7ᵗʰ - Semester Final Exam Report

Project Name: Envienta™ - Platform v2.0

Project period: 2017. October 10. - 2018. January 5.

Submitted to: Zealand Institute of Business and Technology (ZIBAT)
Education course: 7ᵗʰ - Web Development

Project Supervisor: Vibeke Sandau

- From Abstract to Bibliography -

| [Pages: ~50] | [Words: 23.841] | [Characters: 143.688] |

[Characters (without spaces): 120.284]

Team:

Mate Molnar:
- **CPR:** 110393-3685
- **Email:** matemolnar88@gmail.com
- **Birth date:** 11/03/1992
- **Signature:**

Hunor Vadasz-Perhat:
- **CPR:** 181285-3399
- **Email:** hunor.vadasz@gmail.com
- **Birth date:** 18/12/1985
- **Signature:**

In partnership with: http://beta.envienta.org/ **(Sample link)**

Special Thanks for Envienta™

We would like to take this opportunity to thank you for your cooperation and support for our Final Exam Project to be completed. Thank you for taking the time to speak with us and helping us in several times.

For Gabor Kiss

It was a pleasure working with you, and I truly enjoyed learning more about the role and the Envienta™ association. After our cooperation, I am confident that my skills and experiences are a great match for my future opportunity.

- Mate Molnar

Table of contents

Abstract

The purpose of the project is to describe how we would be working on creating a website for the non-profit organization called Envienta. The problem formulation is the following:

"Creating the front-end of the non-profit organization called Envienta and deciding on the possible solutions for its implementation"

The content of the report is wrapped into the project management process. In the third stage which is the Production we divide the problem formulation into two subparts. The first part is focusing on the design considerations and processes. The second part is focusing on the considerations regarding the different technologies of the implementation of the design and the functionalities of the platform. Regarding the methodology as the main feature we use the Project Management model.

Within this model we focus on the Design Thinking process which would be answering the first part of the Problem Formulation and for answering the second subpart of the Problem Formulation we would use the theoretical and practical knowledge we gained through our Web Development studies to compare, analyse and argue for the best possible technology that would solve the particular problem. As a conclusion we can say that by now we can see the advantages and upcoming possible issues by working with a start-up initiative. One consideration is that project management as the company and its different departments grow need to be considered as one of the main focus.

Introduction

Introducing the problem

In our modern times we are faced with several challenges on various aspects on a local and global scene as well. This modern era is indeed a transitional period where humanity is faced with problems that occur at the same time and as we live in an ever changing and more globalized world the consequences affect the whole. In order to have a better grasp we will name a few of the burning challenges we as humanity face: after the financial crisis of 2008 it suddenly became real that idea of infinite growth for the sake of growth is not a maintainable and sustainable economical model for the future. We might read from time to time articles in economic newspapers that mention that there is an abundance of money on the market so there is nothing to worry about.

But it is not mentioned that even though the figures proves their point it is also a fact that the gap between the rich and the poor is growing year by year and that the distortional economic inequality is vanishing the middle class and creates social divisions within societies. Last but not the least I would like to refer to the ecological footprint. Due to our consumer behaviours figure shows that the average world citizen has already crossed the global biocapacity and the unsustainable lifestyle is depleting the stocks of the natural capital. These are just a few examples to illustrate the problems humanity needs to face.

Startups and nonprofit organizations are tackling the biggest issues of our time but Envienta has created a unique and holistic approach in open source development. It realized that there is a power in the collaborating P2P communities. Working together with these communities can create a new model that would have the potential to raise the standard of living for humanity.

Description of the company

In the following we will describe the company and explain some special terms that would need a simple and brief explanation. We do this with the aim to give a more general overview so that the reader could understand the problem formulation and the context in which we were solving the problem.

Envienta is a non-profit association registered in Spain, Canary Islands in cooperation with the local governments and residents. Envienta in its core is a socioeconomic model. It is a holistic approach that is sustainable and decentralized. The aim is to provide possible solutions in order to satisfy the basic human needs in our modern and ever changing world. Such needs as food, water, energy, household etc. depend on a lot of different conditions.

As being an open source model it offers full transparency. The model makes it possible for the individuals to express their creativity and share their experiences and ideas to the common good. This type of social production is based on cooperation and mutual help.

As an alternative lifestyle it affects different aspects the daily life both on a smaller and larger scale:

- **Smart home:** in smart homes web-based and cross-platform interfaces and APIs for various devices are used to maximize the comfort, security and energy efficiency. There is an ongoing collaboration with partners of Envienta through open source division of products and services.

- **Renewables:** there is a rising trend for renewable technologies to become open source. One of the suppliers provide the product called AkkuFesh. It is raising the charging the ability of the Li-Ion batteries and maintains an optimal battery life.

- **Smart garden:** with homegrown vegetables it possible to reduce the amount of soil and water usage. Envienta designed a 3D printed aeroponic system that can be monitored and tracked via a mobile app.
- **3D printing:** the goal is to make available the millions of free 3D models for homeowners who can later on customize the blueprints with open source softwares and 3D printers.
- **Sensors:** the coming sensor age is going to have huge positive effects on economy, environment, health and security. Envienta has cooperation with startups that develop open source health diagnostic devices that are affordable for everyone.
- **Robotics:** the project is focusing three directions of household robotics which are entertainment, home appliances and education.
- **Nanotechnology:** one of the business partners play an important role in the field of nanotechnology with household applications. Nanotechnology in its full potential can drive the 4th Industrial Revolution where matter can be manipulated as a software.
- **Currencies:** the goal is to create a financial transaction similar to Bitcoin that would enable private blockchains with managed permissions.

As a start-up initiative Envienta needed a website. Here is how we come into the picture. We believed that our former education, being Multimedia Design and Communication, and our current education, being Web Development, gave us the necessary theoretical and practical knowledge to contribute to the web development at the company.

Special terms

In order to have a better understanding until this point we would like to describe some special terms briefly here:

BlockChain: it is based on a consensus of shared, replicated and synchronized digital data. This data is spread across countries, institutions and multiple sites. The digital data records transactions between parties in an efficient and verifiable way. The list of such records keep growing continuously and are linked together by using cryptography. Cryptography provides a secure communication and prevents from third parties.

CryptoCurrency: it was designed to function as a modern barter system that is using cryptography to secure the transactions and to control the creation of units in the digital space. It is also referred to as a digital or virtual currency.

BitCoin: it is the first decentralized cryptocurrency that was created back in 2009. The technical system was created by an individual known as Satoshi Nakamoto.

P2P: peer-to-peer networking refers to a distributed application architecture. The advantage of such an architecture is that the peers are equally privileged in the application and that virtual communities can self organize themselves and cooperate as a whole while sharing resources.

Problem formulation

"Creating the front-end of the non-profit organization called Envienta and deciding on the possible solutions for its implementation"

In order to have a better understanding of the problem formulation we would like to give a short context. First of all we would like to state that the type of our project is Web design and development. As one of our method we decided to divide the nature of the project into two parts that play an equally important role. **The first part is focusing on the actual design considerations and processes. The second part is focusing on the considerations regarding the different technologies of the implementation of the design and the functionalities of the**

platform. In our dissertation we will describe and argue for the processes and the choices we made regarding the design and its implementations.

In the process of Interpretation which is the second part of Design Thinking Process and comes later in the dissertation we write down the process of how we defined the problem formulation we are striving to address and solve in details.

Methodology

As a starting point we divided our dissertation into two main parts. The first part is considered with the project management and the design thinking process meanwhile the second part is considered with the consideration and argumentation for the technologies regarding the implementation of the design.

The first part is built upon a project management tool which consists of 5 parts. The 5 parts are the Initiation, Planning, Production, Monitoring and controlling, and finally Closing. Within the project management we use and embed other methods in the working process. In the Planning section we use the Belbin's Team Roles Model to identify the roles and responsibilities between us. In the Production section we use the Design Thinking Process which consists of 5 steps. The 5 steps are the Discovery, Interpretation, Ideation, Experimentation and Evolution. In the Discovery phase we use various methods to collect data. We use two main types of data which are primary and secondary and as for data collection we use quantitative and qualitative data. In the Interpretation phase we use 3 requirements to define the problem formulation. Besides, we use the Space Saturation and Group Diagram method to interpret the collected information in order to create a Persona that describes the user of the website and the 3-ring-target which describes the core values and philosophy of the company.

In the Ideation phase we use the "How Might We" questions and Analogy method to generate ideas. Besides that we ideate on our choice of colors and describe further on the logo design and the signup page. In the Experimentation we create various kinds of so called products such as paper prototype, mockups that can be later on used in the next phase. In the Evolution we use usability test methods that are described regarding their nature in the particular design process phase. In the Monitoring phase of the project management we describe 3 parts which are measurement, evaluation and correction and give an example in which show why the monitoring process is important and how we use it in our working process. The Closing part is formal ending of the project where do the necessary practicalities for finalizing the project that would live up to the demanded requirements.

The second part as far as methodology is concerned is focusing on listing various web technologies for the implementation of the design and the argumentation for choosing one technology over the other.

Content

1.1 - Project management

Project management tool(s)

The primary challenge of the project management is to monitor and achieve the project goals and constraints. The primary constraints in our case is scope, time and quality. The secondary challenge is to optimize the allocation of necessary inputs and to integrate them to meet the predefined objectives of the institution hereby ZIBAT, Campus Roskilde.

For project management we use the approach that consists of five developmental components. The five distinguished components are the following:

- Initiation
- Planning
- Production
- Monitoring and controlling
- Closing

1.1.1 - Initiation

In the initiating process the goal is to determine the nature and scope of the project. This stage is particularly important for us so we could fulfill the requirements and goals. This stage includes a plan that serves with the goal of encompassing areas such as the problem formulation and reaching the project requirements. As for our problem formulation we state it as the following:

"Creating the front-end of the non-profit organization called Envienta and deciding on the possible solutions for its implementation"

For a more detailed description and further information on problem formulation please refer to the previous part called Problem Formulation and the later part called Interpretation which is the second phase of the Design Thinking Process. Thereby the problem formulation is put into a context with the aim of assisting the reader for a better understanding.

The second area on which the initiating process is focusing on is how to make an analysis that would make it possible to reach the project requirements and our goals in measurable units. As a result of our meetings with our supervisor from Campus, Roskilde and the creative team of Envienta we come to the conclusion that creating a fully developed solution on how to tackle the problem formulation would go beyond our means in several fronts such as time and resources. Designing and implementing a front-end of a website with such complexity as Envienta would take more time than the given period for writing our Bachelor Project. By resources we mean to refer to human resources. The project would need more developers with various knowledge of related fields.

Due to the restraints and considerations stated above our goals needs to be compromised in such a manner that the report and the product we are planning to come up with would fit into the time frame and the report requirements stated in our syllabus.

1.1.2 - Planning

After the initiation stage the project is planned to an appropriate level of detail. The main purpose is to plan time and resources adequately to estimate the work needed and to effectively manage the goals during the project execution.

The project planning stage consists of the following:

- Determining the goals
- Determining the deliverables and the products
- Developing the schedule/time plan
- Determining the communication
- Determining the working platforms
- Identifying the roles and responsibilities

1.1.2.1 - Determining the goals

In our report we are aiming at getting to know the users of the website. In order to do that we will gather information, analyze it and draw the conclusions that will enable us to argue for the choices we will make in the design process towards the company. Besides, we will argument for the decisions we make during the implementation of the design through various technologies.

We are planning to fulfill the requirements for the deliverables and the products that ZIBAT, Campus Roskilde stated for their students.

1.1.2.2 - Determining the deliverables and the products

Our deliverable is going to be the report and the product is going to be the website. Besides the website we will showcase other products, such as sketches, wireframes, mockups etc., that will be the results of the design process.

1.1.2.3 - Developing the schedule/time plan

A	B	C	D	E	F	G	H	I	J
Week									
No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10
Planning									
	Discovery & Interpretation								
			Ideation						
					Experimentation				
							Evolution		
								Ideation	
									Closing
								Working on the website	
			Development						

1.1.2.4 - Determining the communication

During our bachelor project we define the communication that would take place at two dimensions. The first dimension is our school since we have supervisions with Vibeke Sandau and the second one is with the company we are working for namely Envienta.

1.1.2.4.1 - Communication with our school and supervisor

The first supervision takes place at 10th of November with Vibeke Sandau. The aim of the first supervision is to figure out how far we are with our project and to name and solve any problems. The conclusion of the meeting is to put together a general structure according to the documentation on "How to write a dissertation", start with producing content and send it to Vibeke Sandau so we will be able to look at and see if we are on the right track and if our problem formulation and the general structure is fulfilling the requirements.

The second supervision takes place at 24th of November with Vibeke Sandau. The aim is to go through the already produced structure and content. There are several conclusions of this meeting. The first is that we need to rewrite our problem formulation since it is not clear and refers back to our Internship period without stating clearly that this bachelor project is not a continuation but a blank one. The second one is that it would serve better the storytelling if we change the tense from past to present. Thirdly, we clarify how the Methodology part should look like.

Lastly which plays an important role regarding the structure of the design thinking process and project management is that we keep the project management as the main the structure for the first part of the report and include the design thinking process in the project management. To be more precise we will include the 5 steps of the design thinking process in the production part. This way we can reach an effective symbiosis between the design thinking process and the project management instead of treating them as separate entities.

The third supervision takes place at the 11th of December with Vibeke Sandau. The aim is to go through the comments and see if further changes need to be made. The main conclusion of the meeting is that we would need to use images or screenshots to demonstrate the development of the website and to create a structure with a numbered list approach.

In the upcoming section we will reflect on the process of the communication with the school and our supervisor, Vibeke Sandau and mention how the communication went in a general term and point out the challenges and how we solved them.

1.1.2.4.2 - Summary on the communication with our school and supervisor

We can conclude that we had a good and effective communication with our supervisor, Vibeke Sandau. Her comments and insights helped us to improve our report and ideas along the way so that we would fulfill the requirements and learn as much as possible. We were glad for her cooperation and hereby would like to say thank you for the effort she made for our project.

1.1.2.4.3 - Communication with the company

The communication with Envienta takes place on different levels. First of all we keep a close contact with the owner and cofounder of the company. All of our ideas, considerations and personal matters are discussed with him. On the other as he is also an IT expert with many years of experience therefore he actively participates in the meetings of the creative team where he gives his opinion on the considerations regarding the design and other practical matters.

The other level is with the above mentioned creative team. The creative team of Envienta consists of members who have a different background from being a software developer to being a marketing specialist. Finally the third level is one where we have a closer working relation to two individuals namely Gabor Kiss, owner and cofounder and Laszlo Fazekas, lead software developer.

