Project plan

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1. Project Assignment

1.1. Context

<< Briefly describe the company and the context of the assignment. Provide information about the products and services of the company that your assignment focuses on. If you work for an external client of your client – think of a client of an internship company – describe them in the same way. In addition, indicate the concrete reason for the assignment and what developments are taking place in the company or the market that lead to the assignment.>>

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Cape is an innovative Software-as-a-Service (SaaS) company that specializes in developing digital marketing solutions. Their primary goal is to empower businesses to efficiently and independently manage their marketing efforts. They achieve this through their platforms one of which is **Template Designer**.

1.Campaign Designer - is the name Cape has given to its campaign marketing platform, which provides an integrated environment where organizations and individuals can seamlessly design and display photo and video templates for their marketing campaigns. The platform offers a wide range of tools to assist in creating and developing template for ads, including features like video and image cropping, template edit and more. Campaign Designer grants complete creative freedom and control to brands (clients) by enabling them to design and develop directly within the Cape environment. This eliminates the need for intermediaries, as designers can create ads and determine when to publish them online. The platform is particularly suited for large companies with extensive markets in multiple countries, as it allows for the creation of multiple versions of an ad with different templates. Currently, Cape is working on automating many tasks by integrating AI into the platform, ensuring its future readiness and enhanced user-friendliness. For now, they have incorporated the chatGPT API for generating suitable text for ads.

In today's world, we are bombarded with various advertisements in our daily lives. Sophisticated algorithms now track our online activities to tailor ads that align with our needs and interests. Achieving scalability and broad reach is crucial when developing a product or offering a service. This is where Campaign Designer proves to be an outstanding platform for creating and executing successful marketing campaigns. Additionally, the market is evolving at a remarkably rapid pace, especially in the realm of AI technology. Therefore, it is important to continuously enhance and update this platform with modern technologies and features to ensure it remains user-friendly and meets modern standards.

Currently, Cape is committed to this mission, with several AI tools already integrated, and there are plans to incorporate even more in the future. During my internship, I will collaborate closely with the Product Development Team, initially in the Design department and later in the Front-end department.

1.2. Goal of the project

<<Describe the goal of the project here. Think of:
What is the problem that needs to be solved or what is the opportunity that needs to be used?
What does the desired situation look like?
What benefits does the project offer?
What possibilities (capabilities, facilities) does the product or project result offer?
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<<NB To make your goals as concrete as possible, you should already have a good idea of the problem. What exactly is the issue? What is the problem to be solved or what is the challenge? Why is this question there? What is the urgency? What caused it? What are the consequences if nothing is done? And what has already been done to arrive at an answer? It is essential that you look critically at the client's needs. Is the problem outlined actually the problem? And is your client's question actually the right solution? Ask critical questions and try to arrive at the correct problem statement together with the client. If more research is needed to determine this, include this in your approach.>>

In the earlier phase of the project plan, I was assigned the responsibility of integrating a text-to-image AI into the Template Designer platform. This also included training the AI model to generate particular image templates. With two weeks dedicated to research, I quickly grasped the complex nature of the task at hand. Utilizing the CMD Research methods, the depth of the challenge became evident. Balancing the available time, my skillset, and the hardware capabilities during my internship, I realized that completing the task was beyond reach. This realization led me to discuss the project's feasibility with my internship mentor. Upon presenting my findings and concerns, he understood my perspective. Our subsequent consultations with experienced developers from the company showed that the task was very optimistic indeed. The sheer magnitude of the assignment became clear to both of us, prompting a reconsideration of my tasks.

Cape's primary approach leans heavily towards swift solutions and prompt delivery for clients. This ethos emphasizes enhancing User Experience (UX), aiming to provide clients with a seamless platform to design their templates. By refining the onboarding process, the vision is to empower clients to independently craft and employ their templates in campaigns. As Cape moves towards the integration of AI tools to simplify ad creation, the need to streamline and **implement an automated AI voice-over generation for client campaigns**. Consequently, my revised responsibility centred around exploring available AI text-to-speech (TTS) tools to identify the one most suitable for the Campaign Designer.
Since I was already familiar with one kind of tool my decision was on incorporating Elevenlabs however the company had already something in mind they were thinking of implementing Play.ht which was another really good TTS AI model my task was then

changed. I had to find the best one between these two AI models. Initially my research was to play around and test them, since both of the tools had a free plans that provided enough time to test both model I was able to get a good feeling for both of them but that was not enough I was keen on making the best decision even of that required to look in to the smallest details for that I turned around to the good old internet by reading some [articles](#) about both I was determined that Elevenlabs was the better choice. That satinet was also confirmed by the my metro and the company owner which was already familiar with ElevenLabs.

