Gemeente Eindhoven

Project plan

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PROJECT PLAN GEMEENTE EINDHOVEN

Company	Gemeente Eindhoven
Company supervisor	Michiel Oomen
School	Fontys ICT Hogeschool
	Minor Data Driven Business Lab
Content coach	Jo-Ann Kamp
Process coach	Mr. Rob Verhoeven
Students	Gergana Agorastva
	Remco Bisschops
	Femke Boogerd
	Nikita Gavrilov
	Yaniek Martens
	Lieke Nijs
	Victor Plesciuc
	Ilya Tsakunov
	Aleksandr Vereshchagin

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1 INTRODUCTION

In the next 5 months, Datastic will help the municipality of Eindhoven with a project regarding sports in Eindhoven. The municipality of Eindhoven has commissioned research for a sports application. In this application, residents of Eindhoven will find information about sports.

To start this research, a project plan must be drawn up. That plan is described in this document.

The plan starts with background information about the municipality of Eindhoven and the current problem definition. After that, the project is defined by means of a goal, intended result, the scope, research questions and the approach with the accompanying deliverables. Then the project management is described. In this you can read how the communication is going, what the risks are and what the planning of the project is.

2 CONTEXT AND BACKGROUND

The city of Eindhoven like we know it today can be traced back to 1232. Where it received its city and market rights from Duke Henry I of Brabant (De geschiedenis van Eindhoven, sd). In 1900 as a result of the industrial revolution, with now big international companies like Phillips and DAF on the front, did Eindhoven attract more citizens. In 1920 was the current municipality of Eindhoven created. This is from a merger between the original municipality of Eindhoven with the surrounding municipalities of Strijp, Woensel, Gestel, Tongelre and Stratum. In 2019 did the municipality consisted of 1824 employees. What started as a small settlement grew in the next millenniums into a city with more than 235 thousand inhabitants. With big international companies, like DAF and ASML, who operate from Eindhoven a lot of this inhabitants are non-Dutch. Of the 235 thousand citizens only 62,5% are native to The Netherlands.

In this day and age citizens expect increasingly more transparency, accessibility and responsive services from their government (Gemeente Eindhoven). This can only happen by responding to citizens' wants and needs. The municipality of Eindhoven wants to create a platform that makes it as easy as possible to find the sport & facility activities that match the citizens' specific preferences. The platform will be used for all citizens of the city. To get the most out of the platform, there has to be some research on the current mismatches. Therefore, did the municipality created target groups to start customer journeys with. In this project can't all customer journeys for all the target groups be looked at. Besides serving every citizen in the city, there also are two defined specific target groups where in this project can take a deep dive into their customer journey. These defined target groups are expats and youth from 12 years.ExpatsYouth > 12 years

Municipality Eindhoven decided to choose expats/internationals as a target group because they are very much skilled to use digital tools but are not familiar with the Dutch sports system. A tool that gives them quick and easy insight into their sport needs, could therefore be very impactful for them. The government hopes people will do sports during their entire lifetime. The municipality does know that doing sports at a young age improves the chances that people will do sports when they're adults. Therefore, the second target group is the youth. This project will focus on children of 12 years and older, because it turns out that many children stop doing sports in this category.

That's why municipality Eindhoven has started to research user needs of the citizens of Eindhoven. The municipality hired Bureau Moeilijke Dingen to research the user needs of expacts and in what way this can be met. They came up with a concept of an app where the citizens of Eindhoven can easily find information about sporting events (Gemeente Eindhoven). To make this app and integrate this they made a project plan where they work in phases. In phase 1 all the sport offers will be brought in scope and there will be looked at the matchmaking aspect of the app. Also, does phase 1 consist of law and ethic. In phase 2 there will be looked at the central platform with integrated platforms while also maintaining control of privacy and with transparent AI. The last phase will consist of the development of the digital economy. This project will focus on the first phase.

Problem analysis

Currently, the available sports information doesn't meet personal preferences. It takes quite some work to find the sport facilities that match the personal preferences. Research has shown that it is not always clear what the offer of sports in the environment looks like.