We think that the active communication with these two professionals contribute a lot to our working process. The reason is that the main structure of the dissertation is divided into two big parts. The first part is about the project management but more importantly the design thinking process and here Gabor Kiss with his years of experience can assist us in getting to decisions to their highest potential. On the other hand Laszlo Fazekas as a lead software developer in the Envienta project can help us in the process of argumenting for the possible technologies we have in mind. This part is the second part of the dissertation.

In the upcoming section we will reflect on the process of the communication with the company and mention how the communication went in a general term and point out the challenges and how we solved them.

1.1.2.4.4 - Summary on the communication with the company

Since the members of the creative team that we were working together with are located in different parts of Europe and the fact that each member had their own daily life with various responsibilities such as job, family, daily tasks we think it is important from our point of view to reflect upon the communication flow with and within the creative team that we experienced.

During the period of writing the bachelor project we were closely working together with a creative team of Envienta. It is important to mention that two members of this group played an important role in our working process. One of them is Gabor Kiss who is the chairman and co-founder of the organisation. Gabor is also an architect and IT expert by profession. He provided us the necessary information and already made materials so that we could get a better understanding and could start working on the project itself.

The other person is Laszlo Fazekas who is the lead software developer in the team. Due to the fact that we live in different parts of Europe we had regular meetings on various digital platforms (such as Facebook Messenger, iMessenger, Zoom). The topics of the meetings varied as we progressed in the process. The expertise of the two individuals helped us to discuss problems and the possible

solutions. During these discussions we referred to the knowledge and experience that we gained during our studies (both Multimedia Design and Communication, AP and Web Development,TOP-UP).

The advantage of this type of communication is the flexibility which enables the team members to be able to plan the upcoming tasks according to their daily routine.

On the other hand we experienced a few drawbacks as well. One challenge was the geographical distance since we live in different countries within Europe and the time-zone differences that result from it. Since the members have a different daily routine we needed to find dates that would fit all the members that were needed to discuss a certain issue. Occasionally it resulted in delays in the working process. In such cases we looked upon the upcoming tasks and started to generate some ideas for possible solutions. During the meeting we went through the particular tasks and the ideas we generated.

Even though there were concepts and ideas that were already made the creative team treated us as equal partners whose ideas and comments were valuable and we also got a free hand for experimentation.

1.1.2.5 - Determining the working platforms

For storing relevant documentations we use Dropbox as a file hosting service. As a creative space it brings all of our files together in one central place and makes accessing them anytime, anywhere easy and safe. Here we store the relevant documentations about the philosophy of the company, models about possible user scenarios, ideas for logo design, information on the KICKICO fundraising platform, relevant books, documents on Creative Common License etc.

As a Git client and for productivity we use Tower[1] to manage our version control in the process of writing the code with the Laravel templating system, Blade. Tower is a designed for ease of use and the interface makes even complex Git tasks easy. It is a technology that we start to use during this project but it has a gradual learning curve and it is a reliable tool for us in the long term.

In order to have an overall overview on our tasks and development we use a web based project management application called Trello. As an alternative we consider other possible solutions such as Asana[2]. As both technologies are popular project management technologies we do a comparison between the two solutions in order to figure out which one fits our needs better. Asana is a powerful to-do list. It allows to add tasks, organize lists and manage projects. It can be inflexible and does not let to assign a task to multiple people.

Trello is a powerful Kanban board. It makes it possible to move tasks from left to right through customized steps in a process. It is flexible and easy to get started. However, it does not make it easy to connect different boards and can get complicated to manage in a larger company. We decided to use Trello for its easy to use and intuitive interface. It gave us a visual representation and a general overview over the tasks we need to accomplish. Besides Trello is a great tool for teamwork and collaboration. It works smooth and great cross platforms and browsers.

In the future ENVIENTA might need to change to another technology since they would have more developers and professionals to join the team. As the team which would combine different and related fields would be significantly bigger Trello would not fulfill the needs of a growing company with more complexity. For such a purpose we advise another tool called Hive[3]. It is a tool that combines both communication and project management on a more advanced level. Hive is a great tool for that. In a simple and clean interface Hive combines chat, project management and file sharing on a simple dashboard. It is completely drag and drop and also includes a Trello style card view for those who prefer to manage tasks that way. It has a free trial but as the company grows

---

[1] Official site for Tower - https://www.git-tower.com/mac/
[2] Official site for Asana - https://asana.com
[3] Official site for Hive - https://hive.com

this investment would benefit the company and unite the different working departments for a better performance.

1.1.2.6 - Identifying the roles and responsibilities

For identifying the roles and responsibilities we use Belbin's Team Roles Model[4]. As a result of our previous cooperation in different projects we know that each of us as individuals gravitated towards certain roles when working in a team context. Therefore before starting our project we sit down and divide roles among us so that we would make sure the positive and timely outcome of the task. Each team role is associated with typical behavioral and interpersonal strengths. Our group consists of two members with different strength and weaknesses on different areas.

Belbin identified nine team roles and categorized those roles into three groups: Action Oriented, People Oriented and Thought Oriented.
Action oriented roles:

- Shapes (SH): shapers are people who challenge the team to improve. In our team this role is taken by Mate Molnar.

- Implementer (IMP): implementers are people who get things done, who turn ideas and concepts into practical actions and plans. In our team this role is taken by: Mate Molnar and Hunor Vadasz-Perhat.

- Completer-Finisher (CF): complete-finishers are people who see the projects are completed thoroughly, who ensure that there have been no errors and they pay attention to the smallest details. In our team this role is taken by: Hunor Vadasz-Perhat.

People oriented roles:

- Co-ordinator (CO): co-ordinators are people who take on the traditional team-leader role. They guide the team to what they perceive are the objectives. In our team this role is taken by: Mate Molnar.

- Team worker (TW): team workers are people who provide support and make sure that people within the team are working effectively. In our team this role is taken by: Hunor Vadasz-Perhat.

- Resource investigator (RI): resource investigators are innovative and curious. They explore possible solutions, develop contacts and are receptive to them and their ideas. In our team this role is taken by: Mate Molnar.

Thought oriented roles:

- Plant (PL): plant is the creative innovator who comes up with new ideas and approaches. In our team this role is taken by: Mate Molnar

- Monitor-evaluator (ME): monitor-evaluators are best at analyzing and very strategic in their approach. They are objective and carefully weigh the pros and the cons of all options before coming to decisions. In our team this role is taken by: Hunor Vadasz-Perhat.

- Specialist (SP): specialists are people who specialized knowledge that is needed to get the job done. In our team this role is taken by: Mate Molnar and Hunor Vadasz-Perhat.

The main goal of such a division is to create balance in the team by developing interpersonal strengths and manage weaknesses. It is also to identify areas of conflict and compensate by

---

[4] Official site for Belbin Team Roles - http://www.belbin.com/about/belbin-team-roles/

purposefully adopting different team role. During our working process we keep an active communication within the team so that we can monitor our progress and help out each other. In such cases it happens that the individual drops out of his role until the particular problem gets solved. It also happens that certains roles get overtaken by the opposite member for a period time. But the through an active communication it is possible to overcome challenges and go back to the original setup.

We could conclude that the Belbin model was not a rigid categorization but rather a tool that enabled us to concentrate on our area of expertise and at the same time work together on various tasks within the goals of our project.

1.1.3 - Production

In the production part we will describe the two subparts of the problem formulation. The first subpart will focus on the design considerations and processes meanwhile the second subpart will focus on the considerations regarding the different technologies of the implementation of the design and the functionalities of the platform.

1.1.3.1 - Design thinking process

We use the Design Thinking as a methodology because it is an approach that is solution based. It is a good tool to tackle complex problems by understanding the human needs and using the data in prototyping and testing. In the following we will go through the five stages one by one.
The five stages are the following:

- Discovery
- Interpretation
- Ideation
- Experimentation
- Evolution

1.1.3.1.1 - Discovery

Understanding the challenge
In our discovery process we understand that this first part is going to be crucial in our human centered design process. The problems we are trying to solve are not individualistic but they are of a particular group of people. The goal is to understand the people to whom we would create new and meaningful innovative solutions. Engaging with users in a direct manner can reveal tremendous amount about the way they think and the values they hold. What people tell are strong indicators of their deeply held beliefs about the way the world is.

As designers we need to build on a solid understanding of these beliefs and values. In the discovery phase we will be - among other - focusing on the process of data collection which is lately then is being used in the interpretation part. To get a better understanding of the company and its users we use both primary and secondary data. The collected information helps us to understand better how we would make a design fitting the needs of the company and the possible users.

1.1.3.1.1.1 - Primary data

"Primary data is original research that is obtained through first-hand investigation. Primary data includes information collected from interviews, experiments, surveys, questionnaires, focus groups and measurements."[5]

---

[5] Primary data - https://www.reference.com/education/primary-secondary-data-5e4a8333252bf73b#

In our project we use different methods to collect the relevant primary data not only to understand the company better but also to get to know the possible users of the platform. First of all we personally conduct interviews with the owner and cofounder of Envienta, Gabor Kiss and other interviewees.

1.1.3.1.1.2 - Secondary data

"...secondary data is research that is widely available and obtained from another party. Secondary data can be found in publications, journals and newspapers."[6] We predicate our analysis on found articles as well so that to extend our knowledge base.

1.1.3.1.1.3 - Quantitative data[7] collection

It is also called hard data which is used to quantify attitudes, opinions, behaviours and other defined variables which can be measured and help to get a clear overview of the problem. In our project the quantitative data is gathered through an interview with the owner and co-founder. The collected responses let us to create a reliable analysis.

1.1.3.1.1.4 - Qualitative data collection

"Qualitative data is when descriptive statements can be made about a subject based on observations, interviews or evaluations."[8]
This consists of the in-depth interview conducted with the owner and co-founder, Gabor Kiss and other interviewees with different backgrounds.

1.1.3.1.1.5 - Validity and reliability

The collected data by all group members is both valid and reliable. We have obtained it using different methods which in this case are an interview with the owner and co-founder of the company and with randomly chosen interviewees.

1.1.3.1.1.6 - Summary

Each of the methods we used in this phase offered us an insight into the possible user`s need and attempted to enhance the understanding of the target user. The data we collected will be looked at and analyzed in the next step of the Design Thinking Process which is Interpretation.

1.1.3.1.2 - Interpretation Interviews, Interview_with_Gabor

The interpretation of the design process is about to focus to the design space. It is our chance to define the challenge based on what we have learnt about our user, the company and about the context itself. The goal is to create a meaningful problem statement. This statement is focusing on insights and the needs of the particular user. The insights come through the process of synthesizing information. Furthermore we will create a 3-ring-target to figure out the core values of the company and we will create a persona.

We use a method for interpreting the results and findings. The method is the space saturation and group[9] diagram. In this method we cover a display with our notes, observations, data, experiences, interviews, thoughts and stories so that we would create a wall full of information. It enables us to draw connections between these individual notes so that we could develop a deeper insights which helped us to define the problem we would like to solve and the possible solutions. To put in a simple term we go from analysis to synthesis.

---

[6] Secondary data - https://www.reference.com/education/primary-secondary-data-5e4a8333252bf73b#
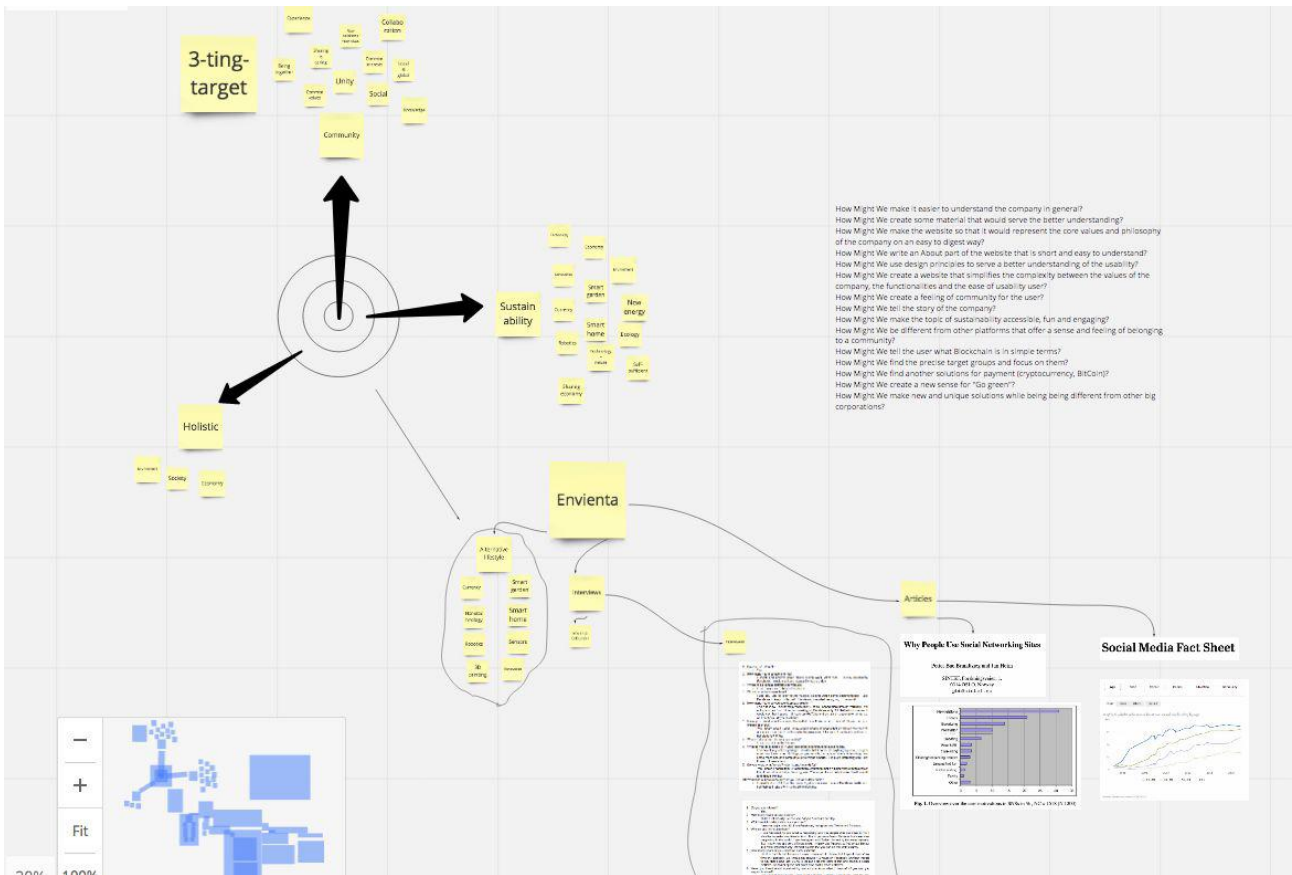[7] Quantitative data -
https://www.reference.com/math/quantitative-data-mean-7183ca415cad2c27?aq=quantitative+data&qo=cdp
Articles
[8] Qualitative data - https://study.com/academy/lesson/what-is-qualitative-data-definition-examples.html
[9] Space saturation and Group Diagram -
https://dschool-old.stanford.edu/groups/k12/wiki/65da6/Space_Saturation_and_Group.html

Realtimeboard brainstorming session

1.1.3.1.2.1 - Problem formulation

A problem statement is important because it provides the focus on the specific needs we need to uncover. As a general rule of thumb we state three requirements that the problem statement need to fulfill. The first is that the problem statement needs to be human-centred. The focus should be on the possible users rather than on the technology specifications. As a side note we would like to state that even though we are working according to this requirement we are also focusing on the implementation part of the design. To be more precise in the second part of our dissertation we describe our considerations and choices in which tools would serve the implementation part of the development to its highest potential.