1.3.   The assignment

<<Formulate the assignment. The assignment definition itself should consist of a text that is as short and concise as possible in which the assignment is clearly formulated. What are the specific requirements/wishes of the client at the start of the project? What are the minimum (quality) requirements that the end result must meet? You may already provide a list of functional and non-functional requirements for the end product as an attachment>>

Certainly, the task at hand involves researching and integrating an AI tool into Cape's platform to create voice over generations for clients. This tool's key responsibility is to accurately understand and meet client's requirements, simplifying the ad creation process. I will accomplish this by collaborating closely with the AI development team. The process entails researching and analyzing the current landscape and potential future advancements in the rapidly evolving AI industry. I will prioritize ideas based on client needs and financial considerations.

The primary objective is to boost client efficiency in their marketing endeavors by providing voice overs that are tailored to their specific requirements, brand identity, and marketing goals. Additionally, this project is aimed towards keeping the platform current with modern AI technology to maintain competitiveness and foster growth potential.The initial project specifications demand for the use of analytical and problem-solving techniques while taking into account the needs of the client and current industry developments. Since this task is not as big as the previous one my mentor and I think that I will finish the task rather quickly so that to possibility is to be part of implementing one or more AI feature in to their platform which will boost the productivity of their clients even more.

1.4.   Scope

<< Indicate the scope. If necessary, make a context diagram for clarification that shows the relationships with other systems and the environment. This section should also describe what will not be delivered. For example, if you agree to deliver a high fidelity prototype, then (part of) the implementation and management falls outside your scope.
Make this as concrete as possible so that there are no misunderstandings between you and your client.

The goal of this internship is to have a functional voice over generation AI model with the possibility of implement one more (if possible) of a concept that is being demonstrated (via testing with end users, market research, and product reviews) before the end of the semester. This will help to improve the overall usability and effectiveness of the Template designer to some extent.

The project includes:	The project does not include:
1. A research plan	1. Infrastructure connection
	2. Working on the production environment
2. Documentation explaining the steps of implementing the AI in to the Campaign Designer	
3. Integration of an AI model in to Campaign Designer	
4. Testing with end users	
5. Improve the feature based on the feedback	
6. Provide a quality product	

1.5.   Conditions

Tools
React
Material UI 5
Scss
Typescript5

<< Indicate, where necessary, what the preconditions are. For example, consider technology set by the company. Note that a critical attitude remains important here!>>

Any potential new feature must be compatible with the Campaign Designer's ongoing and planned development.
The tech stack that the team has chosen to utilise must be respected and utilised when producing code for the feature. The following stack is used by the AI team:

1.6.   Finished products

<<A Product Breakdown Structure of the end and intermediate products that the project will deliver with a short description in text of each product. The end products are more than the project plan and the product itself. Also, for example, requirements and architecture documents and research and test reports are typical parts of a PBS. These documents are important for the relevant stakeholders during development as well as during the transfer and during the management phase. During the project you can change the PBS and you can add or remove products in consultation. >>

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- **Research report** - A comprehensive report detailing all the research carried out for this assignment, the methodologies employed, the outcomes achieved, and their influence on the High-fidelity prototype.

- **Testing report -** A testing summary that encompasses details about the various iterations and testing sessions performed. This report includes information on the types of testing, the products or components that underwent testing, the results obtained, and how these findings impacted the high-fidelity prototype.

- **Portfolio -** A portfolio designed as a reference for Fontys assessors to gain insight into the student's work throughout the semester. It includes a project report along with the ICT products mentioned earlier. It's worth noting that some elements in the portfolio may take forms other than documents or text, such as images, videos, audio files, or screenshots.

- **Working AI model** - The integration of the an AI model that would be able to create and match the templates to the customers needs.

