## Module 1

**Exercise 1: Characterizing a software project.**

Exercise 1: Basing on the lecture slide, characterize the project described in Capstone Project – description.

The project described in the Capstone Project - Description is a website development project for USNStart Coworking Space. The objective of the project is to create a dynamic and engaging website that serves as an informative and user-friendly platform to attract potential members, provide information about the coworking space, and facilitate desk booking for members.

The project scope includes the design, development, and launch of the website. The website should be accessible on desktop, tablet, and mobile devices, and it should incorporate the provided interior design concepts and floor plan. It should feature pages and content that convey key information about the coworking space, membership plans, and existing tenants. The website should also include visuals, such as images and videos, to showcase the interior and amenities of the coworking space.

In addition, the website should integrate privacy and security measures to protect user data. It should allow potential members to book available desks in the open workspace using a floor map, and it should provide confirmation after a reservation is made. The website should also include a landing page with clear and engaging headlines, compelling visuals, membership plans and pricing information, amenities and facilities, location information, testimonials and reviews, contact information, and an about us section.

The website should be responsive and mobile-friendly, and it should be implemented using HTML, CSS, and JavaScript. The final website should be hosted and published, and it should undergo usability testing with students to ensure it meets their expectations. The success of the project will be evaluated based on criteria such as alignment with project objectives, fulfilment of user stories, quality of visual elements, quality and scope of the codebase, usability test results, demonstration of Agile practices, teamwork, and the quality of the project report.

**Exercise 2: Stakeholder analysis**

List all potential stakeholders

1. Potential Members: Students, entrepreneurs, and professionals who may be interested in becoming members of USNStart Coworking Space. Understanding their needs and preferences is crucial for attracting new members.
2. Students: The target audience for the coworking space, who may also provide feedback and insights during the usability testing phase.
3. Local Community: The surrounding community and businesses, who may have an interest in the coworking space and could potentially become members or partners.
4. University Administration: The administration of the University of South-Eastern Norway, who may have input or requirements for the website design and development.
5. Local Government: The local government authorities, who may have regulations or guidelines that need to be considered in the project.
6. Potential Partners: Other organizations or businesses that may be interested in partnering with USNStart Coworking Space, such as local startups, incubators, or innovation hubs.
7. Marketing and PR Team: The team responsible for promoting and marketing USNStart Coworking Space, who may provide input on branding, messaging, and communication strategies for the website.
8. IT Department: The IT department of USN Bø Campus, who may provide technical support or guidance during the website development process.
9. Financial Department: The financial department of USNStart Coworking Space, who may have input on pricing and membership plans to be included on the website.
10. Legal Department: The legal department of USNStart Coworking Space, who may provide guidance on privacy policies, terms and conditions, and other legal aspects of the website.

**High Interest, High Influence, High Impact**

1. Project Owner -
2. Development Team
3. USNStart Management
4. USN Bø Campus

**High Interest, Moderate Influence, Moderate Impact**

1. Current Tenants
2. Potential Members
3. Students
4. Local Community
5. University Administration – As the project is part of a university
6. Local Government
7. Potential Partners
8. Marketing and PR Team

**Moderate Interest, Low Influence, Low Impact**

1. IT Department
2. Financial Department
3. Legal Department

**Conflict between Students and Professionals:**

Students may prioritize affordable pricing and flexibility, while professionals may prioritize a professional environment and access to amenities. To resolve this, it is important to clearly communicate the benefits of the coworking space to both groups, highlighting how it caters to their specific needs. Offering discounted rates for students or creating separate areas for students and professionals can also help address this conflict.

**Conflict between Existing Tenants and New Members:**

Existing tenants may be concerned about overcrowding or a change in the atmosphere with the addition of new members. To address this, it is important to involve existing tenants in the decision-making process and gather their feedback on potential changes. Providing incentives or exclusive benefits for existing tenants can also help alleviate their concerns.

**Conflict between Project Stakeholders and the Development Team:**

Project stakeholders may have specific expectations or requirements for the website design and functionality, while the development team may have technical limitations or constraints. To resolve this, open and transparent communication is crucial. Regular meetings and updates can help align expectations and find solutions that meet both the stakeholders' needs and the technical feasibility.

