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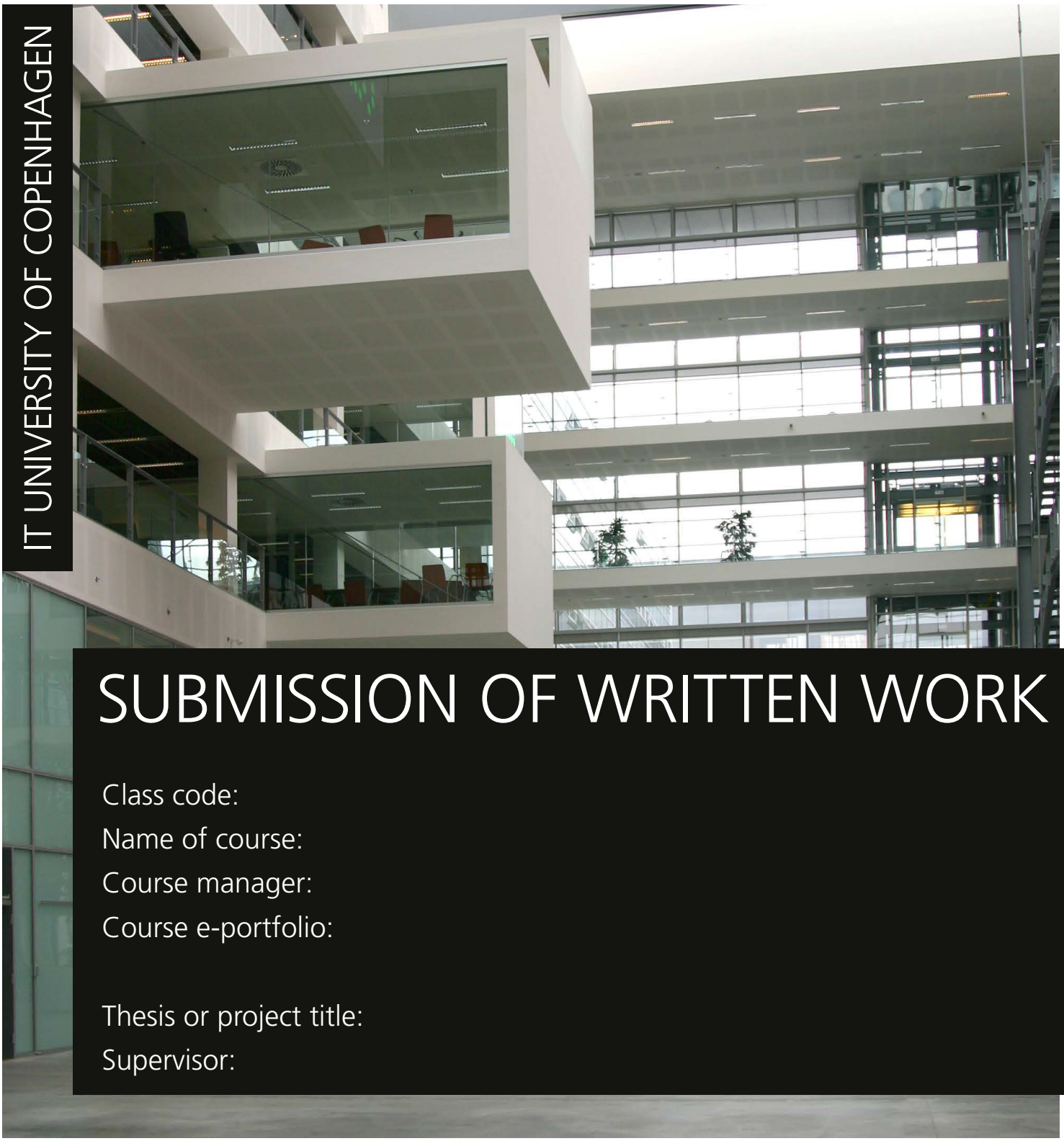

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Supervisor:

Full Name:	Birthdate (dd/mm-yyyy):	E-mail:
1. _____	_____	_____@itu.dk
2. _____	_____	_____@itu.dk
3. _____	_____	_____@itu.dk
4. _____	_____	_____@itu.dk
5. _____	_____	_____@itu.dk
6. _____	_____	_____@itu.dk
7. _____	_____	_____@itu.dk
8. _____	_____	_____@itu.dk

Casework with Pandora

Addressing problems at the Pandora Situation Management through Cross-Disciplinary teamwork

By

Computer Science

Anders Munck Højsgaard amuh@itu.dk

Dennis Thinh Tan Nguyen dttn@itu.dk

Emil Christian Hørning ecch@itu.dk

Digital Innovation and Management

Hussein Ali A. K. Al-Hachamy huha@itu.dk

Lotte Sophie Mikkelsen lomi@itu.dk

Digital Design and Communication

Nanna Friman Jeppesen nafr@itu.dk

Steffen Hviid Trier shtr@itu.dk

IT-University of Copenhagen

Rued Langgaards Vej 7

2300 Copenhagen S

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1.0 Introduction

Pandora A/S is an international Danish jewellery manufacturer and retailer based in Copenhagen. This cross-disciplinary project is in close collaboration with the SIMA (situation management) team whose responsibility is to handle all severe IT-incidents at Pandora. These incidents are generated by the employees and currently sent to SIMA via phone calls, emails, or their incident management system ServiceNow.