The reason for doing so was that the agreement with company states that we would be advising the company for what technical solutions the creative team should be striving for. As being web developers at the current time we will advise technologies where we gained theoretical and practical expertise. The second requirement is that the problem statement should be broad enough for creativity and freedom. This means that the problem formulation should not be focusing narrowly on a specific method regarding the implementation. In our dissertation we will argue for what and why we chose the particular technologies for the implementation compared to other possible solutions. The last requirement is to make the problem formulation narrow enough so it would be manageable for us within the specified timeframe and requirements.

These three requirements assist us to make the problem formulation in a way which would enable us to come up with as many ideas as possible in the Ideation phase. Finding the right problem formulation is a process in itself. Hereby we will mention the problem formulations we have in mind and argue for why we will choose one over the other. The first problem statement looks as the following:

"Developing/creating the front-end (of a website using) with a PHP based open-source framework (Laravel Blade)"

We consider that the problem statement as it stands now is not fulfilling the requirements since we already state that our choice of technology would be Laravel. Our intention is to argue for the choices we are going to make regarding the technologies we consider that would be the best to fit the job so to speak. So the problem statement is too narrow and therefore we will consider another brainstorming session. As a result the second problem formulation looks as the following:

"Creating the front-end of the non-profit organization called Envienta and deciding on the possible solutions for its implementation"

This time there are two things that are happening in the problem formulation. The first is that it narrows down the process by specifically stating the type of the company we are working with. Secondly it opens up the possible solutions and the argumentation of them regarding the technologies we would come up with. We think that the second problem formulation fits the three requirements we stated above and therefore enables us to open the possibilities for the upcoming design thinking processes.

1.1.3.1.2.2 - 3-ring-target

We use the 3-ring-target model to isolate the most important values that grab the core idea and philosophy of the company. As the time being we have a meeting with the co-founder of the company. The goal of the meeting is to represent the company in such a detail that we would be able to make the necessary and relevant choices in the process development. We are still in the process of reading the documentation over again and trying to finally form a sense of it so we would be able to use this crystal clear understanding later on. We want to understand why it is so hard for us to formulate a general idea and overview. Even though we understand the main concepts we draw the conclusion that ENVIENTA is a rather complex and sophisticated system which would mean that all the documentations should serve a better job in explaining it in simple terms.

The 3-ring-target looks as the following:

          1. Community   **2**. Sustainability   **3**. Holistic

These are the key values that represent the company and its philosophy. We make the conclusion after reading the official materials, having meetings and interview with the co-founder of the company and brainstorming sessions. During these brainstorming sessions we put our ideas on notes and placed on a board which would support the visualization better. Specifically we use the method space saturation and group diagram for the process.

Hereby, we would like to describe the three terms so it would be easier for the reader to formulate a better understanding. Envienta as a platform would like to serve as a social unit or in other words *a community* where the group of individuals share the same values and norms. As for a community Envienta as a platform would serve as a place that is situated in a virtual space. In this virtual place members would have the possibility to share and create new ideas. As its main focus the company would like to offer possible solutions regarding *sustainability* through the newest technologies. It would like to offer an alternative and sustainable lifestyle that would address the urging problems of our days. The method through which the company would like to reach its goal is a *holistic* one. So instead of the treatment of a dissection into parts it would rather be concerned with the whole and complete system that would affect our daily life.

1.1.3.1.2.3 - Persona

We use persona that are fictional characters to understand the needs, experiences and goals of the possible users. In the process of making the persona we use a source from Pew Research Center that provides us with some data on social media[10] and the interviews we conducted. As a general comment we would like to state that the information taken is restricted to U.S. thus we were not able to find data on Europe with this proficiency and being up-to-date. Looking on the

---

[10] Social Media Fact Sheet - http://www.pewinternet.org/fact-sheet/social-media/

data it seems a general trend by now that young adults between the age of 18-29 tend to be the group that is using social media sites at high levels. It is also interesting to see that the number of older adults has increased in the recent years. It is a consideration for us to target the group which is young and open for the advantages of technology but at the same time have possibility to spend an amount of money on the blueprints and materials of certain products that would be shared on Envienta. Not to mention the families who might think they can not afford or simply cannot do certain projects if the technological part is too much emphasized on the platform. Considering the followings we will create a persona that we think could represent one of the future possible user.

Peter, 42, account manager

Peter who is 42 years old is currently working at an international company as an account manager. Peter and his girlfriend, Luisa have just bought their apartment in a cosy and silent area of the second biggest city. Peter loves his job due to the ever challenging environment and the nice coworkers he is working together with. He likes to run as the time being he is training for next marathon and has an interest in veteran cars. Peter and his girlfriend, Luisa like to socialize and get to know people.

This common interest explains the fact that they both like to travel and get to know new cultures. These experiences deepened Peter`s concerns regarding the urgent issues we as humanity face. Peter takes recycling seriously as he developed his own system for the higher efficiency. He has the ever more trending view of think globally and act globally. He and Luisa like to participate in gatherings where the topics are circling around sustainability, healthy living, organic food.

Peter knows he is on the right path and he is trying to accomplish as much as possible on his own and in his close surrounding. But he wants to take his initiative one step further and reach out to more people to share experiences and ideas.

1.1.3.1.2.4 - Summary

In this phase by looking at the data we collected enabled us to define the design problems and challenges. By using methods of synthesising the raw data we were able to create a problem statement. Besides, we created a 3-ring-target that would summarize what the company would stand up for in simple terms and finally we created a persona that would on the other hand describe the typical possible user of the website. All these in summary opened up the scene for the Ideation phase where all the conclusions we drew inspired ideas.

1.1.3.1.3 - Ideation

Ideation is the third stage in the Design thinking process. The goal is to generate ideas solutions through sessions of ideation techniques. Here we are aiming at moving from discovering and defining users and their needs to come up with the right solutions.

The methods for Ideation we use is the "How Might We" questions and Analogies. The "How Might We" questions can spark brainstorming sessions. They should also be broad for a number of solutions. On the other hand they should be based on the information that was gathered in the Discovery process.

1.1.3.1.3.1 - "How Might We" - questions, How_Might_We_quesitons

For example we see the general pattern that is considered with the hardship of the interviewees to understand the concepts and to get a general overview of the company. How Might We make it easier to understand the company in general? This is just a snapshot into the brainstorming session. As we can see some questions come up in different forms but targeting the same theme of the subject matter or that some questions are out of the general guidelines of this dissertation. Such questions would fall into the category of marketing, business plan for example. In general we think we need to focus on how to tell the story that would be about the company and its values and philosophy to the future possible users through our design choices and decisions.

1.1.3.1.3.2 - Analogy

On the other hand as we look at the 3-ring-target we can see that these words would perfectly describe the core values of certain social media platforms as well - of course depending on the specific social media we point at. Therefore we will use the Analogy method as a tool for generating ideas. On the most simple terms an analogy is a comparison between two things. Our main idea is to take certain attributes of our task and figure out if we can draw connections with scenarios where these attributes already exist for example in an already existing social media platform. Now for such a comparison we will look at the mission and core values of Facebook.

For a brainstorming session with the use of the analogy method we take the core values of Facebook[11] and Envienta to see where they have similarities and where they differ. For this purpose we create a table to visualize it better.

Platform	**Envienta**	**Facebook**
Mission statement	A next generation sustainable living space.	"Facebook's mission is to give people the power to build community and bring the world closer together.[12]"
Core Value	Community	"Be Bold"
	Sustainability	"Focus on Impact"
	Holistic	"Move Fast"
		"Be Open"
		"Build Social Value"

As we can see both platforms emphasize in one way or another the importance of bringing people together and building a community. The core values of Facebook such as "Focus on Impact", "Be Open" and "Build Social Value" on its basic level do resonate with the philosophy and core values of Envienta as well. As far as we are concerned with similarities the list ends here since Envienta takes the idea of a social platform onto a different level.

We can say that Envienta is specializing itself into the direction where it is focusing on delivering solutions for an alternative lifestyle and this is the point where Envienta as a platform needs to have a clear vision and tell its story to the possible users. Envienta in its core is dependant on technology but certain technological solutions might get certainly complicated or might seem out of

---

[11] Facebook Core Values -
https://www.facebook.com/media/set/?set=a.1655178611435493.1073741828.1633466236940064&type=3
[12] Facebook Mission Statement -
https://www.facebook.com/media/set/?set=a.1655178611435493.1073741828.1633466236940064&type=3

reach due to the technological complexity as mentioned earlier or due to the lack resources. From an article[13] we can see the main ambitions of users for the social networking sites.
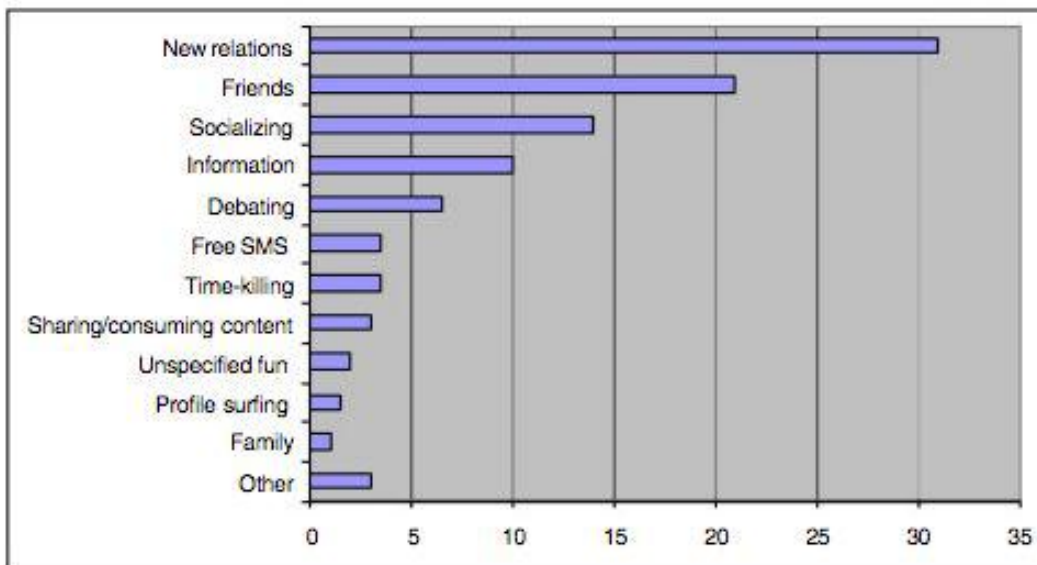

Fig. 1. Overview over the user motivations in SNSs in % , NC = 1518 (N 1200)

As Envienta is not purely a social networking site but has its niche so to speak and we would like to aim at creating a platform where users who share common values and common interest could make new relationships, socialize and at the same share ideas, get information and debate certain issues.

1.1.3.1.3.3 - Color

The choice of colors is important since they create ideas, expresses messages, spark interest and generate certain emotions. Colors should strengthen the values, the message and the branding of the business. Our goal is to find the right colors that would symbolize those values that we in the previous phases of the Design Thinking Process describe. Hereby we will describe the colors we think would fit with our conclusions and that could be used in the process of logo and website design. These are suggestions of ours based on our previous conclusions and it may happen that through the process of logo design some colors would not be used at all or new ones would be added. It will be the matter of the process and the feedback from the company and from the tests we will conduct later on.

We believe that the green color has the power to communicate the message of sustainability. "When it comes to nature, green represents plant life and growth and is consequently used to convey being 'green' in the environmental, sustainable, organic, natural sense of the word."[14] Also it is advised to use a brighter and lighter green that indicates growth and vitality. We are aware of the fact that companies like to use green to get a positive public image and it is a legitimate marketing strategy. On the other there are studies that suggest that "Going Green" as a slogan is not as eco-friendly as it may sound for the first time.

James Kellaris from Carl H. Lindner College of Business said "Interestingly, blue is 'greener' than green in terms of conveying an impression of eco-friendliness, despite the frequent use of the word 'green' to convey that idea". As the time being green is considered to be the most eco-friendly color

---

[13] Why People Use Social Networking Sites - http://www.pewinternet.org/fact-sheet/social-media/
[14] Color meaning and symbolism - https://www.canva.com/learn/color-meanings-symbolism/

for consumers but there are signs that this trend might change in the near future. We think it is a valuable consideration for Envienta as a start-up company for the long term.

We use the blue color since it is the most universally preferred color. It represents reliability and communication.[15] Blue has a connotation to the business world and what is related with the business world and not to mention sky blue which represents a calmer space and atmosphere which would be associated with the value of being holistic.

Regarding the business connotation we do not want to focus on the business side of the meaning regarding the blue color since Envienta is a non-profit organization but to focus on the two other associations which are reliability and communication. In our 3-ring-target model we put as a core value Community. And this is really what Envienta wants to be associated with. It wants to be associated with a platform where people can communicate with each other on various topics and share ideas. Besides blue also has an association with technology in general.[16]

The majority of the companies use a shade of blue in their logo[17]

The diagram would like to represent what we state earlier namely that blue is the universally most preferred color for its qualities for many companies that play an important role on the market. Yellow as being the color of sunshine communicates friendliness, joy and energy. [18] As a color it is a widely known symbol for the Sun which is the source of energy and light for life on our earth. Regarding sustainability and renewable energy solar energy is considered an important source. It also plays an important role the idea of self-sustainable lifestyle that Envienta advocates through technologies such as solar panels.