**Conflict between Different Departments within the Organization:**

Different departments within the organization, such as marketing, IT, and operations, may have different priorities and perspectives on the website design and functionality. To address this, it is important to establish clear lines of communication and collaboration between the departments. Regular meetings and cross-departmental collaboration can help ensure that all perspectives are considered and integrated into the final website design.

**Exercise 3: Project management areas**

* What aspects will you need to plan if you are responsible for implementing this project?

As the project owner responsible for implementing the USNStart Coworking Space website project, there are several critical aspects that require careful planning:

**Project Scope:**

Clearly define the scope of the project, outlining specific features, functionalities, and deliverables to ensure alignment with desired objectives.

**Timeline and Milestones:**

Develop a detailed project timeline with key milestones and deadlines for each phase, promoting organizational efficiency and timely task completion.

**Resource Allocation:**

Determine necessary resources, including team members, their roles, responsibilities, and any external tools or resources required. Allocate resources effectively for efficient project execution.

**Risk Management:**

Identify potential risks and establish mitigation plans. Regularly assess and monitor risks, such as technical issues or changes in requirements, to minimize their impact on the project.

**Communication Plan:**

Establish a comprehensive communication plan to foster effective collaboration among team members, stakeholders, and external partners. Include regular team meetings, progress updates, and feedback sessions.

**Quality Assurance:**

Define quality standards and processes to ensure the website meets desired levels of quality. Conduct regular testing, review and refine design and functionality, and seek user feedback.

**Budget and Cost Management:**

Develop a budget encompassing estimated costs for resources, tools, and external services. Monitor and control costs throughout the project to stay within budgetary constraints.

**Stakeholder Management:**

Identify key stakeholders, such as the university, potential members, and current tenants. Develop a plan for managing their expectations and involvement. Regularly engage stakeholders for feedback and to address concerns.

**Evaluation and Feedback:**

Plan for regular evaluation and feedback sessions to assess project progress and gather input from stakeholders and potential members. This ensures the website meets their needs and expectations.

By effectively planning and managing these aspects, the implementation of the USNStart Coworking Space website project can achieve success and meet its objectives.

**Exercise 4: SWOT analysis**

* The exercise involves each team member contributing to identifying the team's Strengths, Weaknesses, Opportunities, and Threats. It's an excellent way for team members to understand their collective capabilities and areas that need improvement. This exercise fosters open communication and strategic planning.
* Use the template here to complete your SWOT analysis: Google Doc SWOT templateLinks to an external site.

**SWOT Analysis:**

|  |  |
| --- | --- |
| **STRENGTHS** | **WEAKNESSES** |
| *E.g.:*   * *Bra kommunikasjonevner* * *Gode personlige egenskaper* * *Stort nettverk* * *Vinner mentalitet* | *E.g.:*   * *Liten jobb erfaring* * *Manglende tekniske ferdigheter* * *Moderat personlighetstrekk* |
| **OPPORTUNITIES** | **THREATS** |
| *E.g.:*   * *Mye skole motiverte* * *Bygge personlig nettverk og relasjoner* * *Gode på å kontakte folk* | *E.g.:*   * *Lite engasjement* * *Motstridene målsetninger* |

## Module 2

Exercise 2.

**USNStart Coworking Space Website Development**

**Our business**

Business objectives are the results you are aiming to achieve in order to accomplish your long-term company vision [1]. We are aiming to increase visibility in the landing page, this Is to attract potential members and increase the use of our facilities. When we want to increase visibility, it should shine our core value of the coworking space and highlight its features and amenities. UI which stands for user interface is our main focus after visibility. The website must be a very easy to use and must have universal design. We might have potential users who are not used to the technology world, and this is to help them understand how to use our webpage. In return we get to have a seamless and user-friendly website that has extremely easy to use booking system that will allow our users to reserve, cancel or just view our available workspaces/rooms for the desired date.