The primary challenge is that emailing is still the main incident reporting channel throughout Pandora, although they already deployed ServiceNow where the inbuilt Service Portal should be the central channel for all incident reports. Consequently, SIMA has no means of proper tracking and controlling the incidents thus resulting in cumbersome manual work and incidents not being processed in time. This adds extra labour and frustrations to the affected employees, management, and SIMA.
Several meetings have been arranged with Pandora for further insight and based on the meetings it was derived that the primary issue is regarding the lack of awareness and communication of ServiceNow, which is critical in order to properly utilize the Service Portal.

The current state is that the incident reporting process is misaligned. This can be due to lack of communication between the employees, management and SIMA, which may result in incorrect or even disregarded usage of ServiceNow. Furthermore, employees at Pandora are frequently replaced or interchanged, thus, knowledge is not fully sustained throughout Pandora hence there is no standard way of sustaining knowledge.

The focal point of this project is the awareness of Service Portal which begs the questions that will help guide this project:

- *"Why do the employees not use Service Portal?"*
- *"What is required to promote the usage of Service Portal at Pandora?*
- *“How can we in a cross-disciplinary setting align experiences and methods when proposing a solution”*

The approach applied in answering these questions is within a cross-disciplinary setting. The project team consists of students from three disciplines: Computer Science (CS students), Digital Innovation and Management (DIM students) and Digital Design and Communication (DDK students). The project results in an analysis of the current state and issues regarding the integration of ServiceNow and a set of proposed recommendations that may help Pandora in enabling the usage of ServiceNow and its inbuilt portal.

2.0 Methods

In the following section we elaborate on how we approached the case as a cross-disciplinary team as well as on which methods, we applied in this process.
On a meta-level we can roughly divide our overall process into three different phases: *1) Exploration, 2) Define, and 3) Proposing a solution*. These are illustrated in model 1. It is important to state that this model is perceived as an overview of the project process and is not related directly to the structure of this report.

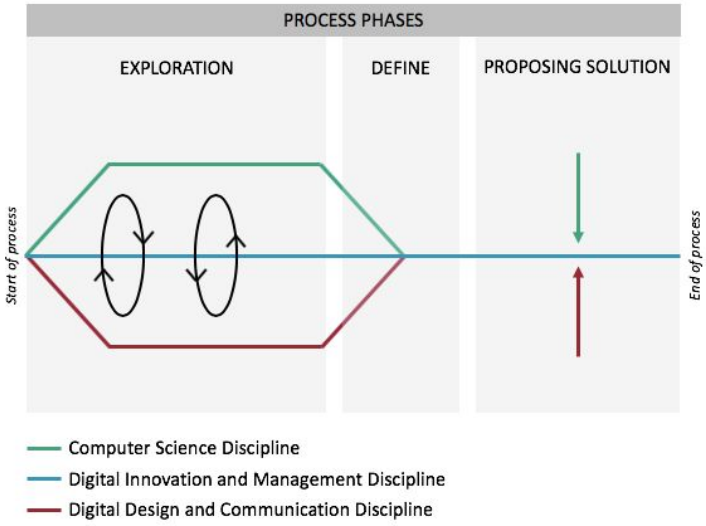

Figure 1: Overview of the project process illustrating how our disciplines contributed in three different phases: Exploration of the case, defining the case problem and proposing a solution.

In the first phase, *Exploration*, we approached the case by exploring the initial case problem. This included several meetings with Pandora in addition to research of ServiceNow as an IT-system by both CS and DIM students as well as qualitative research by

both DDK and DIM students. During this phase, each student contributed with different disciplinary methodologies and theoretical knowledge in analyzing and reflecting upon findings. This phase was, in other words, formed by a multidisciplinary approach. Due to inconsistencies between the case proposed and our data collection, we took several iterative steps of going back and forth to refine our findings.

This ultimately led to the next phase of *Define*, where we took a convergent step towards defining that the problem was related to lack of communication and awareness of incident. To solve the problem, we assessed the discipline of DIM to be most suitable.
Finally, in the last phase of *Proposing solution*, the discipline of DDK contributed by approaching the forming of a solution proposal with user experience in mind. In relation to CS methods, there was little contribution to the solution (see more on this in section 4.3.1 "limitations").

2.1 Qualitative interviews

To explore how end-users report incidents, as well as how they perceive the workflow of the ServiceDesk, we conducted qualitative interviews with Pandora employees. The advantage of a qualitative approach is that it can provide an opportunity to emphasize with users[1].

Prior to the interviews, we had met several times with the head of Service Delivery Management in Global IT and as a result, we had some initial findings on the issues of incident reporting. Based on these, we narrowed our focus down and formed several research questions that were relevant to explore in the data collection related to end-users. We decided to conduct semi-structured interviews to ensure that key questions were explored, while still leaving room for open exploration into unexpected data.

Our research questions then helped form an interview guide[2]. With this approach we were able to ask "*(..) what we would like to know*" before deciding on "*(..) how that knowledge ought to be acquired*"[3]. To ensure that we were open to the possibility of finding new insights

[1] Reference no. 2, page 50-52
[2] Appendix C, Interview guide
[3] Reference no. 1, page 37

through interviews, we strived to be "*(...) flexible enough to adapt the line of questioning when necessary*" as "*human behavior is complex and full of surprises*"[4].