1.7.   Research questions

<<Describe the most important research questions you want to answer during your internship. Define a main question with sub-questions derived from it. Keep in mind that you will be doing investigative work during your entire internship, and that your questions will therefore concern your entire trajectory. During your internship/graduation, more research questions may be of interest and others may turn out to be less relevant. Describe only the key research questions that will have the greatest impact on your project. Other research aspects can be elaborated in more detail during your internship and can then be explained with a short substantiation (in your portfolio or orally). >>

Main Research Question

What AI models and techniques are suitable for generating high quality voice overs that would suit the needs of the Campaign designer users.

The primary research inquiry centres around a pivotal aspect valued by the Cape team: Innovation. Over recent months, the team has concentrated its efforts on enhancing the capabilities of the Template Designer, aligning it with industry standards. To address this, I will leverage insights from the subsidiary research questions and conduct thorough research. The requirements of consumers on similar items will be clarified through a thorough grasp of the environment and an analysis of market trends included in this study.

Sub research questions

1. What is the current development flow within the team working on the AI integration?
2. What did the development team already has done?
3. What changes the team has in mind to implement within the Campaign Designer?
4. What is the reason Cape is doing this changes?
5. Which AI models would be suitable for the needs of the Campaign Designer?

In the initial steps of the internship it would be crucial to research before deciding on implementing it in the platform. The AI industry is evolving with very fast pace so researching extensively will be a deciding factor for the development of the Template Designer.

6. What are the key considerations and challenges in integrating large TTS model into template designer software?
7. What impact Campaign Designer is going to have on the field?
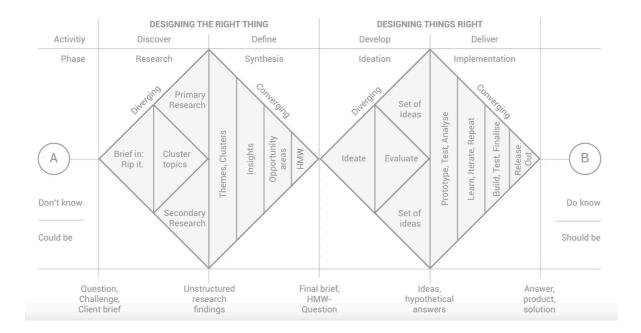8. What is the current architecture of the code and how will I be working in its structure?
9. Are there similar products on the market?
10. What do marketers and designers expect from a design tool?

2.   Approach and Planning

2.1.   Approach

<< Indicate here which method you follow in your project plan, for example whether you use a waterfall or scrum method. Also indicate how you will approach the problem definition phase and completion phase. With a scrum approach you can think of length of sprints, set-up of your sprints, stand-up, set-up of demos, retrospective, etc.)>>.

In my project plan, I'll be using the Double Diamond research methods. This means I'll follow a structured approach to tackle problem in 4 sprints: Discover, Define, Develop and Deliver. Each sprint will be 2 weeks according to Cape standards and will finish with sprint review where each member of the team is going to showcase what he has done the passed 2 weeks.

For the **problem definition phase**, I'll start by thoroughly understanding the problem I am trying to solve by understanding the flow of work within the company and specifically in the development team, I'll talk to my project manager and colleagues in order for my research to get a solid grasp of what AI tool/tools can be implemented in the Template Designer platform.

For the **completion phase**, I'll take a Scrum approach. It's like breaking my project into smaller, manageable phases. Each sprint has a specific goal, like reaching and coding. We'll have regular check-ins, called stand-up meetings with my team in the internship to make sure everything's on track. To ensure product consistency, I will work in iterations, by testing the product after each sprint and taking user's feedback into account when making changes.

After each sprint, we'll set up demos to showcase what I've accomplished. And finally, I'll have retrospectives where I look back at what went well and what I can improve.

So, in a nutshell, I'm using Double Diamond research methods, and for the problem definition and completion phases, I will be applying the Scrum approach with sprints, stand-up meetings, demos, and retrospectives to keep our project running smoothly.

2.1.1.   Test approach
<<If applicable: how is testing designed. What is the approach? And why? Also include any approach to (Code) reviews in this>>

Testing is a crucial part of my project because I want to make sure that the platform works smoothly and meets the needs of our users. To achieve this, I have a well-thought-out testing approach.

Approach to Testing:

User Testing: I will involve real users in the testing process. These users will be representative of Cape's target audience. They will interact with the product to provide feedback on its usability, functionality, and overall user experience. User testing will help us understand how real people will use the product and what improvements are needed.