Like countless great websites user feedback is appreciated and valuable. We need to have a positive testimonials or reviews from current members. With this, we build trust and credibility with our potential members. In our website it also should include privacy information and how we preserve these information for protection from hackers and such.

The UI should make finding information much easier liker location of the usnstart coworking space, including the address, map, and information about nearby public transportation. This will make it even easier for potential members to plan their visits to our facilities. It should not only provide information about the location but also present membership plans and pricing in an easily understandable way.

**Project deliveries**

What are project deliveries? According to Wikipedia project delivery method *is “the characteristics of how a construction project is designed and built and the responsibilities of the parties involved in the construction (owner, designer and contractor)”* [2].

What we want to and must deliver is a responsive and flexible website that is user friendly for all devices. When it comes to Project deliveries it goes hand in hand with a lot of business objectives as that has a lot of our delivery’s goals in mind. Design, responsiveness, privacy, security, membership plans, information and about us section must also be in the project deliveries where we want to deliver the best website we can to our contractor.

**Project Exclusions**

“The description of items, tasks, or works that are not included in the project scope” [3]. For our project this means starting from scratch using html, css and javascript without relying on other codes that are not written by other third-party software’s. This also applies to backend development to authenticate users, database management and booking system. The scope of the project does not include search engine optimization strategies which is a important part of a website. Interoperability is not a part of this project either, meaning there won't be testing for compatibility across various browsers, devices, or operating systems. Although the website will be designed to be responsive and accessible on desktops, tablets, and mobiles, extensive cross-platform testing is not included. Additionally, the project won't cover long-term hosting and publication of the website. The primary focus lies in developing and delivering the website for the course, rather than its ongoing maintenance and hosting.

**Constraints**

The project is time-bound and that has a huge impact on the team where we must work faster and harder if we do not meet the deadlines. The website is also impacted by budget perhaps the project has limited budget allocated for the development team, so we must be cost effective. In terms of hosting and publication, the final landing page must be actively hosted and accessible throughout the course. This involves thoughtful consideration of hosting requirements and the selection of a suitable platform for effective website hosting. Importantly, the development of our landing page prohibits the use of Content Management Systems (CMS) such as WordPress or Webflow and focusing the need to create the page without relying on pre-built templates or CMS platforms.

**Assumptions**

Here is a list of assumptions we have in mind:

1. The target audience for the coworking space includes students, individuals working in groups, and larger companies in the region.

2. The coworking space will be located in the main building of the USN Bø campus.

3. The coworking space will have a total area of 500 square meters, divided into 3 rooms.

4. The open workspace will have seating for 60 individuals.

5. There will be 6 private offices available for rent.

6. There will be 5 meeting rooms equipped with projectors and whiteboards.

7. The coworking space will have a lounge area, kitchen and dining area, printing and scanning area, and a game room.

8. The current tenants of the coworking space include Revisorteam, YourCompanion, GreenEnergy, and VismaAI.

9. The coworking space will offer different membership options, including day passes, monthly memberships, student memberships, annual fixed desks, and private office desks.

10. The website for the coworking space will serve as a platform to attract potential members, provide information about the space and membership plans, and facilitate desk booking for members.

11. The website will be designed and developed using HTML, CSS, and Javascript, and will be responsive and mobile-friendly.

12. The website will include high-quality images or videos showcasing the interior, workstations, communal areas, and facilities of the coworking space.

13. The website will include testimonials or reviews from current members to build trust and credibility.

14. The website will provide contact information and a contact form for potential members to get in touch.

15. The website will have a section about data privacy and security to reassure potential members.

16. The website will include a floor plan showing the proposed layout of the coworking space.

17. The website will have a booking function for day passes and monthly memberships, allowing members to book available desks in the open workspace for the current month.

18. The booking function will include a floor map with interactive desk selection and a confirmation message after a reservation is made.

19. The project will start in the second week of January 2024 and end at the end of April 2024.

20. The success of the project will be evaluated based on meeting project objectives, delivering value to the target audience, and achieving desired outcomes.

**References**

[1] Martins, J. (2022) 22 types of business objectives to measure success [2023] • asana, Asana. Available at: https://asana.com/resources/business-objectives-examples (Accessed: 29 January 2024).