In total, we conducted three interviews with employees. To ensure variation in our data collection, our respondents were from different departments of the Pandora organisation: *1) Executive Assistant to SVP Group Product, 2) Student Assistance CIO office, 3) Executive Assistant to CMO, Global Marketing.*

3.0 Results and Findings

At the moment, the problem given to us by Pandora A/S is relatively simple; *the employees do not use the correct method of reporting IT incidents, as the SIMA team would like them to do*. By analyzing the data, gathered through interviews with Pandora employees, we have found that this is due to a communication issue. As an overall statement, the problem has roots in a positive aspect of the "Pandora culture", which is that their employees want to keep working.

As result, they approach incidents by using the easiest method available to them. This method can be one of four things; *1) they call IT support, 2) they email IT support, 3) they contact their manager, 4) they use the ServiceDesk* (either physically or via the web). As stated by the SIMA team only two of the four discoveries are desirable and in coherence with the imagined future of the Pandora incident reporting; these being calling/contacting the ServiceDesk, but preferably using the web portal.

> *"I do not feel that I, as an hourly wager, can allow myself to spend so much time getting PC problems resolved in working hours[...]" - Employee 1*[5]

The easiest approach for the employees to fix their IT problem is to call IT and to contact their manager, so that the manager can take action, possibly escalating the incident to a higher level than needed. This indicates an underlying problem with the current and desired incident system.

[4] Reference no. 1, page 971
[5] Appendix C. Interview with employee 1

This problem is two-folded and grounded in the fact that: *1) the employees do not know that the web portal exists* or, *2) the correct forms of reporting are difficult to find*; thus, it takes up too much of their time. It is key that the technical solution, being the ServiceDesk web portal, addresses this issue.

"I did not know that you could do this type of request [incident reporting] through the portal. I use the portal for [other] tasks." - Employee 2[6]

The above quote highlights the pinnacle of the problem, and why we argue that the SIMA team is facing a communication problem. During our research, only one of the three respondents replied that she might know about the web portal when directly asked. SIMA claims that they had sent out one or two emails informing employees of the new system and the new processes of reporting incidents. However, two of the respondents who are long-time employees did not know the portal existed - at least not as an incident reporting system - and did not remember receiving any emails regarding the deployment. Thus, we can deduce that the main problem is partly a communication issue.

The other part of the issue is a structural and technical issue; the respondent who knew about the web portal thought it was difficult to navigate within and therefore preferred to call or use the form "*undefined problem*". Coincidentally that particular respondent works closely with the SIMA team and is fairly new to Pandora.

4.0 Proposed Solution

It is apparent that Pandora needs a solution, that gets all their current employees to a point, where they know how to properly use the incident management platform and also actually use it. It is also clear that Pandora needs to make both new and temporary employees follow the intended way of using the system.

We propose an awareness campaign containing a learning module that employees complete. The people responsible for these campaigns should get information about which employees need to complete the learning module and who have completed it.

[6] Appendix C. Employee 2, minute 21:30

Campaigns can be started multiple times a year leading up to special events, where Pandora hires extra personnel, or whenever the employees need to be reminded of how they should use the system.

4.1 E-learning platform for recurrent incident management process

We would suggest creating a e-learning platform that all employees will have to make use of in order to enforce everyone towards having the same knowledge of how to report incidents. This should help streamline the incident reporting process.

At first, it is important to get all current employees to be active on the learning module to get them accustomed to the 'new' and desired way of reporting incidents. This may influence how new employees report incidents in the future since they, according to Wenger[7], copy the way 'older' employees do it.

Once all employees have passed the e-learning module on the platform, it is important to make it mandatory for all future employees to learn these modules as well. This is especially important for Pandora before big events, such as Mother's Day or Christmas, where a lot of temporary employees are hired.

The campaign' system will function as a way to continuously have employees use the system. A campaign spans over a time period where appropriate employees will be prompted to finish the learning module and after that, a report is created to show how many and who completed the module.

In order to succeed with e-learning Pandora will need to document the desired outcome with facts. If the desired outcome, for example, is to reduce the costs of the onboarding process of new employees, then Pandora should document how much time, money and resources are spent today. Thus, Pandora may measure whether e-learning has had an effect[8].

[7] Reference no. 4, pages 225-246
[8] Reference no. 6 chapters 7-10

4.1.1 Gamifying a learning module

In order to make the different departments want to participate in completing modules on the learning platform, gamification might help[9]. Many e-learning platforms grant points, levels and show animations for completing online learning courses. This has a tendency to motivate employees to finish and complete the learning[10].

In regard to our idea for a learning module, we would suggest adding a scoreboard, which would rank the different departments, which have completed the learning module. The scoreboard could show how big a percentage of a department has completed the learning module in a campaign, and if departments are not the main differentiator, then countries or counties can be used. The scoreboard is a way to engage the employees and is not intended to be a measurement tool for the employers. Other gamifying aspects could be adding a grade or a score for the amount of right answers in the module. This might prompt users to complete the learning module multiple times until a satisfactory score has been achieved.

4.1.2 Storyboard

A very common resource used in e-learning training programs is "Decision-Making Branching Scenario"[11]. The "Decision-Making Branching Scenario" provide the employee with the opportunity to see the outcome of their decisions, in other words, there are different paths to take with different outcomes. In order to create a Decision-Making Branching Scenario, Pandora needs to ask the following questions:

- What are the goals with an e-learning platform and what will be the outcome of it?
- What skills do we want the employees to gain?
- What problem(s) are we trying to solve?