1.1.3.1.3.4 - Font

Trebuchet-ms

The Trebuchet typeface family was designed and engineered in 1996 by Vincent Connare who worked at Microsoft. We choose this typeface because it is well suited for extended texts and because it was mainly created for the use on the screen. Due to these characteristics it shortly became a choice for website design.

---

[15] Color meaning and symbolism - https://www.canva.com/learn/color-meanings-symbolism/
[16] Feeling blue: why tech designers may want to give the color a rest -
https://gigaom.com/2013/07/10/feeling-blue-why-tech-designers-may-want-to-give-the-color-a-rest/
[17] Color Psychology - https://sites.psu.edu/siowfa15/2015/09/10/color-psychology/
[18] Color meaning and symbolism - https://www.canva.com/learn/color-meanings-symbolism/

1.1.3.1.3.5 Logo design *Image_logo_orig*, *Image_logo_design*

The first logo design relatively simple. It is the topic that came in shapes as well. Most of all, this can be said about it's design too. In the beginning, it wasn't important to focus too much on the brand-image, but the topic itself. Consequently, the four small pictograms are symbolize the renewing energies.

At first glance, the design is more like a *Greenpeace* advertisement. But this is not good, because there are misunderstandings. It's not clear what is the idea really is, and moreover what they are offer (?), a product or a service (?). You may also noticed that the message isn't clear enough to identify the meaning of this logo version.

The company deals with renewable energies, though the logo reflects this. However, it is not clear and distinct. In general, a logo clearly represents the company's operation and purpose. This must be shown to the people to let them know what it means. This is a learning process, rawly.

The logo is a visual element that expresses the brand. The logo is always in the front row, the logo is what people think of a brand at first. That's why we have to pay extra attention to our design. Bringing together the brand and the design is more important. This is demonstrated by the example of the Apple or the Tesla. For a good brand name, -the size, -form, -font are very important, but the color selection itself is critical. So much the more, because it is alone can influence the conversion rate.

In the case of Envienta we are talking about a combined logo. There are not only pictures but, texts, which can be acronyms, company names. We can place the image and the text side by side, over each other or stack them together. This solution is beneficial, because the image and the text are working together to strengthen the brand. People see the picture as they associate themselves directly with our brand so we can either leave the brand in the logo or it is not important to appear in every appearance at all. As in all other cases the logo can also be said that the less is more. Perhaps in the logo case, this is more important than anywhere else where the design is concerned. This process is continued in the prototype section.

1.1.3.1.3.6 - Sign Up

Envienta as a business relies on users signing up and signing in. Getting users through that process is important. It is well known by now that users often leave websites in 10-20 seconds if the interest is not created.[19] If we want the users to spend several minutes on our website we must communicate what the website is about in a clear fashion in 10 seconds.

---

[19] How long do users stay on web pages? -
https://www.nngroup.com/articles/how-long-do-users-stay-on-web-pages/
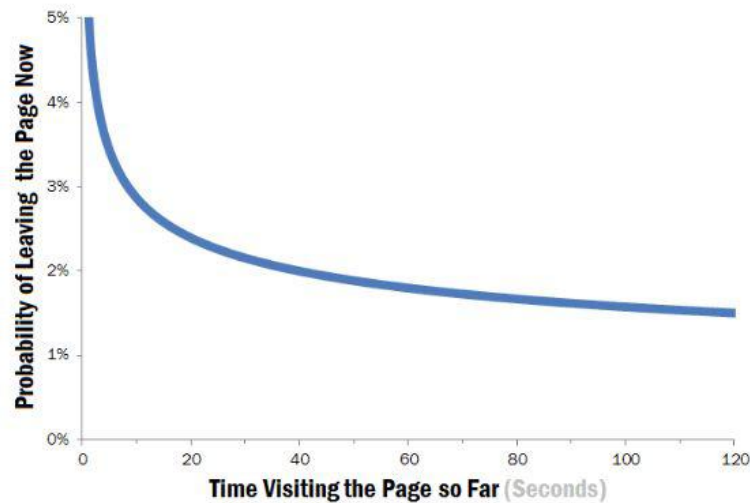
Leave quick or stay long[20]

By looking at the diagram we can conclude that if we convince our users to stay on the site for 30 seconds there is a significant chance that they will stay longer. Therefore we need to design the signup process that makes sure that it has everything to convince someone to complete it and get to the landing page further on.

In order to make the correct design choices we think it is important to know what kind of technologies the company would be willing to use. Therefore we have a meeting with the lead software developer and the creative team to discuss what possible technological implementations would fulfill the requirements of the signing up process. Some of the requirements are as being fast, easy to comprehend and being safe.
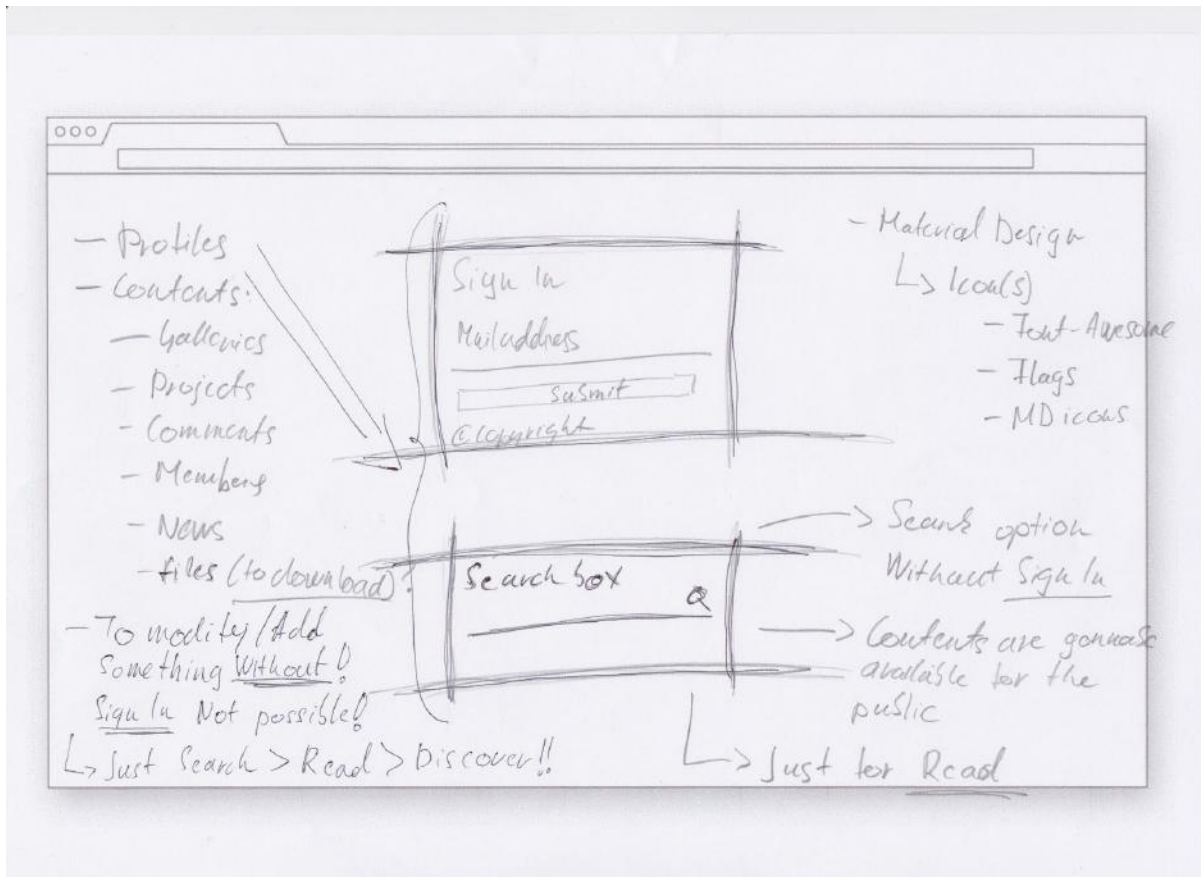
The ida is that Envienta would break with the conventional way of signing up its users. Moreover there would be no signing up at all due to a token technology but only singing in. The user submits with his email address. After getting an email with the login token the user can have a full access to the page until the user logs out. Our suggestion to this would be the OAuth process[21] where the particular website gives the possibility to "Continue with Facebook" or "Continue with Google". As the user clicks "Allow" the third-party app will access the individual username and password for each account. It became a common choice also for bigger companies such as Pinterest or Instagram to apply a login process with Facebook or Google.

But as the discussion goes on it turns out that OAuth has its flaws when it comes to security regarding session management, encryption of stored data for example. From this point of view choosing the token solution seems better since Envienta would have the possibility of payment functionality and it indeed contains sensitive data. On the other hand this type of token solution might not be that widely used and it would need a specific design solution from our part that makes it easy for the user to understand how the process is working from one step to another. One of our first sketches looks as the following:

---

[20] Negative aging: leave quick or stay long -
https://www.nngroup.com/articles/how-long-do-users-stay-on-web-pages/
[21] Inside OAuth 2.0 - https://www.upwork.com/hiring/development/oauth-2-authorization-framework/

Looking at the sketch we can see a search box as well. At this part of the discussion regarding the signing in page there is a split within our team as well. To be more precise Mate Molnar and Hunor Vadasz-Perhat have a different argumentation for this design choice. Mate M. argues that having a search functionality is a good choice since it gives a possibility to look for content on the page and let the user discover more about the page. Meanwhile Hunor Vadasz-Perhat argues that such a possibility would not make that much of a sense for a user who is on the site for the first time. After signing in and having the possibility to figure out what the website is about and what the user could search for the search functionality would make more logical sense to appear on the landing page after signing in.

As more arguments come up we decide to look at some bigger websites that are commonly used among people. For example looking at websites such as Facebook which we use in our analogy method earlier we can see that there is no such a functionality. On the other if we look at LinkedIn there is indeed a search functionality. So now it is time to figure out why these big corporations use different design choices and see what the meaning could be behind it. Our conclusion is that the strategy of each corporation defines also the design choices they make on their sites. For example it makes logical sense for LinkedIn to have a search option when it is a business and employment oriented social networking service.

It gives the chance for headhunters for example to look for a possible employee and for individuals to wider their network but only if they know either the first-or last name of the person they are looking for. So there is no option to look for individuals according to profession for example. So this solution might not help if want to see the available individuals in a particular profession. On the other hand if we look at Pinterest which we could look at as a social network that is based upon images, GIFs and videos it would make a logical sense that the user could search for images without any particular access to further functionalities. Even the background of Pinterest describes that it is a site where the user can search for different type of images later on.

But there is no functionality like that. As the discussion goes by it seems that split within our team did not resolve itself. On the other the creative team wants to give the possibility for users to search

and believes that it is important to give such a freedom for the user therefore we continue to the next phase even though there is a conflict in argumentations.

1.1.3.1.4 - Experimentation

In the prototype phase our goal is to generate artifacts of various kind so we can get closer to our final solutions. We aim at creating prototypes of low-resolutions that are quick, easy-to-make and cheap but can generate useful feedbacks from users. Some problems are broken down into smaller and testable parts.

1.1.3.1.4.1 - Logo design Image_prototype_1, Image_prototype_2

Usually the simplest logo is the best. It's good if the logo is simple and yet easy to recognise. The world's most famous logos are all very simple too. Simplicity is achieved primarily by the fact that the logo is no longer contains any unnecessary or striking elements that would make it difficult for the eye to accommodate it. For too detailed or overlaid logos, it's not only painful to look at it, but it's also difficult to use them under various circumstances.
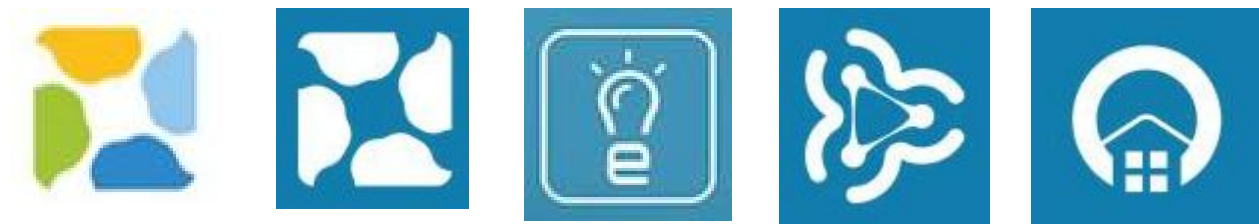
Our logo must clearly express the message what we want to tell to the people. It shows us who we are right now. Even though you can not automatically recognise what you are depicting. For this you have to know the brand, the shape gains the meaning. A logo should be unique and distinct from others. There must be something that people are aware of, and they can not easily forget.

The shape of the logo should be designed in a professional manner and it's should not be guided by a sudden idea of a vision that seems to be good at a given moment. Considerable factors such as appearance for different backgrounds, printing, or different sizes on the web.

- oval or circular shapes in the logo send a positive emotional message, express friendship, relationship, love, suggest stability and endurance
- squares and triangles express strength, professionalism, and effectiveness, and are related to the concept of power, science, religion, and law
- vertical lines express masculinity, strength, and aggression
- horizontal lines indicate a community of tranquility

Colors are used along a strategy, as colors emit emotions. For this we need to know the color psychology. Colors are already in our material, it's a good idea to look at it. At the same time, it is not enough to deal with emotional effects, but also the cultural meaning of colors. It is also influences the color choice of where we will use the logo. But we will return to this later when we choosing the right color(s).

There are fonts that should never be used for logos. Such as Comic Sans, Papyrus or Curlz. However, this does not mean that different decorative or handwritten fonts could not be used. The biggest problem with these decorative or handwritten fonts is that it is difficult to read them when they are appear in a small size. At the same time, we have to keep in mind that the font has to fit in the brand.

Depending on where we are planning to use the logo, the technical parameters must be taken into account. Different uses require different file format(s) and resolution. Web appearance often

requires a transparent background so a .png file format can be a good choice. At the same time, when printing, we have to forget web forms. In this case, a variety of vector files like .ai or .eps will be required.