The municipality Eindhoven owns the websites eindhovensport.nl and Eindhoven365 owns thisiseindhoven.nl where information is offered related to sports. There are also external websites where information about sports can be found (Eventbrite.com and meetup.nl).

The information is spread over multiple websites which leads to the problem that there are no clear overviews of the events.

The main problem is that this information is not personalized, making the correct information more difficult to find. Personalization should provide even more overview for the best possible way to find sport information. This leads to a less user-friendly website than desired.

The desired situation will contain 4 aspects: Automate supply, Law and Ethics including GDPR, personalized profile and location focused. (Figure 1)

Figure 1 Desired situation

Web scraping is suggested as a mean to get better results. The desired method is shown in the figure 2. By applying this, data from all kinds of sports websites can be collected.

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Figure 2 Webscraping desired situation

The desired situation is that the user has control over his/her own data on this platform or another place to guarantee privacy in the platform. The desired outcome has to be that the user has control over his/her own data, where the best security and privacy protection is created with good performance.

In order to take the location focused aspect as well, In the desired situation visualizing the activity in the city can have an empowering effect on the inhabitants. It offers them a data source that supports them in making decisions. In figure 3 there is an example of how it can look (Gemeente Eindhoven).

Figure 3 Location desired situation

3 PROJECT DEFINITION

In chapter three, the project will be defined. The project goal will be stated in 3.1, whereafter the intended project results and scope be described. After that, the research question is stated, and the plan of action is described. Finally, the end deliverables are mentioned together with the production composition structure.

3.1 PROJECT GOAL

The upcoming months until January, an advice based on a proof of concept to enable Municipality of Eindhoven to create a platform with matchmaking process will be given. This advice will be supported with observation on aspects like the end user's needs, data collection, law & GPDR and ethical responsibility of a matchmaking process.

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3.2 INTENDED PROJECT RESULT

At the end of the project, the goal is to deliver an advice and improvements of matchmaking process supported by cleaned, analysed, and visualized proof of concept and the final user's requirements research results. This advice is supposed to help the Municipality to create an assignment and specifications for future development of the Eindhoven sport web platform to hand it over to third-party development team.

3.3 SCOPE

The Datastic company will validate previous findings and provide backend solutions for the municipality. The Datastic part of the project will be finalized before the 15th of February 2021.

3.3.1 Functional areas in scope

There are a lot of functional areas that might be important in later development of the company rather than the initial phase and creation of it.

Key functional areas in the current scope of the project would be:

- **The target audience** of this project are citizens of Eindhoven who are willing to participate in sports activities. The scope includes all age groups, genders, and nationalities.
- **Data gathering**, the Datastic company needs to aggregate data from open sources for future analysis.
- **Data cleaning**. The aggregated data needs to be sorted out, cleaned, and prepared for the analysis.
- **Data analysis**. Data needs to be analyzed to find correlations, KPI's and interesting solutions.
- **Data storage**. The data must be stored in for following processing.
- **Building network,** is the goal for this project to simulate and test the concept in the working environment.
- **Ethical considerations.** Since the project will affect the welfare and wellbeing of the society the ethical concepts and dilemmas will be carefully investigated.
- **Customer journey.** The company need to validate the concept by performing the interviews and questionary with the end user**.**

Functional areas that are out of the current scope of the project:

- **Documentation in Dutch language**. All documentation will be provided in the English language since the company consists of experts from different countries.
- Datastic will **not provide fully working application** but proof of concept.
- Datastic will **not provide maintenance** of the future application.
- Datastic will **not provide** proof of concept for **phase two and three** of the initial project.
- Datastic will **not provide law investigation** of the subject since another party is doing it.

3.3.2 Organizational scope

The project team consists of six people and one content coach which helps the project team when necessary. The most people that are involved in this project are Remco, Nikita, Yaniek, Femke, Lieke and Alexandr. Also, there is a process coach which can help the company to keep on track with the project. The project is owned by the Municipality of Eindhoven.

