other projects. An aspect which often leads to a failed project in the literature, is a lack of stakeholder communication. Case 2.1 exhibited this failure as the users were not included in design or testing. We deliberately took steps to avoid this situation by including stakeholders at all important points in the project. Similarly, a lack of communication of requirements and deadlines within the project team can cause project delay or failure. In case 2.2, automated file processing, there was a much greater project duration than planned due to a lack of communication. In this case the project manager was inexperienced and thus was not skilled at communicating the requirements and ensuring they were met which lead to time lost waiting for

important contributors to finish different parts. In order to not make these same mistakes, our group created a project plan with internal deadlines which we were able to keep to. These tasks were generally small, so were met with ease. Project literature continually presents the importance of communication in order to succeed, the case 'The Ticketing System' from the Case Studies in Project, Program, and Organizational Project Management book, similarly demonstrates effective communication processes within large teams and across different departments. We managed to effectively maintain communication and avoid the potential issues which arise from a lack in communication. We managed to do this in our group through planned weekly meetings and continuous online communication. This allowed the project to be completed within our own deadlines and then finished with spare time for the final deadline.

2. Self-evaluation of the project management effort in the project, success or failure? And why?

The project was overall a success as we were able to stick to the majority of the originally stated success criteria. As stated within the success criteria 'it is critical that there is open communication between team members. While each member has a defined role within the project, the roles are very reliant on the progress of other departments. It is important that ideas, progress and limitations are communicated regularly and dealt with in a constructive manner'. Evaluating the project management after the completion of the project, we were very strong in these aspects of the project development. We kept to the defined roles and maintained a good level of communication online, between regular scheduled meetings. Every meeting throughout the process was attended by all members showing commitment to the project. In this way we were able to easily keep to the schedule we agreed on, and even managed to finish ahead of time. This was also one of the success criteria, as the deadline was very ridgid, and we were working with an unfamiliar platform. We had planned in the criteria to allow extra time to ensure problems that may have arisen during the project were met with. For this project the extra time was not required, however allowed for a comfortable completion of the project, well within the required deadlines. We were late on only one of our original internal deadlines, which was for the completion of the prototype. We were 3 days later on this, however we had realised at the time it was going to be pushed back, and was not a critical task, thus not changing other deadlines. The final criteria we detailed was that the project had value to the user and that it did not contain glitches or errors that made it difficult to use. The first way we ensured value to the user by including as many stakeholders at each step as possible. We managed this through surveys completed at major steps in the project timeline, as well as continued contact with the project owner. All in all we met the criteria as listed for success in the project plan, we utilized these criteria in decisions throughout the project and referred back to them often to ensure that the project would eventuate as a success.

Scale	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
Your Response					**X**

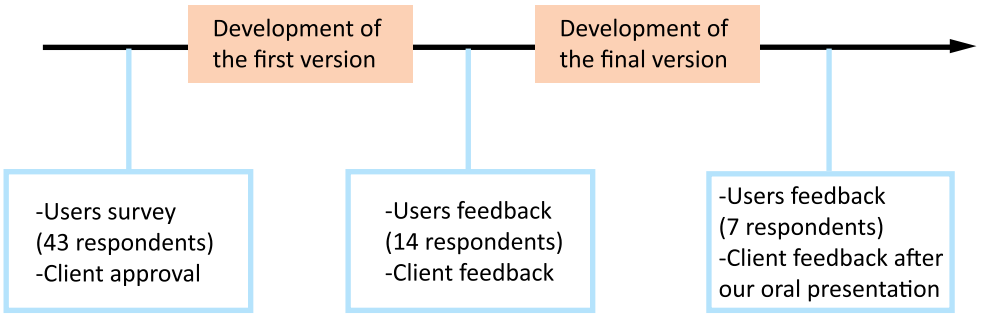
3. Self-evaluation of the value to the learners? Can you document your assessment?

Our product is designed for the students of the class TPK5100. It is a learning tool that is intended to help students revising the course in preparation for the exam. The website will provide the students with all the resources they need to revise the course content. The aim is for students to have a clearer understanding of concepts and terminology used in the project management course.