To start the Branch, we need to draw lines in each step and connect them to each other. It is important that there always are at minimum three different possible answers.

[9] Reference no. 7, page 14
[10] Reference no. 7, page 7
[11] Reference no. 5

4.2 Prototype

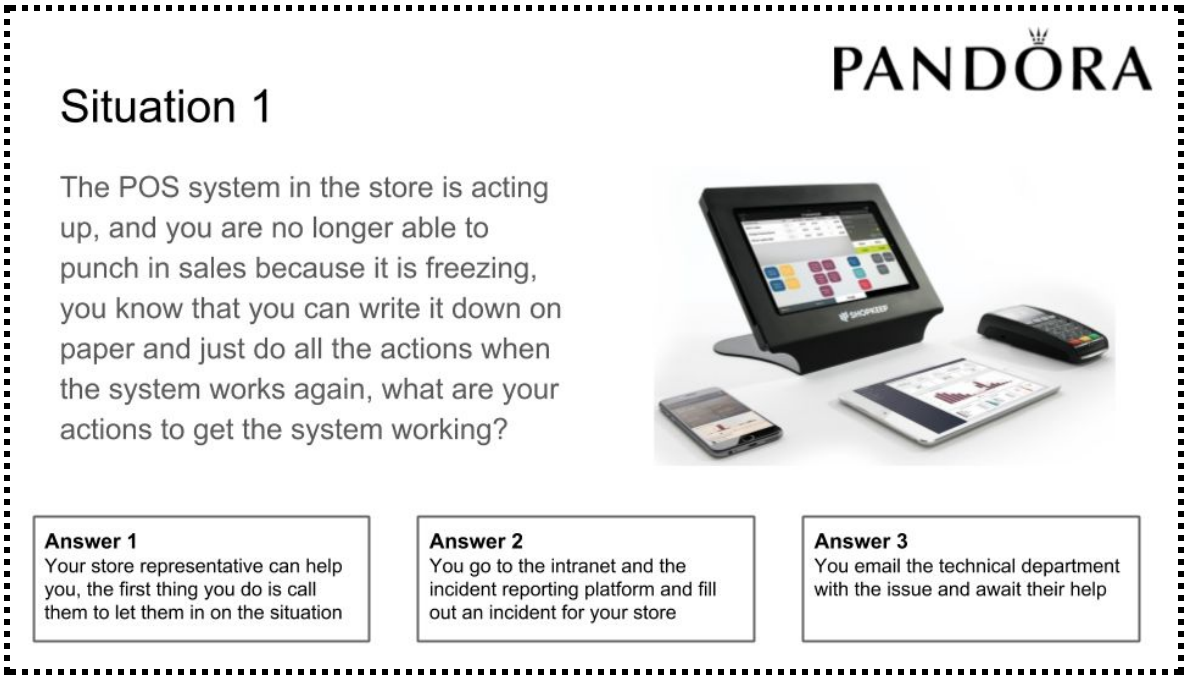

Figure 2: e-learning module (question).

This figure shows an example of a part of the e-learning module; the questions are proposed in a quiz format, where the objective is to make the employees press the right solution. If an employee chooses the wrong answer, they are then explained in a pop up why it is the wrong answer.

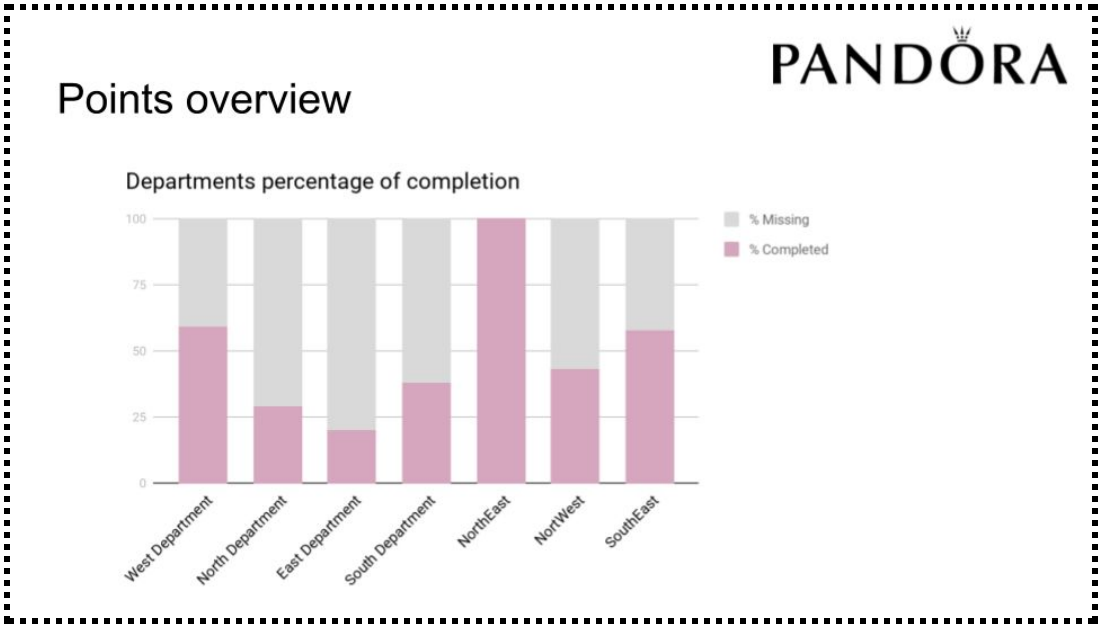

Figure 3: Point overview of departments..