[2] Wikipedia contributors. (2024, January 12). *Project delivery method*. Wikipedia.

[3] E. (2020, July 13). What Are Project Inclusions & Exclusions? - Rocket Takeoffs. Rocket Takeoffs.

Exersice 3.

1. The wishlist comprises all the needs of relevant stakeholders. The wishlist includes things such as user experience, visual appeal, and operational efficiency, ensuring a holistic approach, considering everyone’s needs.

2. The wishes are clear and it can guide both management and development teams. Specific requirements in the wishlist, such as a clear headline, compelling visuals, membership plans, and a user-friendly booking system, make it easy for project execution.

3. The success criteria of the project include high user engagement, positive user feedback, the conversion rate of web visitors to members, and adherence to privacy and security standards.

4. Considering our group’s current level of expertise, we expect that it will take approximately six months.

Exersice 4.

Exercise 4

Del 1:

1. Clearness:

Clear and engaging headline: clear, but it could be more specific about the about the core value of the co-working space.

Compelling visuals: clear but needs more specific guidelines for visual content.

Membership plans and pricing: in terms of displaying options, it is clear but needs more detailed pricing breakdowns.

Amenities and facilities: clear but could clarify unique features a bit more.

Location information: clear and well provide information.

About us section: clear but could have more detailed information.

Privacy and security: clear and have essential information on data protection.

Floor plan: clear.

Booking: clear with will provide information.

1. Consistency:

In terms of aligning with the overall objective of creating an attractive and functional co-working space, the wishlist features are consistent.

1. Correctness:

The wishlist items such as membership, amenities, location, booking and privacy in terms of addressing key aspects of co-working space are correct.

1. Unambiguity:

The most of wishlist items are clear but some of the items such as “amenities and facilities” and “compelling visuals” are ambiguous and need interpretation.

1. Measurability:

Except engaging headline and compelling visuals which are subjective aspects and needs clarification, the other wishlist items are measurable.

1. Verifiability:

To verify the successful implementation of wishlist items, such as “Testimonials and reviews” and “Responsive design”, would need specific metrics or criteria.

Del 2:

**.Ønskeliste**

1. Engasjerende overskrift som fanger brukeren og som samtidig gir en beskrivelse av hva prosjektet handler om

2. Bilder og videoer som kunne vise fasiliteter og de ulike områdene. Det skal vise interiøret

3. Medlemskapene skal vises det skal også vises i tillegg prisene, tilbudene og rabattene man får. Det skal kunne være em funksjon som brukeren skal kunne utforske for å se de andre medlemskapene

4. En liste over viktige fasiliteter og områder

5. Adresse på hvor dette ligger, kart over ting ligger og hvor man kan finne offentlig transport

6. Ulike kontaktinformasjoner

7. En forklarende side der vi forteller om hva vi er og om målene og verdiene våre.

8. En brukervennlig side der den passer for både mobilbrukere og andre enheter

9. Tar vare på personvern og sikkerheter for å beskytte medlemmer sin informasjon

10. Illustrasjon av hvordan bygget ser ut ovenfra og hvordan bygget er strukturert

11. Mulig å kunne reservere border, kontorer for folk som har dagspass og månedlige medlemskap. Man skal få en bekreftelse når reserverasjon er fullført.