Examples Similar to Real Materials: In addition to user testing, I will use examples that mimic real materials. These simulated scenarios will allow me to assess how the platform performs in situations similar to what users will encounter in their actual usage. It will help identify any potential issues or improvements needed in a controlled environment.

Why We Test:

Quality Assurance: Testing ensures that the product works as intended and meets quality standards. It helps catch and fix any bugs, glitches, or usability issues before they reach the users.

User-Centric Design: User testing and simulated scenarios will help ensure that functionality aligns with user needs and preferences. It's about making a product that people find easy and enjoyable to use.

Iterative Improvement: Testing is an iterative process. By continuously testing and gathering feedback, I will make incremental improvements to the design, ensuring it evolves to meet changing requirements and user expectations.

2.2.   Research methods

<< Describe (per research question and for the entire project) which methods (see ictresearchmethods.nl or cmdmethods.nl) you will use to answer the most important questions within your project (= how you will substantiate the most important choices). Do not only mention the method, but also briefly explain how you will use it (e.g. who will you interview and for what purpose?). Of course, your approach can still be adjusted during your internship.>>

Nr.	Sub Question	Activity	Research method	Output
1	What is the current development flow within the team working on the AI integration?	**Team Communication:** I'll start by talking to the team members involved in AI integration. This includes developers, project managers, and anyone else working on the project. **Documentation Review:** I'll go through any available documents, like project plans or development guidelines, to understand the current flow.	Field, Library	General understanding of the workflow and how the Campaign Designer works
2	Which AI models would be suitable for the needs of the Template Designer?	**Review Project Requirements:** Examine the specific requirements of the Template Designer project to identify the key functionalities and tasks where AI can be most beneficial. **Research AI Models:** Conduct research to identify AI models that align with the identified project requirements, considering factors like accuracy, scalability, and compatibility with the development environment.	Workshop, Library	Have a clear vision of which AI models will be in best fit of the Campaign Designer, improve my knowledge in the AI industry
3	What did the development team already have done?	**Review the platform:** Examine the tool in order to pinpoint areas where AI can add value facilitating more informed decision-making regarding AI model selection.	Showrom	The output is a clear understanding of how AI can enhance the Campaign Designer.

Nr.	Sub Question	Activity	Research method	Output
4	What impact Campaign Designer is going to have on the industry?	**Industry Analysis:** Conduct an in-depth analysis of the current state of the industry, identifying trends and challenges. This will provide insights into how the Campaign Designer can address industry needs. **Competitor Evaluation:** Evaluate competitors and similar products in the market to understand their strengths and weaknesses. This analysis will help anticipate how the Template Designer can stand out and make a positive impact in the industry.	Laboratory	The output will be a comprehensive understanding of how the Campaign Designer can address industry needs and potentially disrupt or innovate within the market.
5	What are changes the team already has in plan to implement within the Template Designer?	**Team Consultation:** Engage in discussions with the development team to gather information about the changes they have in the pipeline. This will provide a clear picture of their planned enhancements. **Documentation Review**: Examine project documents, such as roadmaps or development plans, to identify any documented changes or improvements that the team intends to implement. This will ensure a comprehensive overview of planned updates within the Template Designer	Workshop	Investigation will be a detailed list of the planned changes and enhancements that the development team intends to implement within the Campaign Designer. This information will serve as a valuable reference for understanding the project's future direction and priorities.
6	What are the key considerations and challenges in integrating large TTS model into template designer software?	**Data Compatibility:** Ensuring that the structure and format of the generated voice overs align with the campaign designer's data requirements and standards. **User Interface Design:** Transfer the designers made UI in to the platform and	Library, Laboratory	Addressing these considerations and challenges in the integration of generated JSON templates into template designer software will ensure a seamless and user-friendly experience for users, enhancing productivity and reducing the risk of errors. Ultimately, it will result in a more reliable and efficient template designer software.