1.1.3.1.4.2 - Sign up

The consideration is how to create a design that would make the login process and the logic behind it understandable. For this purpose we make a prototype that contains a short description of what the user can expect to happen after typing in the email address below the field of email address.
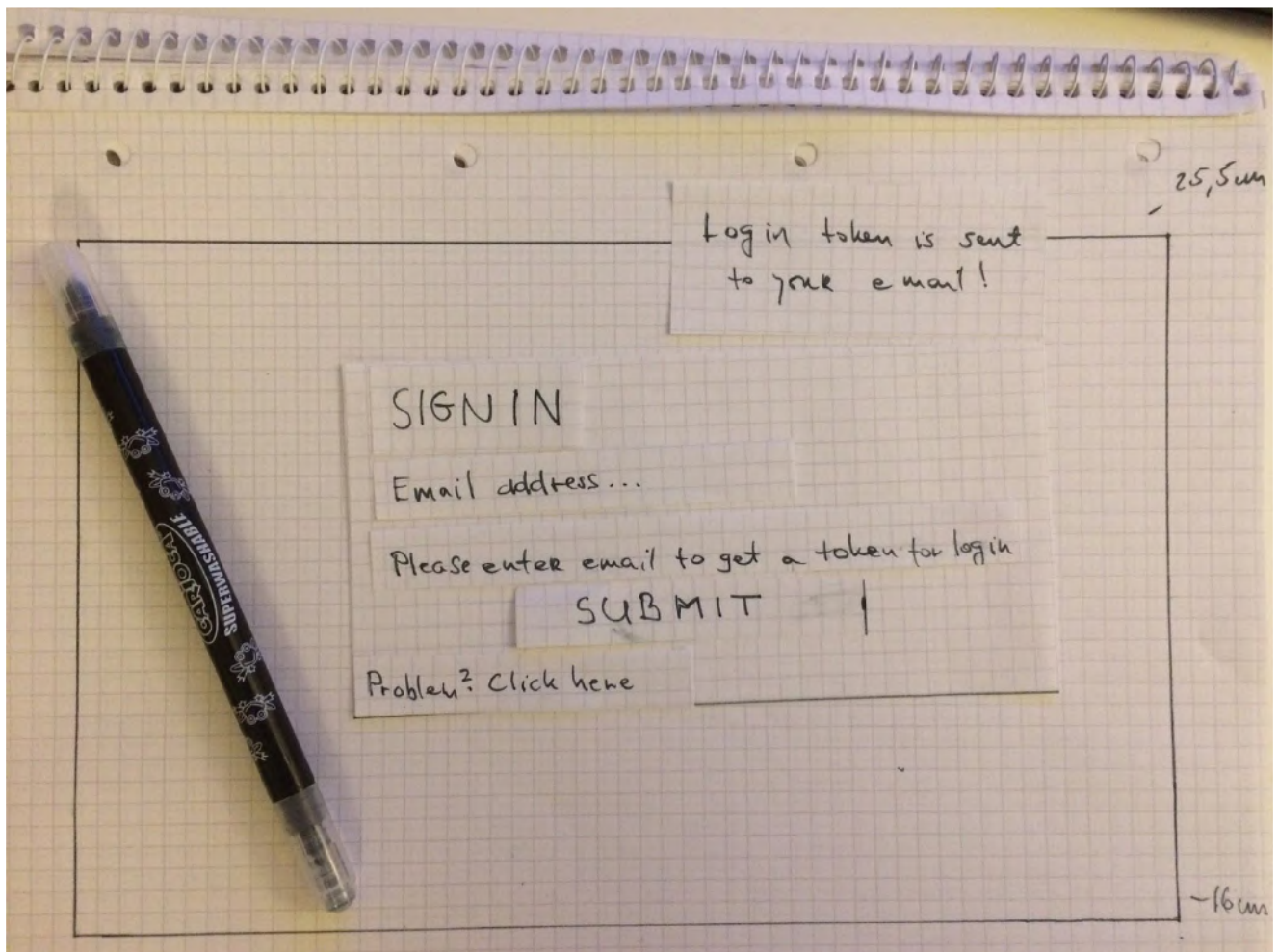

Sign In prototype

We also think about to create a pop-up window that would confirm the action and would navigate the user to check his email address. There are two main functionalities that play a role on this site namely the signin and the search.
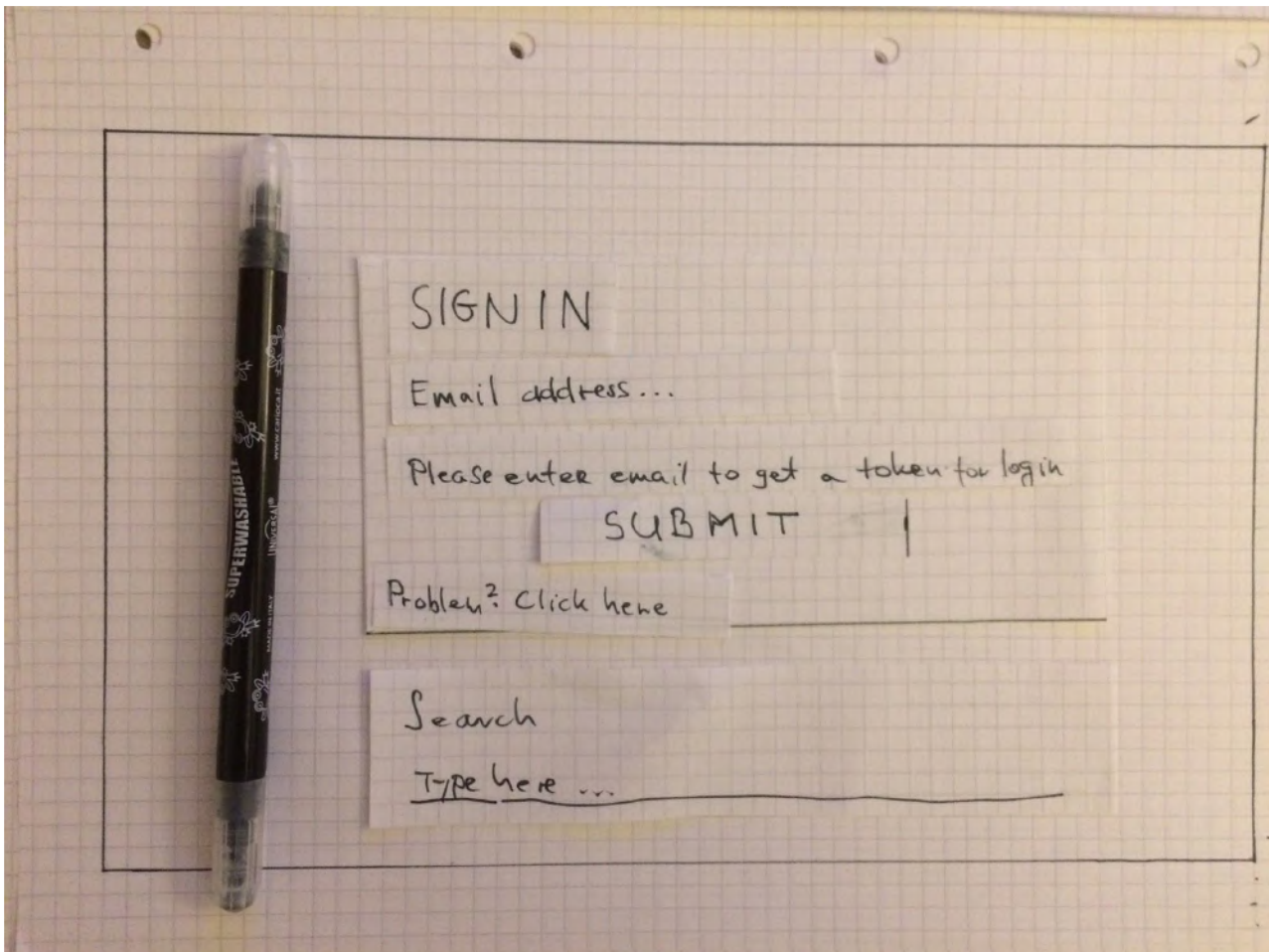
Sign In with search

The two functionalities are grouped[22] together since they are within the same and closed region, in this case rectangles. From a navigation point of view we need to consider what page the user should land at after search.

---

[22] Common region - http://vanseodesign.com/web-design/gestalt-principles-of-perception/
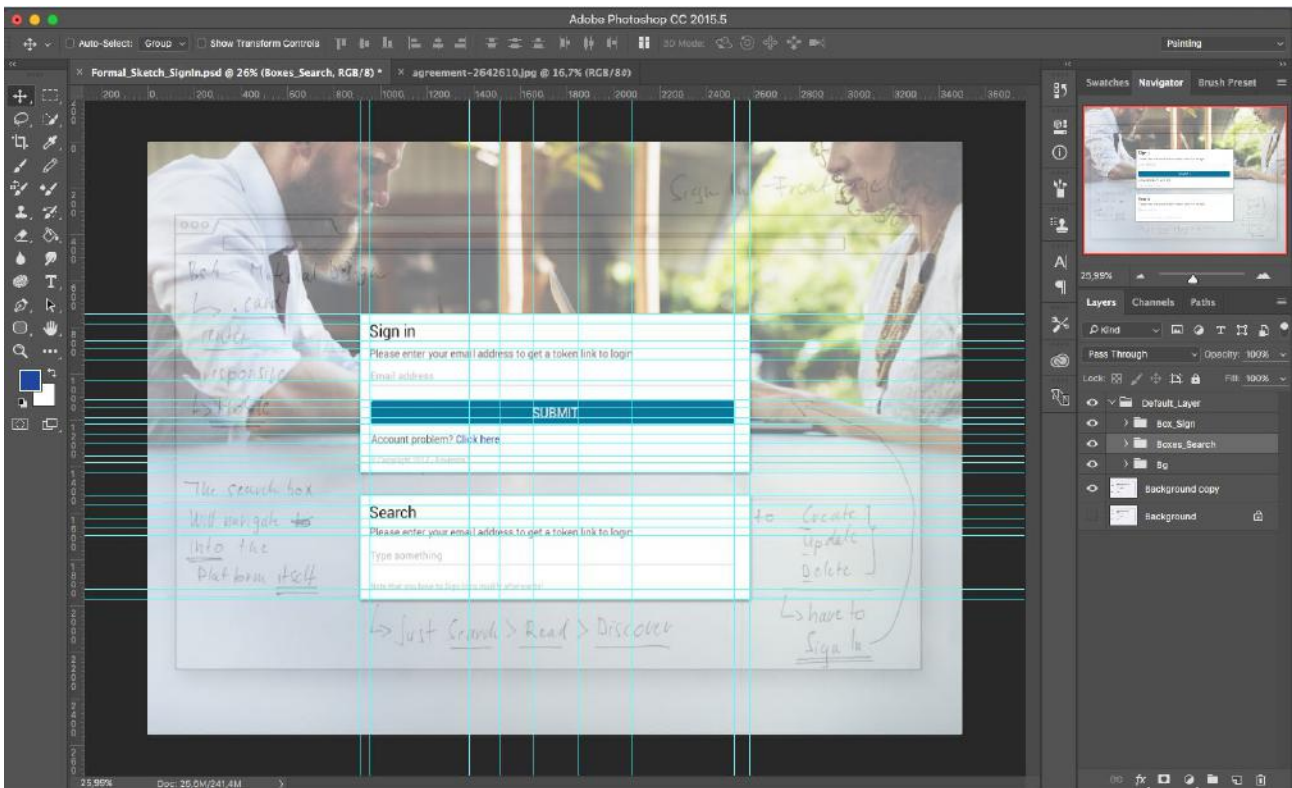
Sign In mockup

1.1.3.1.5 - Evolution

1.1.3.1.5.1 - Logo design [Image_test](#)

In general, it is difficult to avoid the prevailing design trends when we are going to plan/design a new logo. Certain fashion needs to be avoided because they become overused. Truly keeping track of trends does not only means that our logo will not be distinguished from the others, but also by the fact that it is aging very fast. Of course, the logo can be adapted to the current and engaging design trends, but this can always be done with extreme caution.

The logo must therefore be up-to-date, but should remain consistent throughout the brand's life. Even a timeless design can and must be renewed every few years, but it does not need to be completely new. When the full color palette is at our disposal, it is very difficult to choose the right colors that can be used with our logo. Some rules should be taken into account when designing.

In addition, colors can be interpreted differently by others, they are emotional. In the first round, therefore, not the colors, but the idea we should focus on. If we have multiple ideas for creating a logo, they will all appear in the same color. In this case, the color does not distort the message. Finally, we have to think about where the logo will appear. Today, it is not enough to think about print surfaces, the logo will appear on social media sites, mobile applications, profiles, avatars, and so on countless digital surfaces of all sizes.

Colors have to adapt to every situation. On these digital surfaces, the look is different, the shades may be different and we will not have any influence on it. Here again, the factor is that if a logo just works because of its color, it does not really work. It is important, therefore, that design itself is only a secondary factor in designing the logo. The primary point of the view is always the marketing in the design of the logo. There are, of course, many other things to consider when planning, but if we have a well-crafted foundation, we can build it with confidence.

1.1.3.1.5.2 - Logo conclusion

"Find the Logo!" - Test. We've tested the logo where it's the perfect place to get the most attention. So the question is: Where do we place the logo on the website(?). The answer seems simple, but it is not. On most websites, you'll find the logo in the top left corner. According to [NNGroup](), this placement has many advantages over the user experience:

- Tell the user where he / she is - he / she will show the company logo so that users know exactly who is watching the website. On the web, it is vital to tell people exactly where they are, since they are just one click to get to a different website at any moment so it's extremely easy to get lost.

- It strengthens the brand - the more times users see the company's logo, the easier it is to remember it. Better brand recognition means that people are more likely to use the company's products and services. If all other factors are the same, people are more likely to trust a company they know.

- Allows you to return to the main page - logos for web pages must always be offensive. People can always easily return to a home page wherever they go. This is a great help on large pages where users can easily get lost in the underdeveloped pages. But there is a workable solution where users can perform different tasks and whenever new activity happens, they always return to the home page.

The logo on the left is so familiar to most users that, with the smallest variation, we can significantly compromise the user experience. Nonetheless, we can see more and more middle-placed logos on the web, the reason being the more responsive and mobile-friendly design.

In Mobile design, in some cases, the menu icon is occupied by the top left corner, so the logo is centered. This small display is not that bad, as the distance between them is minimal. However, if this layout appears on a large display, the distance becomes significant.

The effect of centering the logo - Centering the logo is a convenient solution for the web designer, but how does it affect the user experience? To find this, NNGroup has carried out a research that compares web pages with the logo on the left or middle. The results showed that on websites where the logo on the left appeared, users had a much higher chance of reaching the homepage with a single click than on the pages where the logo was in the middle. The difference was sixfold.