**Brukerhistorier**

1. Som en bruker så ønsker jeg en bra overskrift som forteller hva oppgaven / prosjektet handler om

2. Som et medlem så ønsker jeg å kunne se hvordan bygget ser ut og de ulike område

3. Jeg vil se på de ulike medlemskapene og hva jeg får fra det medlemskapet jeg velger

4. Jeg vil også ville se hva jeg bygget har sånn at jeg kan besøke de ulike stedene

5. Hvis jeg skal planlegge en reise til og fra så vil jeg se hvor jeg kan offentlig transport

6. Hvis jeg får problemer eller vil kontakte noen så vil jeg se hva jeg kan kontakte

7. Jeg vil også vite hva co-working området står fordi det kan være nytte for meg

8. Som bruker vil jeg kanskje bruke telefonen eller andre enheter, så det skal kunne bli vist korrekt

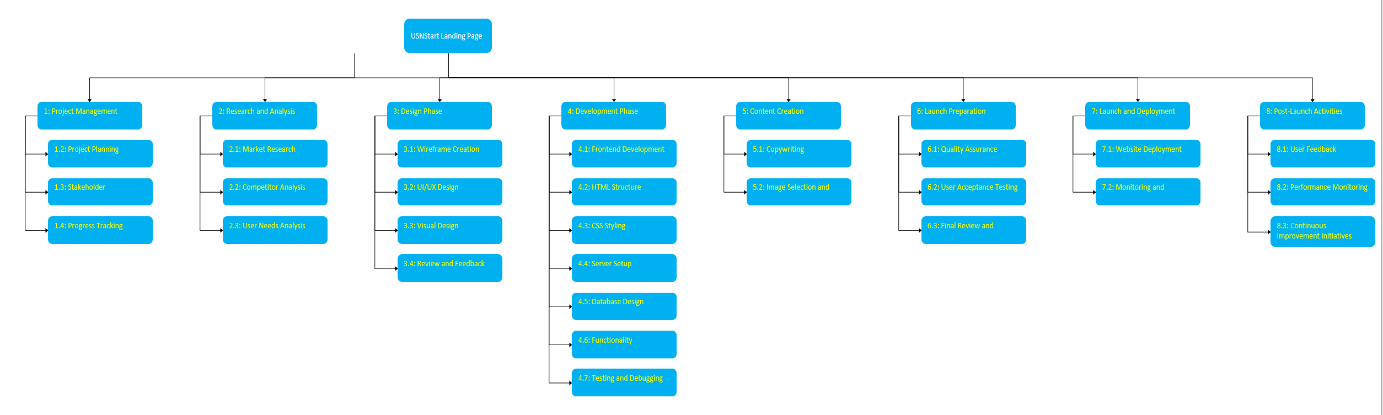
9. Som et medlem så vil jeg vite at min informasjon ligger på trygge hender

10. Jeg vil ha en visuell representasjon av hvordan bygget er strukturert

11. Som et medlem så ønsker jeg å kunne reservere tilgjengelige skrivebord og kontorer. Jeg vil også ha en bekreftelse på at søknaden min har gått gjennom.

Exercise 5.

WBS which u can find in our githubraspatory.



## Module 3

Exercise 1: Network Diagram and Critical Path Analysis

A (10d) -> B (5d) -> E (10d) -> D (20d) -> F (10d) -> H (5d) -> I (10d) -> J (5d) -> K (5d) -> L (1d)

\

\-> C (15d) -> G (25d)

Here, each letter represents an activity, and the number in parentheses represents the duration of the activity in days. Arrows indicate dependencies, and activities on the same level can be performed simultaneously. Critical Path: The critical path is the longest path through the network diagram, and it determines the minimum duration required to complete the project. In this case, the critical path is: A -> B -> E -> D -> F -> H -> I -> J -> K -> L (total duration: 91 days)

This is the sequence of activities that must be completed to ensure the project is completed in the shortest possible time. Any delay in activities along the critical path will directly impact the project's overall duration.

b) // Forward Pass: Earliest Start (ES) and Earliest Finish (EF) values

// Activity A: Market Research (10 days)

ES=0, EF=10

// Activity B: Requirement Analysis (5 days)

ES=10, EF=15

// Activity C: UI/UX Design (15 days)

ES=15, EF=30

// Activity D: Backend Development (20 days)

ES=15, EF=35

// Activity E: Database Setup (10 days)

ES=15, EF=25

// Activity F: API Integration (10 days)

ES=35, EF=45

// Activity G: Frontend Development (25 days)

ES=30, EF=55

// Activity H: Testing Phase 1 (5 days)

ES=55, EF=60

// Activity I: User Acceptance Testing (10 days)

ES=60, EF=70

// Activity J: Final Revision (5 days)

ES=70, EF=75

// Activity K: Launch Preparation (5 days)