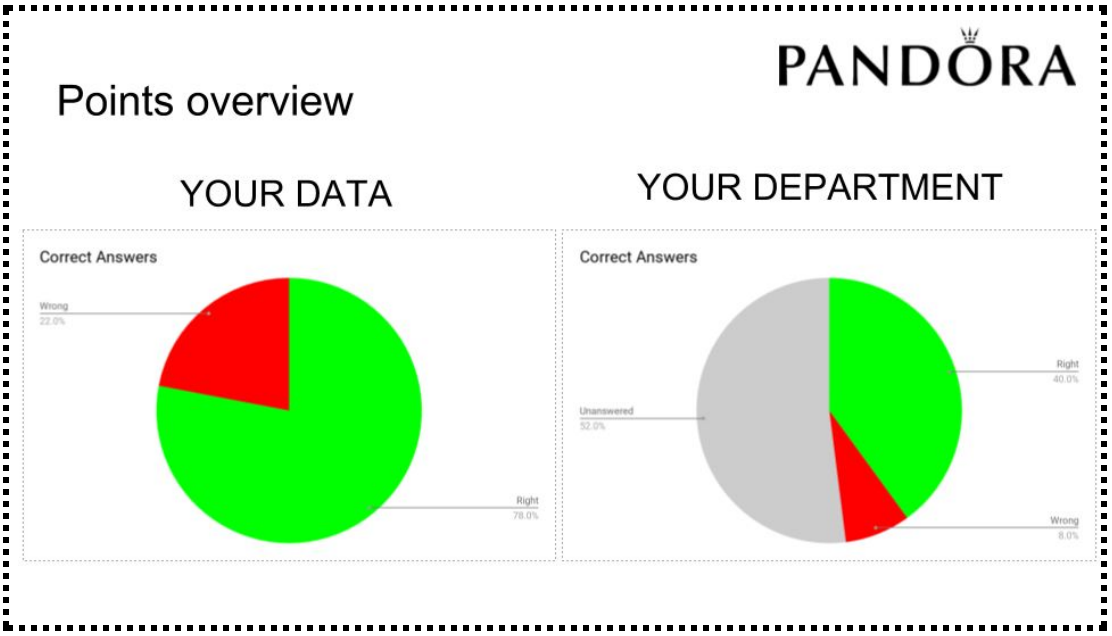

Figure 4: Individuel point overview.

The previous two figures 3 and 4 show the Gamification aspect of the platform. Being able to see one's own data and comparing it to others may nudge a user to do the quiz again to gain more points or convince their colleagues to do the quiz, so their department can get higher on the leaderboard, et cetera.

4.2.1 Notifications

The two figures in figure 5 illustrate how one may utilize the ServiceNow phone application installed on the Android OS to send push notifications[12] to the users about upcoming events and untaken mandatory courses. The application is installed on all employees' phones as this may be a convenient and quick method to notify the employees regarding the e-courses, thus increasing the likelihood of them taking the courses. However, this is based on the assumption that Pandora does provide each employee with a business phone.

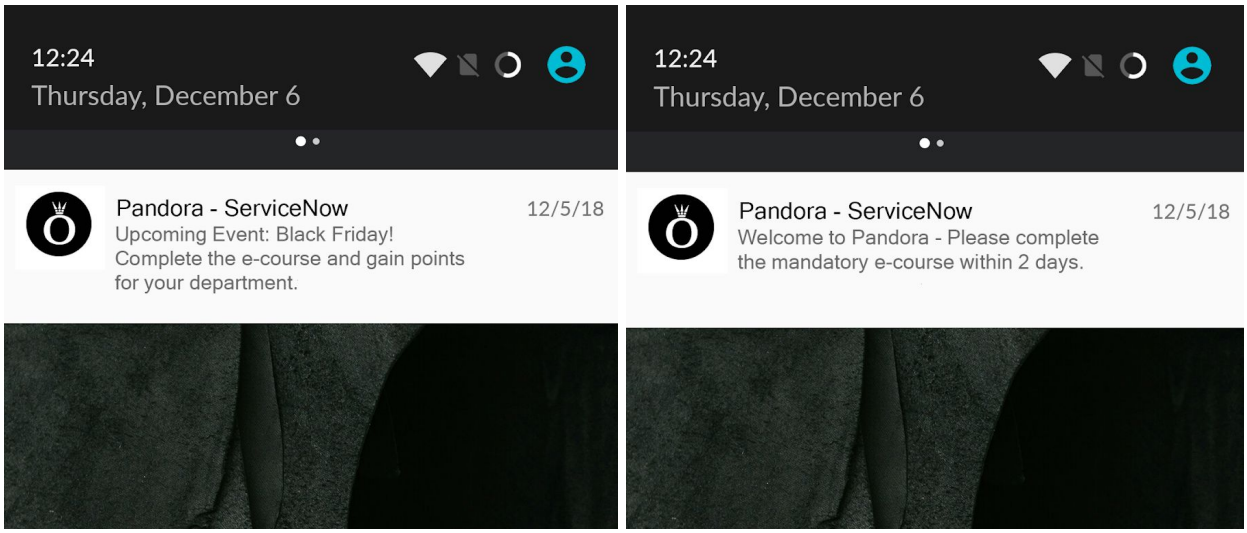

Figure 5: Notification examples.