3.3.4 Technical scope

The Municipality of Eindhoven has the concept of the final solution. The application where the user can choose the right sports activity for themselves by answering the questions regarding their interests. The concept is using the matchmaking concept where the user's scopes down their interest. In the end, the application advises its users on sports activities as well as some news regarding sports events in the city.

3.3.4 Application scope

The key data analysis and network building will be done by using the appropriate software such as the Anaconda navigator environment for Python and Power BI business analytics tool. All documentation will be provided in MS Word application.

3.3.5 Geographic scope

The project is fully focused on the city of Eindhoven. The application is designed for the 235 thousand citizens of Eindhoven which will be the potential end-users. The sports clubs and sports events from which the data is stored are located Eindhoven as well.

3.4 RESEARCH QUESTION

For the research, the following research question is made:

How can municipality Eindhoven create a platform with integrated intern and extern data for citizens of Eindhoven to find and fulfil their sport needs with matchmaking?

Sub questions:

1. What are the end users' requirements for a sport platform?
2. How can sport activities that exist on different websites be combined?
3. What is the most suitable matchmaking technique to show user's sport preferences?
4. How can the chosen matchmaking technique be implemented to display the user's sport preferences?
5. How can the matchmaking be ethically responsible and transparent?

3.5 PLAN OF ACTION

The table below shows the approach used during the research. The approach is based on the ICT research methods. This method provides support for structuring research activities for each research question (ICT Research Methods, sd).

	Sub question	Research strategy	Method	How?
1.	**What are the end users' requirements for a sport platform?**	- Field - Workshop	- Interview - Focus group - Requirement prioritization	With a field research, interviews with citizens of Eindhoven will be held to find out what their requirements are. The focus group consisted of peer students from Eindhoven can be used for short discussion of the concept.
2.	**How can sport activities that exist on Eindhoven Sport website be combined?**	- Library - Workshop	- Literature study - Best, good & bad practices - Expert Interview - Prototyping	The literature study will be used for searching for available methods to gather data from Eindhoven Sport website. Later, the practices for each method will be implement. Next, the expert interview will be done to hear someone's opinion and at last the company tests the best method using a prototype. The requirements of this prototype will be asked to people from municipality Eindhoven.
3.	**What is the most suitable matchmaking technique to show user's sport preferences?**	- Library - Steppingstone - Lab	- Literature study - Best, good & bad practices - Data analysis - Persona	First, Datastic is doing literature study to identify the different types of matchmaking. After that, Datastic is finding the best good and bad practices for each matchmaking types. During data analysis data of sub question two will be analyzed to see which type fits the most. After that persona's will be used to go through every matchmaking type, to see which one will be the best.
4.	**How can the chosen matchmaking technique be**	- Workshop	- Prototyping - Ideation	Develop, evaluate, or communicate a concept or design.

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implemented to display the user's sport preferences?			Generate and develop new ideas. The requirements of this prototype will be asked to people from municipality Eindhoven.
5. **How can the matchmaking be ethically responsible and transparent?**	- Library	- Literature study - Expert Interview - Expert Review	The investigation on ethics part will be done from the open sources at the beginning to study best practices. The ethical dilemmas and considerations that company will face during the lifetime of the project will be discussed with the experts who have knowledge in this field and can consult the company and give advice. Datastic will also attend an ethical workshop on 15 December that is provided by the municipality.

3.6 Deliverables

Product 1: Project plan

A project plan is essential at the start of every project. It serves as the foundation for the entire project, establishing rules for the entire duration of work. It also includes some of the most important parts, such as a plan of action, an explanation of the deliverables, a project goal, various analyses, and so on - all the activities, tasks, and resources that will be used to complete the project.

Product 2: Research report

The first product will be the research report. In this report all the sub questions are mentioned with the methods that are used. Based on these research methods all the sub questions can be answered to finally give an answer to the main question. Based on the whole research an advice and recommendations will be given to municipality Eindhoven.