ES=75, EF=80

// Activity L: App Launch (1 day)

ES=80, EF=81

// Backward Pass: Latest Finish (LF) and Latest Start (LS) values

// Activity L: App Launch (1 day)

LF=81, LS=80

// Activity K: Launch Preparation (5 days)

LF=80, LS=75

// Activity J: Final Revision (5 days)

LF=75, LS=70

// Activity I: User Acceptance Testing (10 days)

LF=70, LS=60

// Activity H: Testing Phase 1 (5 days)

LF=60, LS=55

// Activity G: Frontend Development (25 days)

LF=55, LS=30

// Activity F: API Integration (10 days)

LF=45, LS=35

// Activity D: Backend Development (20 days)

LF=35, LS=15

// Activity E: Database Setup (10 days)

LF=25, LS=15

// Activity C: UI/UX Design (15 days)

LF=15, LS=15

// Activity B: Requirement Analysis (5 days)

LF=15, LS=10

// Activity A: Market Research (10 days)

LF=10, LS=0

These values provide the earliest and latest times each activity can start and finish without delaying the project. The critical path activities have the same ES and LS values, indicating that any delay in these activities would delay the entire project.

c) // Path 1: A -> B -> E -> D -> F -> H -> I -> J -> K -> L

A=0, B=10, E=15, D=35, F=45, H=60, I=70, J=75, K=80, L=81

// Path 2: A -> B -> C -> G -> H -> I -> J -> K -> L

A=0, B=10, C=15, G=55, H=60, I=70, J=75, K=80, L=81

// Path 3: A -> B -> E -> D -> F -> H -> I -> J -> L

A=0, B=10, E=15, D=35, F=45, H=60, I=70, J=75, L=81

d) A -> B -> E -> D -> F -> H -> I -> J -> K -> L = 81 days

e) // Float/Slack Time for Non-Critical Activities

// Activity C: UI/UX Design (15 days)

Float = 15 days

// Activity G: Frontend Development (25 days)

Float = 0 days (Critical)

// Activity I: User Acceptance Testing (10 days)

Float = 0 days (Critical)

// Activity J: Final Revision (5 days)

Float = 0 days (Critical)

// Activity K: Launch Preparation (5 days)

Float = 0 days (Critical)

// Activity L: App Launch (1 day)

Float = 0 days (Critical)

// Activity B: Requirement Analysis (5 days)

Float = 0 days (Critical)



The critical path is the longest path of dependent tasks in the project, and it determines the total duration of the project. In this case, the critical path includes tasks 2, 3, 4, 5, 6, and 7, with a total duration of 64 days.

Task Name | Duration (Days) | Start Date | End Date

------------------------------------------------------------------------------

1. Project Initiation | 3 | 01/02/2024 | 03/02/2024

2. Project Planning | 7 | 04/02/2024 | 11/02/2024

3. Content Creation | 14 | 12/02/2024 | 25/02/2024

4. Website Design and Development | 28 | 26/02/2024 | 24/03/2024

5. Testing and Quality Assurance | 7 | 25/03/2024 | 01/04/2024

6. Deployment | 5 | 02/04/2024 | 06/04/2024

7. Training and Documentation | 3 | 07/04/2024 | 09/04/2024

8. Marketing and Promotion | 14 | 10/04/2024 | 23/04/2024

9. Monitoring and Maintenance | 7 | 24/04/2024 | 30/04/2024

2. Lack of clear project requirements: If the project requirements are not well-defined or constantly changing, it can lead to confusion and delays in the development process.
3. Inadequate communication: Poor communication within the team or with project stakeholders can result in misunderstandings, delays in decision-making, and lack of progress.
4. Technical challenges: Difficulties in implementing certain features or functionalities, compatibility issues, or unforeseen technical obstacles can cause delays in the development process.
5. Resource constraints: Limited availability of team members, lack of necessary tools or technology, or insufficient budget can hinder the progress of the project.
6. Scope creep: If the project scope keeps expanding beyond the initial plan, it can lead to increased workload, longer development time, and potential delays.
7. Quality issues: Inadequate testing, bug fixes, or poor code quality can result in rework and delays in delivering a high-quality product.
8. External dependencies: Delays caused by external factors such as third-party integrations, external services, or dependencies on other teams or projects.