Percentage of Users Who Failed to Navigate "Home" in 1 Click
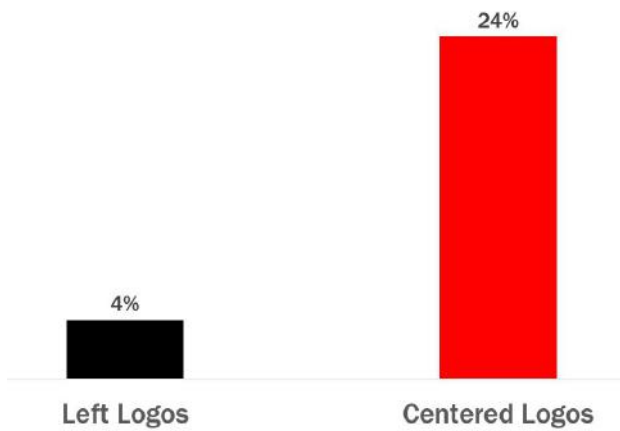
How many percent did not manage to get to the homepage with a click? (Source: NNGroup)

This is important because returning to the main page is a critical factor when users are lost on the web site while navigating or simply want to change tasks or topics quickly. Even when the entire navigation menu appears on each webpage, users return to the main page as a reflex.

However, there were always at least one user who had a serious problem returning to the main page on the centered website. Analysis of user behavior showed that the logo was the main problem. For example, in the page below, people clicked on the left-hand link instead of the logo.

Finally, of course, the majority of people came to the main page, but only after making more mistakes.

By comparing the user path of the two layouts, it seems that it was easier to solve the problem for the left logos. For centralized logos, there were multiple clicks to return to the main page, and even with just four extra clicks. From this we came to that we will place the logo in the middle of the website during the development and beta test to make sure it works in the long run.

1.1.3.1.5.3 - Sign up
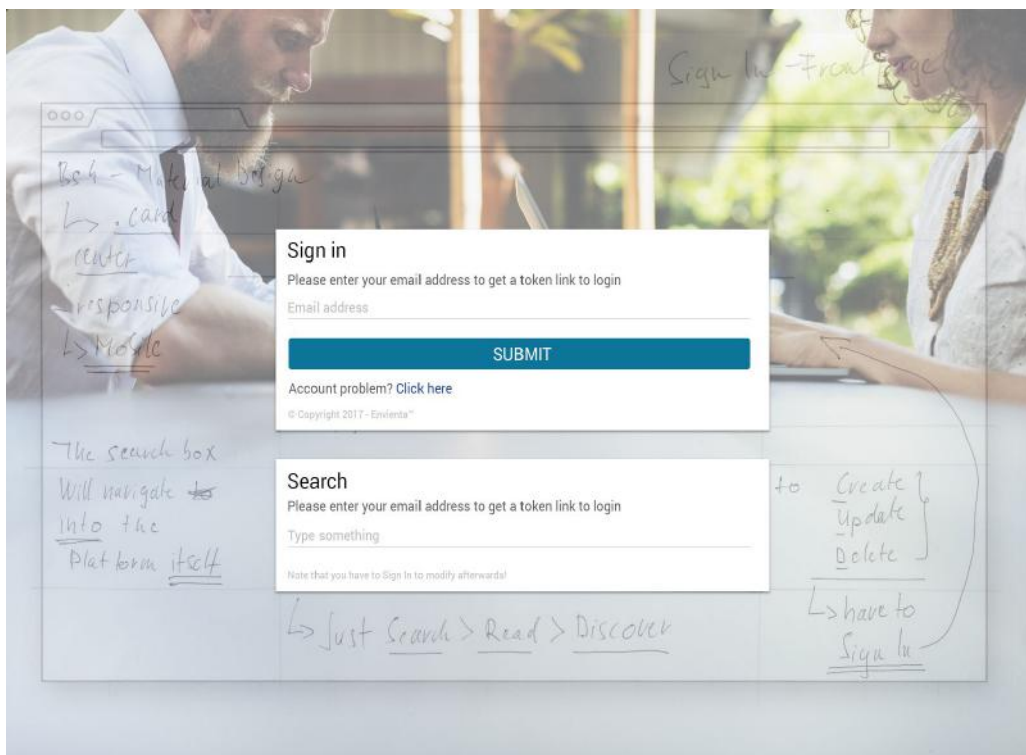
The usability test we conducted was the so called User Test from the book called Usability[23]. The user is told to perform a certain task using the "think aloud" method where the user says out loudly

---

[23] Usability: Test methods for making usable websites - Ole Gregersen, Ian Wisler-Poulsen, Forlaget Grafisk Literature, 2013

his/her thoughts while being tested. As the use of token is not widely accepted in our case we have the objective to discover and understand where the issues while using the signing in page may occur. The conclusion of the test was the following:

- It seems that signup and signin is a pair of functionality that people are used to and making any changes can cause disharmony and misunderstanding. So singing in alone creates a user experience issue.

- There is a limited knowledge about token and how it works

- Since more and more websites use OAuth where Google and Facebook is used the questions arises from test users why we do not use that one instead which also points to the next issue

- With OAuth it takes only a click to get through the process

- With other solutions rather than the current one it is possible that the browser would save the username and password so it would easier, faster and more comfortable for the user to enter the site

- Regarding the search function it turned out the test users since they were told in advance what the website is about liked the functionality. Although they also mention that they would not know what to look for if they did not know the website beforehand and also they are absolutely not used to the idea that they could search for something before logging in

1.1.3.1.5.4 - Homepage - visual hierarchy
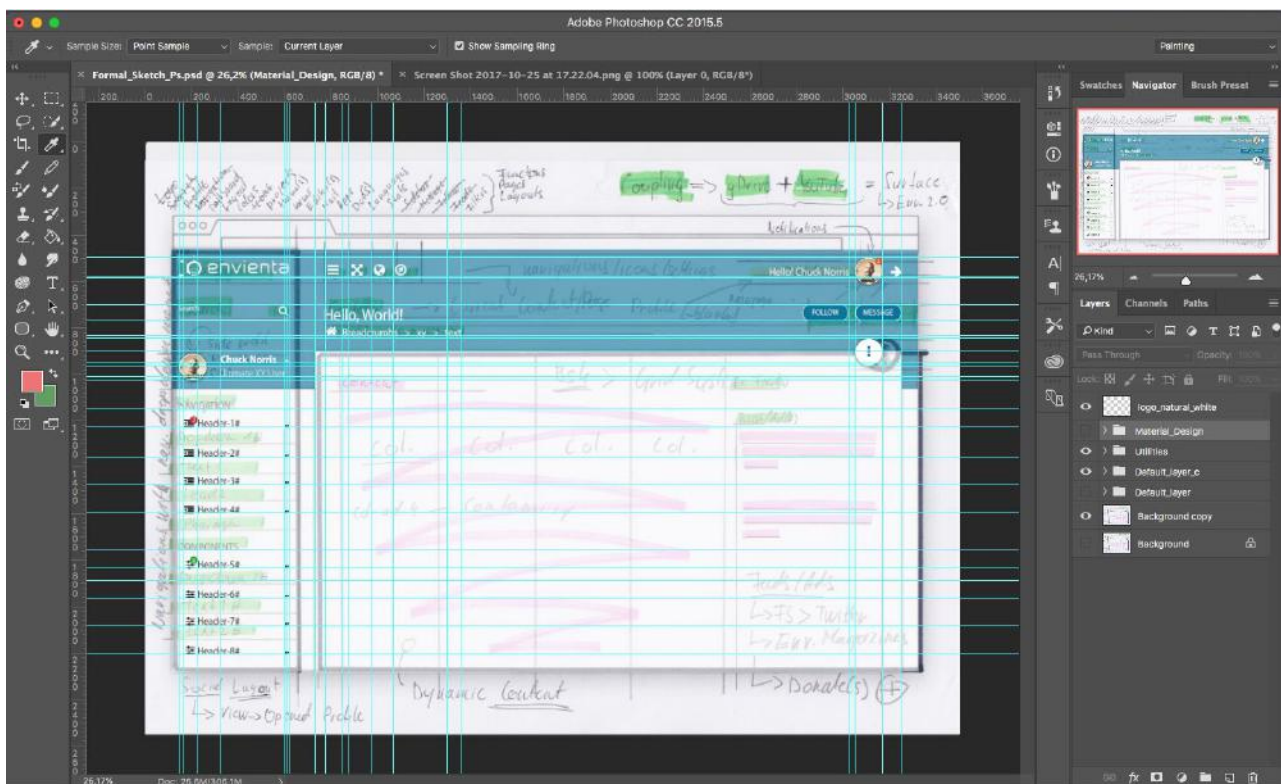
People love order, because it makes things more understandable. The same applies to user interfaces, such as our website. When elements of the user interface are well organized, people can easily use it and they are more satisfied with it. The visual hierarchy is the basis of an effective information architecture. To fit the content of the user interface, we used this technique as well.

What is visual hierarchy? - his is a basic technique that is used in the design process. It is based on the Gestalt theory that examines how people perceive elements when they are related to each other and shows how people render visual elements to groups.

The visual hierarchy tries to present the content of a product (such as a web page) in a way that people understand the order of importance of each item being displayed. It sorts each UI element so that the human brain can distinguish between differences in physical characteristics such as size, color, style, and so on. - Based on.

Visualization of some of the user interface elements has a great impact on the user experience. If some of the elements of the content are confusing, people can not navigate or interact properly with the product. In addition, an unorganized text content is difficult to understand so users can not run quickly and make significant efforts to find the information they are looking for. Bad user experience leads to poor user satisfaction, so the product will not be appealing to people.

Text content is one of the most important parts of the user interface. The visual hierarchy therefore builds heavily on typography. The typographical hierarchy is a separate part of the visual hierarchy. The system aims at framing texts in the most appropriate way for user adoption. Designers modify and vary fonts to make a contrast between ordinary text and most important text elements - which the user has to notice first. Letters may differ in size, color, and family.

One of the most powerful tools for visual material conversion is the size. It is based on the lawfulness that great things are always more important to the humans than the small ones. This is why users' attention automatically migrates to large words and large images. We (as designers) need to differentiate the priority levels for each content element, and from that point on, make each item smaller or larger.

Colors have a significant impact on how people perceive things. This is why it is an effective tool to use colors when designing a visual hierarchy. The colors have their own hierarchy based on how powerful they are for people. There are strong colors such as red, orange or black that can easily attract attention. On the other hand, there are less powerful colors like white or beige, which work better as a background. Using different colors, designers can confirm the hierarchy of user interface elements. For example, a CTA (Click To Action) button with a loud color is easy to get users to notice first when multiple elements use more subtle colors.

The hierarchy is based on contrast too. With the right contrast, users can differentiate between individual content elements. Contrast can be achieved with color, size and style. However, it is recommended to keep the contrast in balance so that one of the content elements will not completely suppress the other.

There are several items in a user interface. In order for each of these to be perceivable to humans, some elements of the private sector need to be provided. This means that there must be adequate space between them. This is the negative space, or whitespace. Many people do not think of a blank space as an element of a website, but for experts this is an effective tool for creating the right composition. The right amount of negative space between each element helps users notice and process them.

As mentioned earlier, the visual hierarchy is based on Gestalt principles. This is why special attention has to be paid to the proximity of each UI element. People are inclined to organize individual visual elements into groups. If some of the elements have a smaller distance, people are seen as a group. We therefore use distance as a tool to help the user to break content into categories. If they are locate items correctly on a web site, they can easily categorize them (by eyes).

If people realize that certain items look similar, they will automatically be considered as belonging to a group. If we repeat a pattern, the corresponding elements will be considered by others. For example, on a website with a large amount of text, the most important sentences can be highlighted with a different color. If people read only the different colored sentences, they get to one of the key information to the next.

1.1.3.1.5.5 - Home Page - layout

People in 80% of their time spent browsing the information on the left side of a website and just 20% of the time on the right. Therefore, it is advisable to adapt this to your website design.

Source - *Horizontal Attention Leans Left*

While the web has changed a lot since the 2010 review, it seems that webpage views do not. That is, if you want to make sure that users find the content we consider most important, then it is worthwhile:

- use upper or left navigation,
- the primary content must be placed forward and centered (keeping the left edge of the navigation),
- secondary content to the right

So once we wake up in a world where all the navigation is on the right side, people would be forced to change where they are pay attention. At the same time, a different design on a web site will not yet modify user behavior. So, if it differs from the usual structure, it will undermine the effectiveness of the content. People will search for content where they've previously found on traditional web sites. And if the content is not there, it takes a lot more time and work to find it. And they may, rather, decide to get access to content somewhere else.

In summary, if we want to prevent the problem, we should do not try to be original, but use the habit(s)! We should let the users successful on our website. And if we support them in this, it can help us to achieve our business goals. Thanks to better usability and traditions, we save time and money with this simplicity.

### 1.1.3.1.5.6 - Home Page - web design

The F-form - The F-form lets us to capture the movement that users can see when they arrive at a website and look at the content. People often read the content on the web based as sample, which we should pay attention to if our website is there.

The look of a user on a website takes a few seconds to fetch the F-form and accept or transpose its contents based on this pattern. Even more than 10 years ago, the F-pattern was revealed by a research by NNGroup. Over 200 users watched eye movements when visiting thousands of websites. The F-form is still valid as their latest research has revealed the same pattern.

People's reading behavior was roughly the same on various web pages or during the execution of the tasks. And they looked the most like the F-form. Three important factors emerged from this:

- People first drifted horizontally into the top of the content. This is the upper line of the F
- Then they went a little down the left, searching for the starting sentences that were interesting to them at the beginning of the paragraphs. If they found something important, they again moved their eyes vertically, but they were shorter than the previous horizontal movement

● Finally they moved their eyes vertically downwards and then finished studying the website
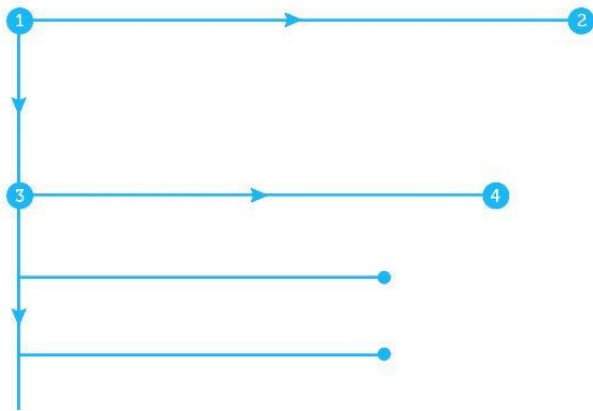
Of course, users eyes don't always go like this way. For instance, if you find something useful for them at the beginning of the page, they change to normal reading, i.e. horizontal lines are drawn on the heat map.