Product 3: Proof of Concept (PoC)

The key aim is to create a concept of backend part for an application, where the data from external websites Is stored, cleaned & analyzed. This data will be used to be shown in the front-end application (Not our scope). We will try to connect the external data to the current prototype of BMD.

Another part of our prototype will be the matchmaking method. Datastic will use the matchmaking method to show the personalized data based on the preferences the citizen choose. The personalized data is the data based on the user's preferences. BMD already created a prototype where swiping will

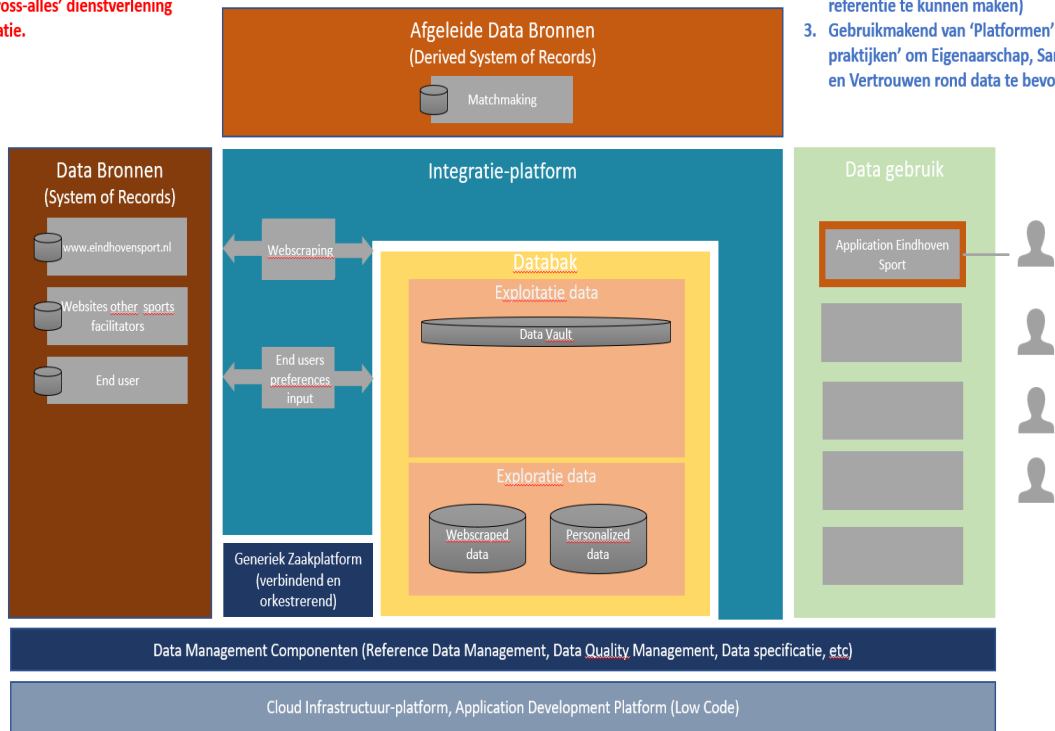be a part of the matchmaking. Datastic will connect their matchmaking method to the current prototype.

Underneath in Figure 4 the structure of the prototype is shown. It has an overview of the data parts that are used and how they are connected to each other.