Measures against these risks:

1. Clearly define and document project requirements at the beginning and establish a change management process to handle any potential changes.
2. Foster effective communication within the team through regular meetings, status updates, and clear channels of communication. Maintain open lines of communication with project stakeholders to ensure alignment and timely decision-making.
3. Conduct thorough technical analysis and feasibility assessments before starting the development process. Allocate sufficient time for research and troubleshooting to address any technical challenges that may arise.
4. Plan and allocate resources effectively, considering the availability and skills of team members, necessary tools, and budget requirements. Regularly review resource allocation to ensure sufficient coverage.
5. Implement a robust change control process to manage scope creep. Clearly define project boundaries and obtain approval for any changes that may impact the project timeline.
6. Prioritize quality assurance activities, including thorough testing, code reviews, and bug fixing. Implement best practices for code quality and maintain a focus on delivering a high-quality product.
7. Identify and manage external dependencies early in the project. Establish clear communication channels with external parties and monitor progress to minimize potential delays.

4)

What are your measures against these risks?

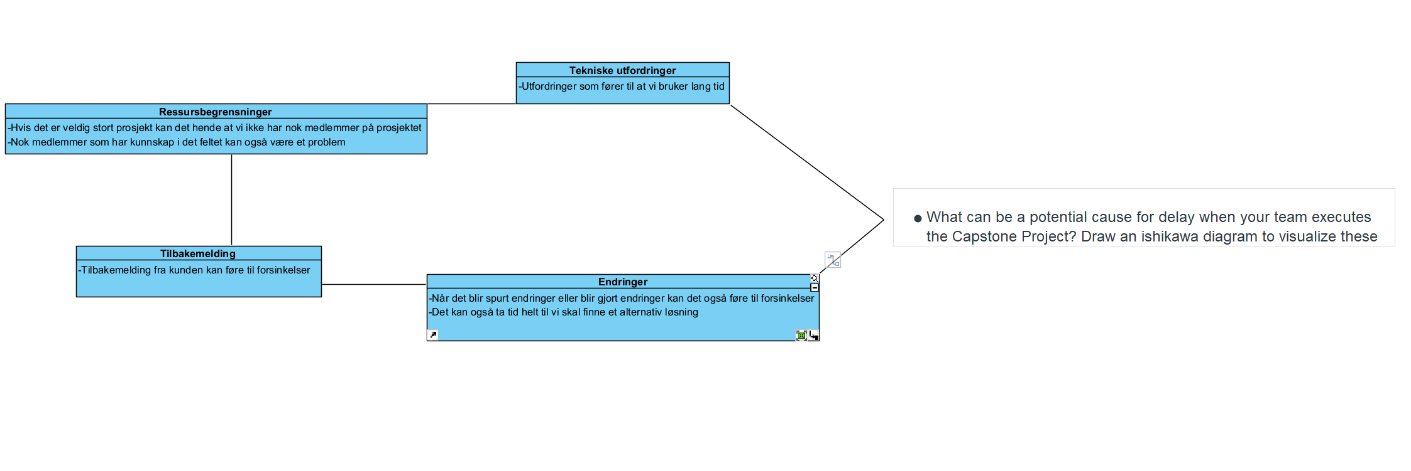
Maintain good communication with the customer and between us. If we have good communication, we can prevent delays and solve things faster. It also means that if the customer wants a change, we will know earlier

Identify the risks very early and identify possible risks that may happen in the future. We must be able to adapt to the changes that may occur before that happens.

Allocation of tasks must be done early, so that we can see who may be needed for which task. If there is a lack of knowledge for one task, we can find a new member early on to add

It is important that the task should be followed up regularly, writing a report on what we did is an easy way to track down if something went wrong

We must agree with the customers or stakeholders before the entire task is done, so that we can change it as early as possible with feedback and wishes from the customer / stakeholders



(zoom in to see better ).