[12] See: ServiceNow docs

Finally, a factor, which may increase the likelihood of them taking the e-courses, is to make them available through their mobile devices. This may be done by making the e-course webpage mobile compatible or by creating an app.

Thus, combining this with the push notifications, one may provide the employees the opportunity to instantly undertake the courses anywhere they want in a convenient format. Figure 6 illustrates a prototype on how this format may look like on a handheld device.

Figure 6: e-learning module as an app.

4.2.1 Process for onboarding New Employee

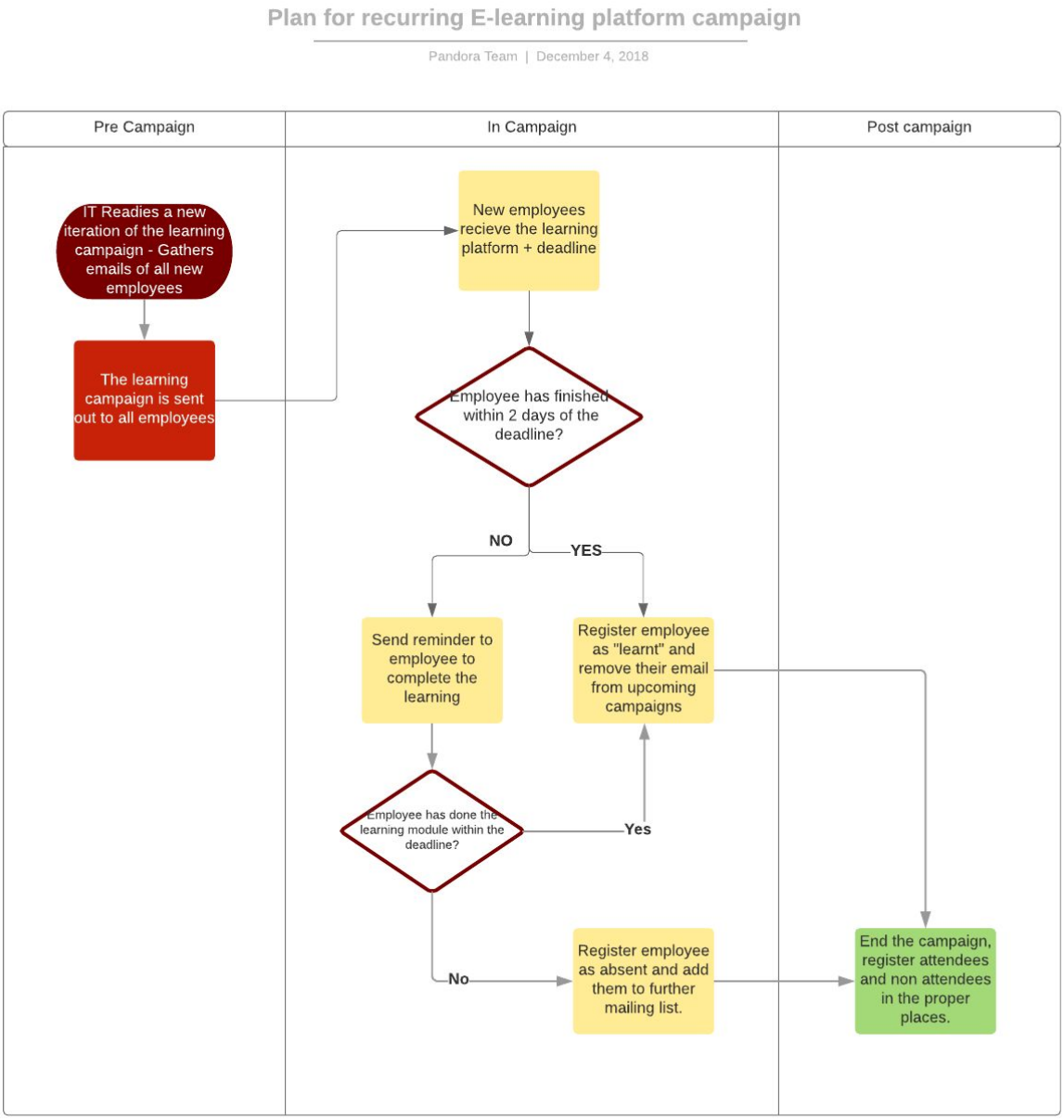

Figure 7: Process model of e-learning Campaign.

The figure shows the process of a 'Campaign'. IT contacts all employees who need to finish the e-learning module. The process is started, and the employees are prompted to do the e-learning module. If they have not done it within 2 days of the deadline they are reminded. When the deadline has been reached, the IT department is notified of who have completed and who have not completed the learning module.

4.2.2 E-learning platform roadmap

Figure 8: Campaign Roadmap.

There is a wish from Pandora that the proposed solution should be a continuous solution and the responsible people for these campaigns should additionally be aware of not only which employees that need to complete the learning module, but also when these campaigns can happen. Therefore, we created a mockup of a roadmap, which displays when these campaigns can happen. We know from earlier that Pandora hire temporary

employees at special events, such as the Christmas season. Therefore - with inspiration from the retail holiday calendar[13] - we have estimated which days these campaigns might be placed. This allows Pandora to correct the roadmap and reuse it as needed.