Figure 4 - Covered parts prototype

3.7 PRODUCT DECOMPOSITION STRUCTURE

Underneath the Product Decomposition Structure is shown. The main product of this project is the proof of concept. Based on the research report the proof of concept can be created. The Proof of Concept has two subproducts, which are the external data part and the matchmaking part. These two parts combined will be formed together as deliverable number three, the prototype.
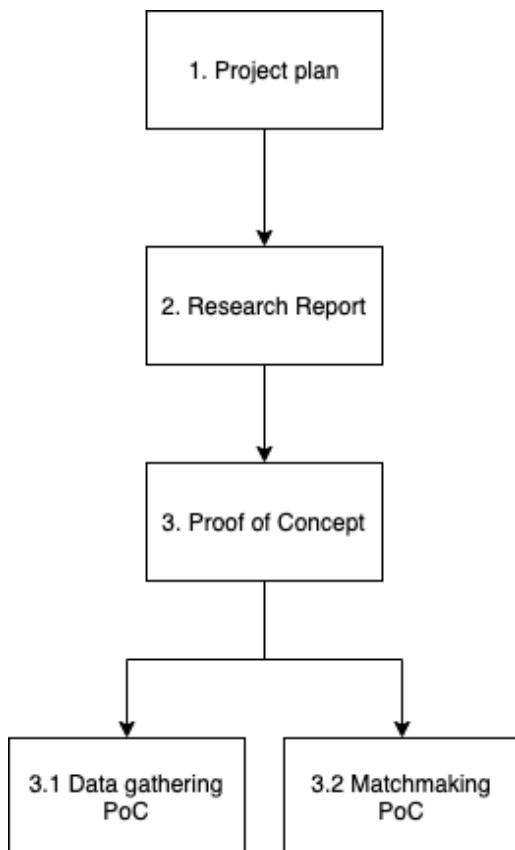
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          ┌─────────────────┐
          │ 1. Project plan │
          └────────┬────────┘
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          │ 2. Research Report│
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          │ 3. Proof of Concept│
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┌──────────────────┐ ┌──────────────────┐
│ 3.1 Data gathering│ │ 3.2 Matchmaking  │
│       PoC         │ │       PoC        │
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Figure 5 5 - PDS

4 PROJECT MANAGEMENT

In chapter four, the project management will be discussed. First, the preconditions are mentioned, after which the project organization is explained. In 4.3, the communication between Datastic and Gemeente Eindhoven can be found. Lastly, the different risks that are applicable to this project are enlighten.

4.1 PRECONDITIONS

Underneath are the preconditions mentioned that are involved to this project. All these conditions must always be true to the execution of this project:

1. Case study: Team members have a broad idea of the project's scope
2. Role division: All the team members have defined roles within the company
3. Backlog: A tool used to track progress during the project where all products are shown
4. Time planning: Certain goals are mentioned in the planning, and they need to be accomplished during a specific timeframe

4.2 PROJECT ORGANISATION

In Figure 6 the project organisation is shown. The project group exist of 6 members who all participate with their own role.
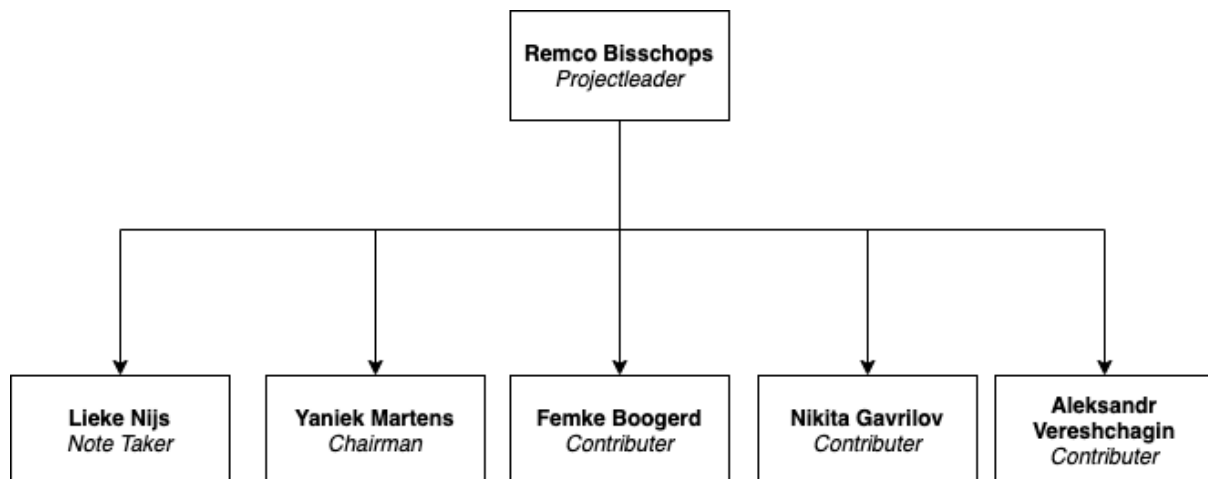

Figure 6 - Project organization

In Table 1 - Role description a description is added for each role.