In order to evaluate the product, we decided to gain feedback from the end users at the middle of the development phase as well as at the end. This was an opportunity to do a mid-term evaluation of our product prototype, so we had time to reflect on any negative feedback and make adaptations for the final product. This was integrated into our initial schedule, as we felt this iteration was key to creating value. We had also carried out user research at the beginning of our project, which we build the product on.

The first user engagement was by far the most popular, achieving 43 responses. This initial 'user research' survey was posted on blackboard at the start of the project - before the other teams - and was available anonymously to all students on the course. This timing was a key part of its success - facilitated by the announcement of the client - as we were the first, and students were not fed up with surveys yet. The second user engagement was to test the prototype of our product, we got 14 responses. We first gained permission from the client to use this content before sharing it with anyone else. We selected random students from the lecture hall during the breaks, and asked them to view our website and fill in a digital survey. The third and final user engagement was during our presentation, where we asked the students to follow the navigation during our presentation - as we had posted the link on blackboard with the help of the client - and fill out the survey when they were finished. This was open to everyone in project management but unfortunately only 7 students engaged. We also received verbal feedback from the client after this presentation, which was very positive.

The timeline of this process is below :



Mid-term feedback

The results of the mid-term feedback were as follows:

Question	**Average Grade (on 10)**	**comments**
On a scale of 1 to 10, how fast did you understand how to use the website?	9.3	"Slightly hard to see that I could scroll in the boxes of a quiz."
Was the navigation smooth?	9.4	"It is well organized." However by looking, the people testing our website we saw some people not navigating as we had intended and were using global navigation instead.
What do you think about the design of the website?	9.4	
Was the content clear ?	9.2	"Really useful the definitions section!"
Was the content relevant?	9.4	"Relevant content to study for the course. Another nice section might be "exams from previous years".
Did you find enough info?	9	"The site is still in construction. But for the lecture available, the content seems enough.".
Is it a helpful tool for you?	9.4	"Really nice and well-structured website that gives you a great overview of project management!!! Very helpful"

As a whole, we can conclude from this survey that the users liked the first version of our product.

After this feedback we decided to:

- Modify the navigation process
- Add more content : videos from last year and external content + quiz on this external content, link to download past exams.

Final feedback and comparison with the mid-term results

Question	**Average Grade (on 10)**	**Previous grade**
Was the navigation smooth ?	7.9	9.4
What do you think about the design of the website ?	9.1	9.4
Was the content clear ?	8.7	9.2
Was the content relevant?	8.9	9.4
Did you find enough info ?	7.1	9
Is it a helpful tool for you? Will you use it for your revisions ?	8.1	9.4

We also asked them to write what their liked about our product and what can be improved. Here is a summary of the main comments;

What their liked: 4 specified that they liked the design, 2 the concept, 2 the content, 1 said it was easy to navigate, 2 liked everything.

What can be improved: 2 said we could provide more content, for example more of Bassam's videos. 2 replied the navigation could be improved

Analysis of the survey and self-evaluation

The results of both surveys were very positive, with grades higher than 7/10 for all the questions. However, we noticed that the grades are all lower in the final survey than in the mid-term survey. In our analysis, we concluded that this variation in results may be due to the way the surveys were conducted rather than representing a real deterioration of the product. For example, the design of the website hadn't been modified between the two surveys and we still got a lower grade

for that. In our opinion, s ome factors that may have influenced this are:

- The respondents are not the same in both survey
- The number of respondents was much lower in the second survey and may not represent the same data that a larger number would have given.
- During the mid-term survey, we were asking them to reply to the survey and were near them during the entire process. Thus, they may feel more pressure to give good grades.
- The timing of the second survey was after seeing several other projects, so it is possible that this made the results more critical

However, we noticed a real degradation on one point: we had lower grades but also a higher number of negative feedbacks on the navigation. During the first survey, we had only one negative feedback on that and very good grades, but we still decided to modify it by including the menu for lectures on each page and additional navigation at the bottom of the page. The effect of this was not as positive as we had hoped, and maybe would have benefitted from additional testing. Thus, we evaluate this modification of the navigation as a failure.