Users can basically rely on the F pattern, if it is a page or:

● a web page contains text that is not on the web. So if we have a significant amount of our text, but there are no elevations, listings, subheadings

● when people want to be effective on that site

● when they are not so interested in the content, they read every word of it

The last two points point to how people use the web. Most of them strive to finish their job as quickly as possible while making the least effort. They are visiting the site, because they want quick answers. If the user miss the signals that lead their eyes, then they will find the path that requires minimal effort and will spend most of their time where it starts reading, mostly in the upper left corner. The F-form is therefore a fundamental example of the website when there are no strong signals that lead the gaze to the important information. This is the fundamental problem with the F-form.

First, we need to determine the order of importance of the elements of the content. If this is the case then the most important things must be placed in the focus points, so in places where the gaze of the people will surely pass. From this point of view, the first two paragraphs are the most important, that is the most important content that should be placed close to the top of the website to communicate quickly and efficiently the intention of the website.

The most important conclusions that can be deducted:

● The first line of the text always takes more attention than the lines below it

● The first few words at the beginning of rows are always more important than the words that follow them

People are reading the most from the first line, but the content is not primarily for reading but needs to be run. That is, every new paragraph should be started with some important keyword. At the same time, it is important that the F-form is never perfect F. There are cases when people seize a paragraph at the bottom of the page and start reading or F will be E-form. What we need to keep in mind is that the most important elements - such as a CTR (Call To Read) - are placed on the right or left side where users either begin or end the horizontal run-off of the content. At the beginning and the end, they stop for a moment, and this extra time is worth taking advantage of.

The thing is that we have to work in place of the people to prevent that to make unnecessary efforts by themselves. Formating the order of importance of our content and to format the texts to guide visitors where we think they should go! In other words:

- The most important things should always appear in the first two paragraphs
- Using titles and subheadings and make sure they look more important and noticeable than normal texts
- The title and the subtitle always start with the most important words to be able to filter the essentials from the first two words
- Visually organize related content into groups; frames or even different background colors
- Define important words, sentences
- Links always consist of words that carry information and not just tell the user that they are "click here"
- Using lists
- Throwing away any unnecessary content

Considering the F-form is useful in web design, however, we do not have to stick rigidly at it and follow it at all costs. We have to take it into consideration, but it's best to take control of our hands and do the work instead of the users.

1.1.3.2 - Development

Hereby we will write about the second subpart where we focus on the considerations regarding the different technologies of the implementation of the design and the functionalities of the platform.

As we have mentioned at several points, the design of the platform consists of several complex processes. The Laravel - Framework is the one of the these, but it will be described.

First of all, when we have finished the brainstorming and sketching, we continued the process to write the static codes. The first level of this is concerning to the UI[24] sketches which are made in Adobe Photoshop. This is a big help for us to know the main scales and shapes what should we write in the code, how to build up the structures and actually that is the way how we learned it.

The UI sketches and the Wireframes[25] with the 12 columns[26] makes easier the page editing to code a sharp and an ordered view with the "div containers." As you guested we used the Bootstrap framework here. Beside this, we mixed the process with the Google Chrome's developer tools, especially the "workplace" function. Image_workplace

What is this good for? - and why we used? Well, Google's Chrome is very powerful in web development. It has this function called "workplace" and with that you will able to use your browser as a code editor. It is also works with external devices like mobile phones (for e.g. Android). You don't have to open up another editor to work with. Only In one window you can write all the front-end languages, such as Html, Css and JavaScript. Other browser also have similar functions though, but chrome has built-in and additional extensions too, which makes the process much easier and faster.

---

[24] User Interface - https://en.wikipedia.org/wiki/User_interface
[25] Wireframes - https://en.wikipedia.org/wiki/Website_wireframe
[26] 12 Columns -
https://webdesign.tutsplus.com/articles/a-comprehensive-introduction-to-grids-in-web-design--cms-26521

We used this to see the code in live, it is save a lots of time. That was the way or the process how made the static sites. Actually, we used to do the things like this.

1.1.3.2.1 - Content Management Systems

We mentioned the Laravel framework before. But in the other hand the choice wasn't too easy. What we were facing wasn't easy either. We needed a system that could be maximally formattable. Our needs about the platform is very wide. Preliminary brainstorming has shown that many features, functions and gadgets need to be put into the platform.

We may not fit into a simple framework or a CMS(?). Before we did anything we made a research and also collected the most relevant solutions. There are many good CMS on the market right now. Their capabilities are very wide and extremely scalable. Just to mention some of the them from our list.

● Wordpress ● Drupal	● Concrete5 ● October	● Grav ● Umbraco

We already used a few of them in the past. So we were lucky to try out Drupal, Wordpress, Umbraco, Concrete5 and October. Grav was a new one for us. It was the best CMS back to 2016. It's another Open-Source PHP CMS beside Wordpress, Drupal, Concrete5 and October. Umbraco is also free, but it is using the ASP.NET (Microsoft® Active Server Pages[27]) and none of the developers know the system deep enough unlike Php.

Although we were dealing with Wordpress and Drupal, and Wordpress, they are very famous, because Wordpress[28] was used by more than 27.5% of the top 10 million websites as of February 2017. It is reportedly the most popular website management or blogging system in use on the web. But the flip side of these is that, they are more-likely pre-made systems - including Drupal - so if you cross the border with your custom (hard-coded) code snippets, the site will getting unstable sooner or later. Think about it, you are developing a system and suddenly you may change the direction which is not planned in the beginning, the code will crash the structure itself.

That's not new in Drupal either. It's called WSOD[29] - *"White Screen Of Death"* and it's happens when occasionally a site user or developer will navigate to a page and suddenly the page content disappears, and it becomes blank. No content, no errors, just nothing but white screen. This

---

[27] Microsoft ASP - https://en.wikipedia.org/wiki/ASP.NET
[28] Wordpress - https://en.wikipedia.org/wiki/WordPress
[29] WOSD - https://codex.wordpress.org/Common_WordPress_Errors

happens sometimes, it could happen after updating a module, theme, or even the Drupal core itself. This is what is referred to by most members of the Drupal community as the WSOD. There are several reasons why this occur, and therefore several possible solutions to the issue. So, it is risky, and able to ruin your site at all.

Although it is a fact that many pages use Drupal or Wordpress basics, but still for such a platform as Envienta, this will not acceptable. At least, as important as most popular community platforms nowadays. Imagine that how serious it would be for a familiar/popular community website, like Twitter or Facebook. This can not happen under any circumstances.

In Concrete5, the situation was different. It was designed for ease of use, for users with a minimum of technical skills. It enables users to edit site content directly from the page. And that's very nice too, but just as much as it give, it takes away too. We wanted to use a CMS which is able to edit in live. This was the best we found on the internet, based on the feedbacks and the lists. But this experiment did not succeed. We had to see that what these "live" CMS systems are giving is more like disadvantages instead of advantages for this project.

We wanted a system that has the simplicity, but the same time strong. Furthermore, the possibility to built on it. At this point in time, we focused more on the frameworks itself, to start with a raw or empty system. Then came the October and the Grav CMS. The latter one was really interesting, because we looked at what was the most proven Open-Source CMS in 2016. Grav Receives 2016 CMS Critic Award for Best Open Source CMS. Because of this, we paid attention about it, and gave it a chance to check to proof. But soon it's turned out that, it is still built for making blogs mostly, like Wordpress. Nevertheless, it was more constructive than the ones we have listed above. It's supported a lot more things than its companions. So many things are already supported by the system, what we are also looking for, like: *Twig templating* system (rawly), *Markdown* editor, *Symfony Console* and *Gregwar Image Library.* These are real pearls for us, but not for the project, because if we manipulate the system and may similar anomalies will occur like Wordpress and Drupal, then we will fail. We cannot risk this either.

The question may arise as to why we were looking for the year 2016, instead of next one, year 2017? The answer is simple. Usually it takes time to develop an Open-Source software. Since these are usually made on a community basis, it takes time to create a stable version. We have preferred to take the results of the previous year as a basis. During our studies, wa also experienced that how often new versions are could change.

The final one from our CMS list is the mysterious October CMS. This system has been added to our list, because it's based on a framework called Laravel, that has attracted our interest. Though it was quite young on the market (3 year, since 2014), according to it's description, the stable version already running on it. There are many reasons why to use October CMS. We really liked the "*Extendability*" part, because it's supported the plugins which are integrate seamlessly with the platform. It was pretty convincing to use it, because if we using nothing, but pages that will be plugin-based, then it can be useful for us. But sadly again, these plugins are meant for the system itself, for the core. So, it's not worth it again, because when updates are comes, it will be unstable later on again, because of the custom changes. A decision was made. No more CMSs, just frameworks.

1.1.3.2.2 - What a Framework is good for(?)

The framework is a collection where the most widely used functions and methods are collected, which the programmer can easily use later. There are often rules and constraints associated with a framework that needs to be adapted, but they all have the advantage. Anyone who says that

without a framework can not build a secure or well-publicized page, I would doubt it. For a long time, we built our pages from zero, saying it was task-specific and it would not make sense to use Wordpress or Drupal. We had a *function.php* file where we collected the useful functions, an *init.php* at the beginning of the *index* file where the basic settings were made.

The page did not contain any unnecessary code, it has completely done its job. So we had to look at it any time, because we used the same encoding patterns and layouts in each of them. However, if we consider this, actually it is a framework, it isn't documented, and because of that we work alone, obviously there are shortcomings or gaps in it. The advantages of frameworks is that they have a unified documentation, and programmers are trying to adapt the rules and principles provided by the framework and write their programs.

So other developers can easily visualize it and we're also just going to continue the project later on. Nor is it a disadvantage that we can usually write custom plugins for the frameworks, which can simply be integrated into another project as well. Up until now, we extracted the functions from the *function.php* which we needed, but it was a pretty chuppy job. Now the plugins are sit in a folder(s) and the page will load which is needed. There are still these "rules". Why adapt the rules, it makes everything way more difficult for us. But not for sure(!). For instance, the rule is that our tables are plural in English and the foreign keys in it are called in English in some numbers. If we run a quick program then it's will recognize the relationship between the boards and draw the model out of it. It saves you a lot of time, it's definitely worth it.

Another advantage of the rules is that everyone has to write plugins in the same way, so someone who will write one and then publish, it's can certainly use in other projects. So a framework will:

- Unifies the code structure
- They contain useful, pre-written components such as *Session management, Access control, Form generator* and so on
- Once you learn it, you will undoubtedly speed up the development in your project

It is worth to pursuing the perfection, but always let ourselves know what is the required and the sufficient requirement for the given task. If a page is made in a serious framework, in most places the point is to be cheap, and works well. A page will be safe because it was well programmed. Anyone who will sacrifice his life to find an error in it will eventually find one. Behind Google Chrome are also the best programmers, but bugs always come.

1.1.3.2.3 - Web Application Frameworks Image_web_frameworks

The October CMS was a good experiment to know which frameworks we should use or build on. By examining the CMS cases better, we have come to realize that we need to build up our own system. The last one (October CMS[30]) we liked was really convincing, but we wanted without the plugin system, just the raw system itself. It is apparent from the description that it uses the so-called Laravel system. Then we looked at what other systems are still use this particular framework and how effectively(?). We have found a very good source that describes the five best Laravel CMSs (Review: Top 5 Laravel-based CMSs).

From the evaluations it was clear that Laravel would be one of the lucky ones, what we will choose. So we kept is. Of course, we did not stop at this point. We were looking to find the best that meets our needs. We've been using Wikipedia's knowledge to know what kind of frameworks are in this field. The list is rather long and complex. Although we didn't want to make any prejudices, but eventually we chose Php. The creative group restricted the circle to this area. The explanation was

---

[30] October CMS - http://octobercms.com/

that, *"this programming language will cover our current goals to build this platform."* In addition to Php, the Python was the another option to choose. The choice was influenced by the fact that the group's resources are limited. Therefore, the language has been selected, which every developer knows (including us).

1.1.3.2.4 - Php - in a nutshell Image_php

PHP or Hypertext Preprocessor. Actually, a server-side programming language, which is typically used on HTML (Hypertext Markup Language) pages. Provides active, dynamic web pages. Contrary to traditional Html pages, however the server's Php commands are not send to the client, they are processed by the Php interpreter on the server side. The Php module can be used in the Apache webserver and you can write the Php code directly into the source text of the Html page. In addition, Html elements in our programs are remain untouched.

The great advantage of this is that the design and the logic of the pages are can be clearly separated from each other within the sheet(s). Thus, a person or people can deal with the layout and the sight of the page, while the others are write the program without interfering with each other's work. Php is allows you to separate the encoding, design, and assembly sections. Codes can do database queries, dynamically create images, read and write files, connect to remote servers, etc.

Finally, the output of the Php code comes with the specified Html elements to the client and the Php code remains hidden. Advantages of Php:

- Open-Source
- Portable: UNIX, Linux and Windows
- It contains a wealth of useful functions, others can be accessed from the internet
- Works under both Apache and IIS[31]
- Can be used as CGI[32] and as a module
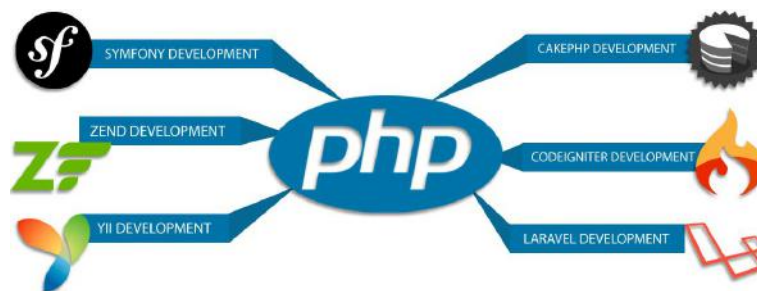
Php-based frameworks have been reduced again, based on popularity and experience. The most well-known ones have come to the fore:

● CakePHP ● Laravel	● Phalcon ● Symfony	● Yii ● Zend Framework

The creative team has worked with the *Phalcon, Symfony and Zend Framework* before. *CakePHP, Laravel* and *Yii,* however, have been quite popular over the past period. This is important, because we have to choose a system that has a great development team behind. Another aspect is to be handleable and customizable on every level. Bearing in mind that the platform may change in the

---

[31] Internet Information Service - https://en.wikipedia.org/wiki/Internet_Information_Services
[32] Common Gateway Interface - https://en.wikipedia.org/wiki/Common_Gateway_Interface

meantime (modules, functions, surface(s)), because the goal is that users themselves can be developers too. So we have to leave the opportunity open for this, from the beginning.