Table 1 - Role description

Role	Description
Projectleader	Manages the team, make sure the deadlines are met and the deliverables are sufficient
Chairman	Meeting coordinator, spokesperson for the group
Notetake	Takes organized, legible, and typed notes every meeting
Contributer	Contributes to the project by working on every deliverable

4.3 COMMUNICATION AND CONSULTATION

The communication between Gemeente Eindhoven and Datastic will predominantly be via Microsoft teams and email. In case of a physical meeting, the COVID-19 requirements will be considered. Underneath in table 2 every way of communication is explained.

Table 2 - Communication plan

Communication	Goal	Tool	Frequentation	Audience
Kickoff Meeting	Project introduction, goals and defining deliverables	MS Teams	Once	Project team & Stakeholders
Project Team meeting without Gemeente Eindhoven	Progress discussion with daily tasks	MS Teams or physical on location	Every day	Projectteam
Weekly project meeting with Gemeente Eindhoven	Inform the projectteam and stakeholders about the progress and ask questions	MS Teams	Weekly	Project team & Stakeholders

4.4 RISK MANAGEMENT

In order to find out where the risks are regarding this project, a PESTLE analysis (Morrison & Weeks, 2020). This is a framework where different key factors that influence the organisation from the outside can be analysed. For this project, the key factors that will be used are described in Table 3.

Category	
P	Politic
E	Economic
S	Social
T	Technological
L	Legal
F	Financial

Table 3 categories PESTE analysis

Typical Risk Management is usually considered in 2 aspects: probability and impact. Both aspects were divided into 3 levels: Low, Medium, High. These are both shown in Table 4 and Table 5.

Probability	
L	Low
M	Medium
H	High

Table 4 probability

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Impact	
L	Low
M	Medium
H	High

Table 5 impact

For each risk were identified probability and impact and depending on these indicators risk level was determined. The risk levels are described in Table 6

Probability	Impact	Risk level
Low	Low	Low
Low	Medium	Low
Medium	Low	Low
Medium	Medium	Medium
Low	High	Medium
High	Low	Medium
Medium	High	High
High	Medium	High
High	High	High

Table 6 risk levels

The most common ways of risk mitigation are shown in Table 7.

Risk Mitigation	
Av	Avoidance
Acc	Acceptation
S	Sharing
R	Reduction
T	Transfer

Table 7 risk mitigation

Based on initial information about the project, the following risks were defined. Table 8 is not final and will be expanded as new information well be received.

ID	Cat.	Risk	Prob.	Impact	Level	Mitigation	Actions
R1	L	Data Leakage	M	H	H	Av	Improving privacy
R2	F	Exceeding the project deadlines	M	H	H	R	Planning in advance
R3	S	New wave of pandemic	M	L	L	Acc	Preparing based on previous experience
R4	T	Not in line with ethics and law	L	M	L	Av	Regular checks with another student group

Table 8 project risks

The first risk is data leakage. If personal data is used, the risk level is very high. This should be avoided by improving the privacy and making sure the probability will lower from medium till low. The second risk is exceeding the project budget. When the budget is exceeded, the project cannot be executed properly so this should be avoided. This can be done by planning in advance. The third one is a new pandemic wave. This does have an impact on the project. However, there is already a hybrid between online working and physical meetings. In case of a new pandemic wave, this will go more to online

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working. Another important part and a risk are the ethics and law. It is important to make sure that the data that is used in the right way. There is another student team from the ethics and law department that focusses on this part. With regular check-ups with these students, this can be avoided.