4.3 Prototype limitations

From a technical standpoint, we have been severely limited by Pandora. They were unable to grant us a sandbox of their ServiceNow, nor could we be registered as users on their intranet, such that we could look into the current system. Pandora was also unable to give us access to their LearningBank account so that we could create an actual prototype for the learning module. These limitations put us in a speculation zone, where we have been forced to produce a vague prototype.

5.0 Reflection on Cross Disciplinary Work

Cross-disciplinary collaboration has been the main focus of this case project. Thus, reflections on the group's disciplinary work are discussed and reflected upon in the following sections.

5.1 Disciplinary perspectives on and approaches to case

When we first approached the case, we tried to plan towards what each discipline could contribute with for each subject mentioned during our meetings with Pandora. The CS students tried to focus on the existing systems, and how they could be extended on to fulfill the requirements set out by the initial project pitch. Meanwhile, the DDK students wanted to focus on improving the user experience by changing the way the end-users interact with the system; for example, by changing the Service Portal interface. Finally, the DIM students mainly focused on how to change the work process and the communication between the service team and end-users in order to make them utilize the Portal.

[13] Taken from gminder

5.1.1 Differences in approaches

The diverse perspectives on the case may be grounded by how each discipline may approach a given problem. As an example, the CS students approached the project with a solution-oriented mindset of identifying requirements, that is split up into a list of small, separate atomic parts to solve. These parts are then implemented to fulfill the overall case. On the other hand, DIM and DDK worked in a more problem-oriented manner where they would start a process by researching and generating solution proposals through ideation which eventually lead to a solution.

The differences between a solution-oriented approach and a problem-oriented approach, are when one actually chooses a strategy to solve the case and when work begins on an actual solution. In the case of CS, the CS students had a *very set* mindset of how they would solve the problems by changing, or extending, on the system. This meant that they would start to break down and research the current system and begin redesigning it. Basically, there would not be considerations to whether the problem could be solved without changing the system - for example changing the workflow of the end-users or the interaction with the system. Whereas, the DIM/DDK would be more flexible by researching subject areas, form multiple different proposals and then choose one or more of them before designing a full solution.

By approaching the project with a solution-oriented approach, we may produce a prototype earlier during the project which might satisfy the stakeholders. However, this is not always the best approach since a problem to a given case may lie deeper elsewhere. Thus, working on a solution early in the project may lead to placing a bandage on the current case problem and one may end up having to reiterate the whole process of solving the problem. Therefore, approaching the project with a problem-oriented approach might be more time-consuming in producing tangible results, but may lead to finding the actual core problem of the case.

5.1.2 Evolution of disciplinarity throughout the project

An interesting aspect is how the cross-disciplinary work has evolved during the project. Initially, in the first phase of case exploration, the disciplinary work was multidisciplinary, where we tried to apply methods from each of our disciplines in different parts of the case. However, once the scope transformed, we decided on a common approach to the problem.

The approach focused on change management, which was primarily a DIM-focused area, where we tried to align and incorporate methods and knowledge from the two other disciplines. As an example, DDK influenced the change management focus of DIM students by suggesting a more bottom-up approach with a larger emphasis on the motivations and needs of end-users. CS students, on the other hand, proposed applying "Vision Development"[14], which prepares users for workflow changes as a consequence of system change.

It essentially became an interdisciplinary project, because we chose a specific DIM-approach as an overarching framework and fitted other disciplinary methods into that framework in order to shape and propose a solution.

5.2 Scope management and Discipline Relevance

Throughout the project, the scope of the proposed case has changed significantly. This has various effects on each discipline, in regard to how many methods can be applied to the case.

The initial case presented was balanced in terms of discipline participation. The CS students focused on the email module implementation, DDK students focused on the interface user experience of the Service Portal and finally, DIM students focused on how status information should be broadcasted and to whom.

Yet after having performed interviews with employees at Pandora, we came to the realization that the scope was different. Pandora had recently implemented ServiceNow as part of their incident reporting procedure, but that the employees did not use it or did not

[14] Reference no. 8, page 165

know about the system. Thus, the employees have not fully adapted to the change to the procedure incurred by the implementation of ServiceNow.

Therefore, the scope changed to focusing on creating a sustained awareness campaign of the system. This new scope particularly favored the students from DIM, since their discipline had many related theories and methods. However, the other disciplines were left somewhat to attempt aligning into this new scope. The DDK students found that they did have some relevant knowledge regarding user experience (UX), which they could fit into the awareness campaign. They were able to utilize this knowledge in order to talk about user motivation and usability requirements needed in to make people actively participate in this new incident reporting procedure.

However, the CS discipline was left with very little to offer in this scope, considering the problem was communicative in nature and not one that needed any technical functionality to be solved. Thus, they were required to adopt approaches from the other disciplines and apply them in the project. As such, it was crucial that the students from the other disciplines were able to communicate their domain knowledge to the CS students in a clear and understandable manner to avoid any misinterpretation.

5.3 Collaboration and interaction between members

Throughout the process of this project, our collaboration and communication style has changed. In the beginning, we faced several challenges due to our different disciplinary backgrounds that resulted in a lack of common understanding both in our communication and in our collaboration.

Entering a project with new team members is naturally a process, where each individual, as well as the team as a whole, benefit from adjusting and familiarizing themselves with each other to secure a productive and positive working environment.