The idea of the product is based on the results of an initial survey we have done with students to understand they needs. Of course it is difficult to fully understand the needs of our future users through a survey but we tried to cater to them and create a product that solves the identified needs. Thanks to this method, we think our product will create value for the students because it has been designed around real needs. In the end, students agreed that the final product was useful for revision, with an average grade of 8/10. With only the partial failure of improving navigation, we consider our website to be of good quality. We had a lot of positive feedback regarding the design, and our client Bassam told us that the website looked very professional.

To summarise, our final product received very good feedback from both users and client but could have benefitted from further testing to improve the navigation. Therefore we consider our product to be of high quality and very useful for students.

	Our product is of high quality and we recommend it to be used as a learning aid in project management				
Scale	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
Your Response				**X**	

4. Factors that have contributed to failure / success.

Our project was successful in both the management and the outcome, as it created value and met all of the success criteria we had set for the project. This criteria was:

- Open communication
- Strategy for adaptation
- Time management and planning
- Quality of end product

The most significant success factor was the open communication between team members. We divided the team into content creators, digitalization specialists and research and development, the communication within and between these departments were critical to the success of the project. There were regular discussions about our intentions for the website, making sure everyone was involved in the decision making to have a shared sense of ownership of the project. All big decisions were made during team meetings, with the advantages and disadvantages thoroughly discussed and compared to the purpose of the project. There were discussions about the extent of the course we would prototype, how to organise our pages and navigation, who would manage our website after we were finished, which functionalities we wanted to include and general feedback about the website and progress.

As we were working with unknown technology, we had to adapt our strategy at many points in the project. We had regular meetings to evaluate our project process, which we used to raise concerns and make adaptations to our project. This allowed us to discover problems at an early stage and make changes when it was easy to do so. There was a very fluid attitude towards adaptation and there were constant iterations of content, functionality and navigation. We were aware of our own limitations and prepared to adapt features. There were certain functionalities that we had wished for but failed to deliver, such as a pop up definitions and a ‘build your own summary sheet’ tool. We adapted these into ‘key content’ and ‘definitions’ sections instead, which offered similar information, but in a far less interactive way. There were also unknowns about the capabilities of our web-builder tools. For a time, we were unsure whether to use google sites or WIX as we did not know which was better at delivering the features we desired. We started prototyping on google sites as we believed it was better at integrating external features and documents. We then discovered a variety of interactive features on WIX, which made the team re-evaluate their decision and start prototyping on WIX instead. This switch caused us to miss an internal deadline but this was non-critical and did not affect the overall project.

The time management and project planning was also a key success factor in our project. Due to the adaptability we needed in our project, we worked with an adaptive model where we started with a general project plan and made specifications of work packages each week based on the needs that arose. We set internal deadlines at the beginning of the project, which were incredibly useful to measure our progress against. These internal deadlines were realistic and we managed to meet them in all occasions except the 3 day delay in the completion of the first prototype, due to web-tool change. We planned for time to ‘test’ our prototype which allowed us to improve our product and create value, it also minimized risk of failing to meet the external deadline. After the testing we had time to make final adjustments - mainly in navigation - and have our project completed comfortably before the deadline. As part of our plan, we held weekly meetings with the team to discuss progress, problems and next steps. We would end every meeting by allocating work packages to be complet-

ed by the next meeting. This was a very useful strategy as the team would make progress together rather than individuals doing large portions of the work.

The quality of our end product was essential to the success of our project. We wanted to create value for the user and ensure we were solving real needs. We included the stakeholders at many points in the project to ensure that their needs were being taken into consideration. Our decision to create a revision website came from user research at the start of the project, where we learned about study habits and areas of difficulty. We discovered the tools currently used by students and decided to build on these to create a resource that combines all the existing resources in one place. It was important to build on the work of others to give the learner all the necessary tools to succeed in project management. The content of our website is varied and easy to navigate, which we have seen keeps the user interested and engaged. From our final presentation and feedback throughout the process, we received many positive comments, leading us to be confident that our product has created value.