4.5 GLOBAL PLANNING

For the planning, a Gantt chart is used to keep track of the progress that is made. The planning is visible in Figure 7.
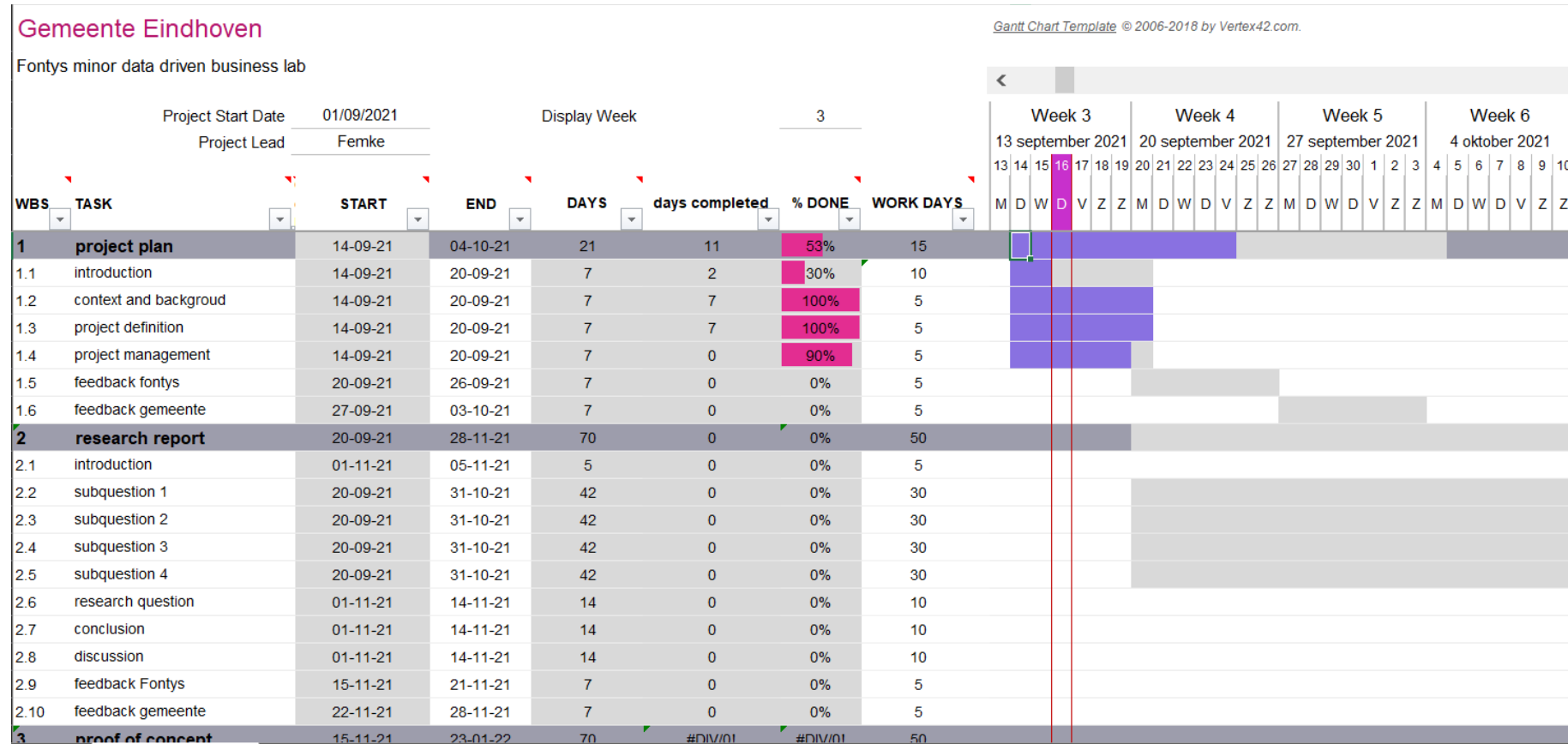

Figure 7 global planning

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