Nr.	Sub Question	Activity	Research method	Output
7	What is the current architecture of the code and how will I be working in its structure?	**Code Architecture Analysis**: Begin by thoroughly examining the existing codebase to understand its architectural components, design patterns, and overall organization. **Collaborative Approach:** Collaborate closely with the development team to gain insights into their vision for the code's structure and how it aligns with project goals. This will clarify my role in contributing to and enhancing the code's architecture.	Workshop	A comprehensive understanding of the code's existing architecture and a clear plan for my involvement in its structural development.
8	What is the reason Cape is doing this changes?	**Enhance User Experience:** Improve the overall user experience by introducing new features and functionalities that better cater to client needs and expectations. **Stay Competitive:** Stay competitive in the market by keeping the platform up-to-date with modern technologies and industry trends, ensuring it remains an attractive and effective solution for clients. **Boost Efficiency:** Increase efficiency in marketing efforts by offering more innovative and user-friendly tools, ultimately empowering clients to create and manage their marketing campaigns more effectively.	Workshop, Field	An improved user experience, a platform that remains competitive in the market, and enhanced efficiency in marketing efforts for Cape's clients.
9	Are there similar products on the market?	**Market Research:** Conduct thorough market research to identify competing products that offer similar functionalities or services to the Campaign Designer. **Feature Analysis:** Examine the latest feature updates or enhancements introduced by these competitors, focusing on understanding how they are evolving to meet user demands and market trends.	Filed	A comprehensive overview of competing products and a summary of the recent features they have introduced, providing valuable insights for comparison and potential innovation within the Campaign Designer.

2.3. Learning outcomes

<<Discuss how you are going to demonstrate each learning outcome in the project. The easiest way is to think about which of the professional products you are going to use as evidence for each of the learning outcomes.>>.

In the context of this project, I will demonstrate each of the learning outcomes as follows:

Learning Outcome 1 (Professional Duties):
To showcase professional duties at a junior bachelor level, I will produce professional products in alignment with the IT area relevant to the project. This will include creating and implementing AI-driven features within the Campaign Designer, ensuring that they meet industry standards and client requirements.

Learning Outcome 2 (Situation-Orientation):
I will apply my existing knowledge and skills within an authentic context by integrating AI features into the Campaign Designer to provide relevant solutions for both the project and Cape as a company. This will involve leveraging my expertise to address specific challenges and opportunities within the project's scope.

Learning Outcome 3 (Future-Oriented Organisation):
To fulfill this outcome, I will thoroughly explore the organizational context of the project, considering business, sustainability, and ethical aspects. I will also manage various facets of project execution, such as project planning, resource allocation, and risk assessment, while ensuring alignment with Cape's strategic goals and values.

Learning Outcome 4 (Investigative Problem Solving):
I will critically analyze the project from multiple angles to identify potential challenges and problems. Then, I will apply effective problem-solving techniques to develop appropriate solutions, ensuring that the AI integration aligns with project objectives and client needs.

Learning Outcome 5 (Personal Leadership):
In terms of personal leadership, I will take an entrepreneurial approach to the project, considering both its immediate impact and its contribution to my personal development as an IT professional. I will actively seek opportunities for learning and self-improvement while maintaining a clear vision of my career goals within the IT field.

Learning Outcome 6 (Targeted Interaction):
To demonstrate targeted interaction, I will identify and collaborate with relevant project partners, such as the development team and stakeholders. I will engage in constructive communication and coordination to ensure that our efforts align with the project's goals and lead to the desired impact on the Template Designer and the broader Cape environment.

2.4. Breakdown of the project

<<Show the rough breakdown in phases or sprints of the project here.>>

Sprint 1 - Exploration (Weeks 1-3):

During the initial week of my internship, my focus will primarily revolve around gaining an understanding of the company's operations, organizational structure, problem-solving methodologies, and proposed solutions. Additionally, I will familiarize myself with Cape's Campaign Designer platform, its functionality, Cape's future plans for it, and areas in need of enhancement. This phase will also involve introductory meetings with the team to establish rapport.

Sprint 2 - Research (Weeks 4-6):

In the subsequent phase, my tasks will centre on researching AI modules suitable for integration into the Campaign Designer. I will delve deeper into the technical aspects of these modules, exploring their functionalities and potential integration into Cape's platform. Furthermore, I will engage in discussions with stakeholders, particularly members of the AI development team, to identify the most advantageous features that can significantly impact the creative environment.

Sprint 3 - Development (Weeks 7-14):

During this phase, I will initiate the integration process, extensivly testing how the new features align with the platform's usability. Additionally, I will maintain regular communication with the development team, aiming to pinpoint potential areas for improvement and identify the most effective development strategies.

Sprint 4 - Delivery (Weeks 15-18):

In the final stages of my internship, I will concentrate on compiling the insights, information, meetings, notes, setbacks, and improvements gathered throughout the project. I will document these details in my portfolio, summarizing the coding work I've completed during the project.