Besides this, we experienced issues with establishing a common understanding when articulating both our disciplinary knowledge, the case problem and our assessments of which approaches to apply. As an example of issues in knowledge sharing, we could revisit the aforementioned different disciplinary approaches to change management, where DIM

and DDK saw change management from the opposite point of views[15], while CS considered vision development. When dealing with the case problem, misunderstandings could easily appear if one took it as a given that other team members were familiar with specific disciplinary methods or theories - or if one assumed that everyone had a similar understanding or application of a common method.

Consequently, we continuously reflected on our collaboration and interaction. As a result, we established an open working environment, where we encouraged each other to ask questions and made an effort to explain each of our disciplinary approaches thoroughly. The process of having such a dialogue is time-consuming, but it ultimately ensured greater productivity, more alignment in our collaboration and a more reflective process in our project. This way we did not only learn from each other but also ensured that we could take greater advantage of our disciplinary strengths.

5.4 Coordination and Scheduling

Throughout the project, our internal communication and scheduling system have been based on two main tools. A logbook[16] containing overall meeting notes and progress, while also doubling as a schedule and to-do list and, on top of the log book, a messenger chat thread, which was used for members to exchange sudden ideas outside of our regular meetings. The chat was also used to communicate a quick summary of the meetings and to delegate tasks to members, who were not present. The data gathered along with produced documents, such as the logbook, was kept in a *Google drive* to allow for accessibility for all members of the group.

The format of the logbook led to multiple issues, which became abundantly clear nearing the end of the project. The fact that we had no formal way of measuring and tracking the project progress, meant that it was very difficult estimating how much work was left to do and if the project was on time. It also meant that we had no hard deadlines for specific work to be delivered to ensure that certain milestones could be reached.
Finally, there was also no proper way of balancing the workload between the members, which resulted in some working more than others.

[15] I.e. top-down vs bottom-up.
[16] Appendix A, Log book

Another problem, which we encountered during the group work, was the lack of actual formal roles during meetings[17], such that our meetings could be focused on specific issues at hand. This was a consequence of us wanting a flexible time schedule since we were so many people in our group, which had many different time schedules. While we did make every Tuesday our meeting day, the times when people would actually arrive for the meeting would not be strictly set and some would arrive later than others.
Despite us having a notary, which lead to very good logs of each meeting, this did not stop meetings from potentially becoming unfocused or confused.

5.4.1 Potential Improvements

In retrospect, It is clear that the project could have benefitted from using a Gantt diagram from the beginning. The diagram may have helped visualize the project's time frame, progress and set milestones; not only for the project but also for the different disciplines[18]. It may be a great tool to help organizing and scheduling the project into teams, key areas and milestones, however it is not necessarily intuitive or flexible.

Thus, to support the Gantt diagram, we could have used a team planning tool such as Trello, Asana, or Microsoft planner. The latter is built into the '*Microsoft Teams*'[19] solution which was a platform made available by Pandora. Yet, it was only used to safely share documents and information with us. However, Microsoft Teams provided users with a planning tool called *To-Do,* which visually allows a team to create new tasks, assign these to specific people and set deadlines for the different tasks - essentially creating a Gantt diagram that reminds the different team members of the project's progression and tasks at hand.

On top of the *To-Do* functionality Teams also provides a wiki page, which would have been ideal to document the process we have been through, allowing us to implement the log book into the same platform as the planning tool. Therefore if we had fully utilized Microsoft Teams, we might have improved our collaboration in our group but also with Pandora since they had full access to our resources and planning in teams. Hence a formal

[17] E.g. moderator and product owner.
[18] I.e. CS, DDK and DIM.
[19] Microsoft office: Microsoft teams

planning tool may contribute to better planning and coordination as it would have made it easier to address the aforementioned issues regarding documentation, distributing assignments and communicating progress within the team and our external Partner.

Finally, because the group was so large, where each member had their own time schedules, some members were missing out on important meetings. This did not mean that they fell behind during the project, since the group ensured to inform the missing members of any new information. However, it may have affected the overall direction of the project, as this was set out during specific meetings, where these members might not have been present. Therefore, they might not have gotten the opportunity to give their input on specific important decisions.

6.0 Conclusion

Our approach evolved during the project, where the problem was handled as an incident reporting and communication issue at first. Later on, as more insight into the problem area was gained, we determined that the root of the challenges Pandora faced was grounded in a non-technical issue. Here we found that a lack of awareness regarding the Service Portal led to Pandora's perceived issue, which was presented as an incident reporting problem. Thus, our perception of Pandora's challenge has been narrowed down to an employee-wide lack of awareness of their current incident management platform. Hence, our proposed solution is an awareness campaign that utilizes an e-learning platform, containing learning modules which may help the employees learn the intended ways of incident reporting at Pandora. To visualize our solution, we have provided mockups of prototypes for the platform and the campaign. Pandora can use the e-learning methods, such as gamification, and the prototypes as inspiration in order to create awareness for the Service Portal.
In regards to cross-disciplinarity, we started out having multiple scopes to the problem, which were largely related to our respective disciplines. This also led to the problem being perceived in multiple different ways since each discipline has its own approach to solve a given problem. However, as the problem area was researched further, we found that the scope was more narrow and specific than initially thought. This led to a common approach answering the problem in the now more limited scope. The idea of this approach was to

based on the discipline that had the most relevant theory, with the other disciplines adapting and adding their relevant methods. Thus, to properly execute this common approach, it was crucial to focus on communication and creating a common understanding of the scope to align the different disciplines. This essentially brought the project from a multi-disciplinary teamwork to an interdisciplinary one.

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