Comparing our success criteria with those on page 92.

we find that these key factors are shared. We see as well, many other factors in the table that were present in our project. The ideas of open communication, collaboration and adequate planning are fundamental to the success of a project. The main factors not seen in this project were those related to larger and more experienced project teams. We had little previous experiences or insights to work from, so were unable to benefit from this. The team was also small enough that 'top management' problems did not exist. Judging our own project in terms of success factor categories:

case-specific factors: For our digitalization project, the quality of the end product was very important as we wanted the product to be easy to use but also keep user interested with varied content.

structural factors: The most important one was open communication within the team, as discussed thoroughly above. Defined roles within the team helped us to work more efficiently, as the work packages were clear and there was a shared understanding of what tasks each team member was responsible for. In terms of project structure, our process was flexible and had established routines for deviation control, defined by internal deadlines and weekly evaluations. We were aware of the risks of our project and planned for possible deviations during the process. Our work packages were defined weekly and provided a structured opportunity to adapt the project, while taking regular documentation of decisions and delegations. The information flow was regular and across all levels, including stakeholders at important points in the project.

cultural factors: The first one is the commitment of all members. Our roles were interdependent and so commitment from all members was crucial to success. Moreover, we also wanted openness and trust during our work: everyone was free to say what he thinks without being judged or criticized. There was excellent transparency within the team and its departments.

5. Most important lessons from your project

You should first make internal deadlines and try to meet them. It is really helpful to have internal deadlines so you know what you have to achieve and when. Our experience is that it sets a good pace for the project and provides an excellent tool for evaluating your progress.

We would advise setting weekly tasks for people to work on at the end of each meeting. If everyone is aware of what other people are working on and have targets to achieve by next meeting, the team is able to progress together and you will be assured to meet the final deadline. Our experience was that this allows all team members to contribute, and everyone is aware of the progress that is being made.

We have also learned that the initial phase is very important to identify the real needs of the users. In order to create a useful tool, you have to insure that your idea will fit what people want and need. Our experience is that a product that solves real needs will be much more successful.

Our fourth advice is that you have to involve the stakeholders in the project so you know if they like what you are doing. Gaining clear data and feedback from stakeholders will ensure that the project you are making has value.

Finally, our last advice is that you should produce a prototype of the product and allow time to test it with users. Gaining insights at this stage will allow you to make specific adjustments so your final product is as valuable to your user as possible.

6. References

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Peer-review report

The Group we are assigned to evaluate is group number 20

Strengths (what are the good things about the product) this might include; the idea, there is a need for that, you believe that the product provide real value to learner, or that the product is of high technical quality (for example excellent video quality)

- Quizzes are a good idea. There is a need for a quiz like this, as we don't have access to kahoots after the class.
- Like explanation of correct answer - find this helpful to improve on weaknesses
- Easy to follow
- Easy to read (size, colour, font, spacing)
- Questions were relevant and covered the whole course

Weaknesses (what are the features in the product, that you believe has impacted negatively your evaluation) that might include quality issues, lack of aiding text, lack of user-friendliness, tedious, and so on

- Repetitive - similar format of question, got boring after a while
- Not interesting enough visuals - colour, repetition, lack of images
- Too long - could maybe divide quiz into topics as 30Q is too long
- Not clear what/when quiz is intended to be used - revision? Sections? Does it continue to more revision?

Idea: a review of the questions you got right/wrong at the end. Possibly include case studies in the questions as they are a key element of the course.

We feel that this a lot of work was put into this project and there is definitely a need for quizzes/ evaluation as a revision tool. However we found the experience of using the website was repetitive and not 'finished'. The quality was not as high as it should have been, there was little innovation or consideration of the user experience, and the product had not been proofread as there were still errors in spelling and grammar. We understand that making a website from scratch is difficult and takes a lot of time, so then maybe the choice of the technology was not optimal for the purpose of this project.

	The product we reviewed is of high quality and we recommend it to be used as learning aid in project management				
Scale	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
Your Response			**X**		

The grade we would recommend for this product is 6.