2.5. Time plan

<< Depending on your project method, you will be able to work out the phasing in more or less detail. Below is a possible table that you can use for this.
Note that with an agile approach, most projects still have a problem analysis/orientation phase (or 'sprint 0'), as well as a completion/evaluation phase.
Also make sure that you reserve enough time for your portfolio and start on time.>>

Phasing	Effort	Start	Ready

3.   Project Organization

3.1.   Team members

<< *Describe the organization of the project with its immediate environment. An organization chart can be displayed for clarification. Indicate in descriptive form which roles are included in the organization chart with the associated authorities and responsibilities. It must be clear who is authorized to do what and what can be expected of whom. Indicate who is involved in your project and what his/her function is and what the role is within your project. For example, someone with the function 'manager of department X' can have the role of Product Owner in your project. In this project, both the internship/graduation organization and Fontys are stakeholders. So include your internship teachers and yourself in this schedule.*>>

The Cape organization is structured into three primary departments: **The Product Team**, **The Client Team**, and the **Sales Team**. During my internship, I will be an integral part of the AI development team, which is a key component of the Product Department. In this capacity, I will work closely with stakeholders and the product manager to contribute to the advancement of Cape's product offerings.

The Product Department, where I'll be based, plays a pivotal role in ensuring the continuous maintenance, updates, and ongoing enhancements of Cape's product. This department encompasses various sub-teams, including Frontend, Backend, and UX/UI, all of which collaborate to uphold and improve the Cape product.

Regarding my project, there are multiple stakeholders involved, each with distinct roles and responsibilities. The table provided below outlines the specific roles of these stakeholders, emphasizing their contributions and involvement in the project's progress and success.

Name	Role/tasks	Role in the project
Silas Willemsen	Lead Design UI/UX	Product Owner
Justice Dreischor	Frontend developer	Developer
Benjamin ten Hove	Leading AI developer	Developer
Marijn Dame	Mentor/ Project Manager	Product Owner
Maike Simon de-Vocht	Teacher	Assessor 1
Paul Reekers	Teacher	Assessor 2
Viktor Velizarov	Student	Developer
Max Dobbelsteen	UI/UX Designer	Product Owner

3.2.   Communication

<< *Indicate which communication/attunements there are. Think of coordination with company supervisor, teacher supervisor and other stakeholders. How and how often do these attunements take place?*>>

Throughout my internship, I will actively participate in multiple meetings aimed at enhancing the development process and usability of the Template Designer. On a weekly basis, I will engage in a minimum of two meetings with this specific objective in mind. Cape's Product Department operates in two-week sprints, with sprint meetings occurring every other Monday. During these sprint meetings, I will present the work accomplished during the sprint period. Additionally, I will hold a weekly meeting with my company mentor to ensure they are informed about my ongoing progress and development efforts.

3.3.   Test environment

<*omit this section if not applicable*>>

<<*Describe what the test environment looks like. A picture generally gives the best overview. Also record to what extent you use a CI/CD environment (self-developed or using an existing system)*>>

<<*Describe which products are included in the test environment. These can be products that the project produces, but also external products that are necessary to perform the test approach (e.g. computers)* .*>>

3.4.   Configuration management

<<*omit this section if not applicable*>>

<<Describe how the archive is set up (for example your GIT repository structure with branching strategy). Pictures about, for example, your branching strategy can help with this. If possible, describe which baselines and releases you foresee.>>

4. Finance and Risks

4.1. Cost budget

<< If specific costs have to be incurred for your project, please indicate these. Think of extra hardware or software investments. Regular matters such as workplace, your internship allowance, etc. do not have to be included.>>

4.2. Risks and fall-back activities

<<Define risks. What have you already included in the plan to limit or prevent the risk? What choice is made if the risk does unexpectedly occur? Think of organizational risks (such as the sudden leave of the company supervisor) as well as more substantive risks (for example, what to do if you find out during your internship that it is better for the company to purchase an external application instead of the application to be developed).

Think of real risks that can actually influence your project. For example, there may be a risk that your company supervisor will be absent, for example due to illness or because he is going to do something else. Is there a backup in the company?
>>

Risk	Prevention activities included in plan	Fall-back Activities

5. Other

<< Describe here everything that is relevant but that you cannot put elsewhere in the document.>>