Before we narrowed down the results, we looked at some statistics on the internet. The most remarkable was a comparison of frameworks - (Codeigniter Vs CakePHP Vs Yii Vs Laravel). Although *Codeigniter* wasn't known, *CakePHP, Yii* and *Laravel* were reinforced. At this point we have reached a consensus to focusing on the popular ones.

1.1.3.2.5 - Popular frameworks

According to the article, the last three frameworks are quite popular among the web developers. Which is a very good news for us, because as they are, we are also an Open-Source team. So we can connect to each other's work. We've analyzed the remaining hits on the list one by one.

CakePHP - is an Open-Source web framework. It is following the MVC[33] design pattern and it is written in Php, the concept is inherited by Ruby on Rails, issued under the MIT License[34]. It is uses many well-know software development concepts, and software management pattern, such as COC (Convention over Configuration), MVC and Front controller. It was developed in 2005 when a Polish programmer Michal Tatarynowicz wrote a primitive quick application development framework in PHP and named Cake. MIT licensed the framework and opened it to developers of online community. Among others, Ruby on Rails inspired the project, CakePHP has taken on many concepts.

So, CakePHP is another powerful and user-friendly framework that gives a really simple and smooth start to projects. This is guaranteed by the MVC convention. The system includes security configurations, authentication options, and session management. Applications are fast and easy to maintain. Built-in CRUD (Create Read Update Delete) support greatly facilitates database management.

Yii - is an object-oriented[35] component-based event-driven framework written in PHP programming language. It's used for dynamic web applications[36] and websites by programmers. Its name is an acronym, "Yes It Is!" words. The Chinese word for Yii is "light", which is a real name for this system. It's also a fresh, security-intensive, fast application. It includes input validation, output filtering, SQL injection protection, MVC design pattern tracking, role-based access control and authentication, Ajax-widget management, layered cache management, and one-edged documentation. An ideal platform for social media applications, web applications, SaaS and PaaS purposes.

1.1.3.2.5.1 - HumHub - a little detour *Image_humhub*

> In the past, we are already dealing with the *Yii framework*, but just for a short time. According to the plans at that time, there was a concept of an internship student network. The goal was a fast-paced social network. An open-source system was needed. That's how we found the *HumHub - The flexible Open Source Social Network Kit for Collaboration - CMS.* The initiative was then dismissed. Since the unified platform is the goal. So the current circumstances are the norms.

Laravel - is perhaps the best, brilliant PHP framework that combines a number of robust services in a package, such as RESTful routing, easy email sending, database migration management, Blade

---

[33] Model View Controller - https://en.wikipedia.org/wiki/Model%E2%80%93view%E2%80%93controller
[34] MIT License - https://en.wikipedia.org/wiki/MIT_License
[35] Object-Oriented Programming - https://en.wikipedia.org/wiki/Object-oriented_programming
[36] Dynamic Web Applications - https://en.wikipedia.org/wiki/Web_application

Template Manager, and resourceful controllers. It's a basic feature of using simple, expressive syntax, which saves developers from many headaches. It delivers lots of, typically repetitive tasks into your hands, such as authentication, path, session and cache. Developers can easily create great, powerful, and smart apps with the tools they want and those are supported by the Laravel community. It is not important how large and complex the project is, because Laravel is able to serve simple JSON (JavaScript Object Notation) API[37] tasks and enterprise needs as well.

Any of these frameworks can make applications faster and easier. Each has its own specialty so it can be used for any kind of project purpose. The facts speak for themselves.
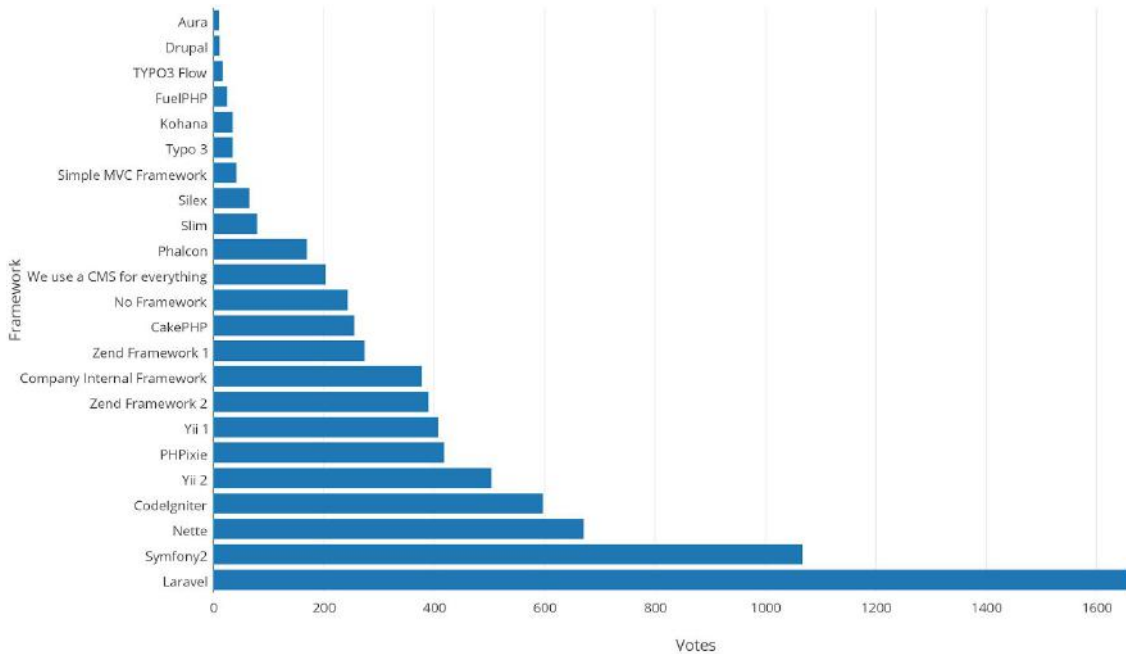
(Php popularity at work - SitePoint, 2015)

The creative team was convinced by the chart from the site. Which shows prominently that Laravel is the winning choice. We also agreed about the choice. Laravel is highly stands out from the other frameworks. It has become so clear which system we are going to build on the second version of the platform.

1.1.3.2.6 - Laravel - The PHP Framework For Web Artisans Image_laravel

At this point, we implant the static code what we wrote so far, into the Laravel system. Laravel it is a framework (mostly) for front-end web developers who don't want to mess around with difficult and confusing grids and systems, like in Wordpress or Drupal.

Laravel comes with a bunch of useful modules and extensions, and already built-in functions (and current is v5.5).

"Some of the features of Laravel are a modular packaging system with a dedicated dependency manager, different ways for accessing relational databases, utilities that aid in application deployment and maintenance, and its orientation toward syntactic sugar..

As of March 2015, Laravel is regarded as one of the most popular PHP frameworks, together with Symfony, Zend, CodeIgniter, Yii2 and others." - Source: https://en.wikipedia.org/wiki/Laravel

It is based on the MVC structure, which is stand for Model View Controller. It is a software architectural pattern for implementing user interfaces on computers. This will connect three part in

---

[37] Application Programming Interface - https://en.wikipedia.org/wiki/Application_programming_interface

an application. These components makes the core inside the framework. Previously it is been used for desktop GUI's (Graphical User Interface), but later on, this architecture became a well-tried design web applications.

1.1.3.2.7 - The MVC - pattern Image_MVC

The *Model* is domain-specific representation of the application managed information. The domain logic will reports the mere data. For instance, it will calculate that how long are the users been in the system or how much is the whole price in the shopping basket. Many applications use permanent storage procedures, like databases for storing datas. The *MVC* doesn't mention the data access layer separately, it is included in the model.

The *View* displays the model in a proper shape which is suitable for the user interaction, typically in the image of a user interface element. There are different views for different purposes, for the same model.
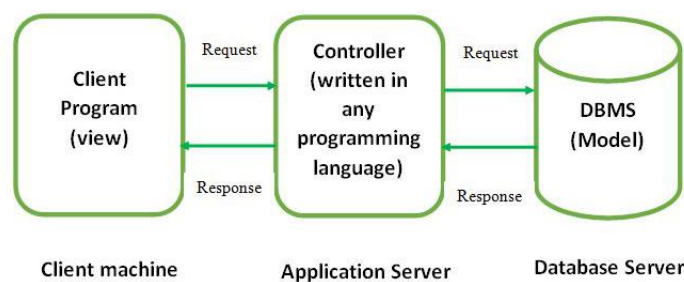
The *Controller* It processes and responds to events, typically user actions, or gains changes in the model. *MVC* is often seen in web applications where the view is the current Html page, the controller is the code, which collects dynamic data and generates the content in Html. Finally, the model is represented by the content, which is usually stored in databases or Xml files.

Although the *MVC* has many interpretations. For instance the user do some impact on the user interface - pressing a button. Then the controller takes over the incoming event from the user interface, often through a registered event handler or recall. After that the controller creates a connection with the model, or may update it in a manner that is appropriate to the user's activity - the controller updates the user's shopping basket for e.g. - complex controllers are often formulated according to the instruction pattern(s), for unlocking operations and simplifying enlargement.

The *View* indirectly creates a suitable user interface, based on the model. - The *View* will creates a screen to listing the contents of the basket for e.g. It retrieves the datas from the model. The *Model* has no direct "knowledge" of the *View.* After all these the user interface is waiting for another/next event that starts the circuit from the beginning. By separating the *Model* and the *View*, MVC reduces the structural complexity.

1.1.3.2.8 - Laravel - Blade engine Image_Blade

Following the *MVC* architecture logic, there is a part in Laravel called Blade templating engine. This engine is meant for making well-structured and transparent parts. With that, it is much easier to work separately between front- and back-end. They do not interfere with each other during the development.

Previously we met something similar during our lessons. For instance the "*Foundation"* (like Bootstrap). This framework is able to split up a site for blocks. Every main tag is a potential element to split up - it is could be looks like this - *Header, Body, Footer.* This way of coding makes

the site very efficient, because with it, you don't have to repeat the same code over and over again, simply just write the link path instead, which is represent the stored the code snippet.

The *Blade Template Engine* works like this as well, more or less. In that case we have a unique way to implement our code. All the parts have to and with a .blade.php extension, and are typically stored in the resources/views directory. In that directory there isn't any rule, how you should create your folders structure or keeping them. Means we can build up any kind of structure what we want or used to. It was the same with this project to. We decided to use our regular folder structure like in *Finder* (Mac) to keep the files as structured as it's possible. That's looks like this:

00_header-10_login-20_platform-30_sidebar-40_topbar

50_project-60_profile-70_tools-80_pages-90_footer

Each folder represent their own "section/field", and contain the relevant files. Within this division the blade files are more manageable, and it is more efficient to develop the platforms, because the content files are totally separated in another folder. Beside this we can creates "endless" long subfolder with files. An example route will looks like this:

```
Route::get('home', function () {
    return view('20_platform.21_layouts.platform'); <- 20_platform - Main folder
})->name('20_platform.21_layouts.platform'); <- 20_platform.21_layouts - Subfolder with the file
```

Here we don't have to indicate that file extension (.blade.php) within the *"platform"*. Laravel automatically know this.

Some parts can be expanded. In our case most of the contents will be done by like that. For this we will use the *template inheritance* and *sections.* Here is a simple example of it:

```
<body>
        @yield('content') <- extended file
        @include('90_footer.platform') <-Including files, like header, footer, etc - same as pure Php
</body>
```

In the extended 'content' file will looks like this:

```
@extends('layouts.app') <- The path
@section('content') <- The extended content within sections
        This is the content part
@endsection
```

In the *90_footer* folder the *platform* file is called - within the codes

It is could be much more complex, but the purpose is that we are able to accomplish any kind of tasks or orders from the non-developers in the group during the project processes.

Laravel is also Open-Source, there is a Github profile where everyone is able to download the source code.It is hosted on GitHub and licensed under the terms of MIT License.

1.1.3.2.9 - The platform features

Envienta would like to share many other features on the platform. With the power of the Laravel framework is probably possible. According to the latest Laravel News, the Php features are gonna be expanded, which means the Envienta developer group will able to implement much more complex features and modules in the near future. What sort of special functions are expected? Well, let's talk about a bit, the complexity of the surface.

As we mentioned above, the developer group final decision was that to create an UX-map plan. Which means everyone will able to follow the project and track the relevant updates. This map will show each of the steps how the main and sub lines are made. It is an important part, because the developers will receive useful feedbacks from the public, then they can make a comparison between the planned map updates and the needs from the users. In that way the upcoming Envienta features and modules will be done like this. Nothing is important better than feedbacks in this case.

Under the "title: *Special functions"* it should be understood that the website will only run browser-based applications. All this to keep the users on the site, no matter what they are probably will working on, the site have to provide tools for them in a wide scale. Including tools such as *Online Office, 3D CAD, File Manager, Cloud Client, Messenger, Git Server, Code Editor.* Of course there will be many other little gadgets from a simple calculator to an online weather app.

There are many awesome Open-Source softwares already on the internet. The main goal is to collect these and implement into the platform, to make them unite in one place, like a playground. Just to mention the bests of them:

1. *Online Office*	1. OnlineOffice	1. [Link]
2. *3D CAD*	2. FreeCad	2. [Link]
3. *File Manager*	3. RichFileManager	3. [Link]
4. *Cloud Client*	4. NextCloud	4. [Link]
5. *Messenger*	5. Telegram	5. [Link]
6. *Git Server*	6. Git SCM	6. [Link]
7. *Code Editor*	7. ICEcoder	7. [Link]

The system that will bring this whole thing together, it's will be the blockchain technology. This solution is smart enough to handle all the traffic, which will be generated by the future users. Also it will makes the system compatible with other blockchain systems and their markets. This in itself has many benefits, but the platform will not stop here. To buy something in our or in the others markets you will need money obviously. The ICO[38] is meant for this, to make a new currency called ENV (from the name Envienta) in the system to make transactions. [Image_ico]

1.1.3.2.10 - Comparison - Features

Several things have been considered since the previous version. Since then, more attention has been paid to the development of the platform. More elaborate parts and more thoughtful arrangements have been created ever since. The first was a quick attempt, a playground if we looked at it. Ideas were merely ideas. But all this is not in vain.

The reason for the haste was the attention. Envienta, as a brand and subject, began to get attention. But due to the many changes, there was not enough resources. As a result, the surface and the tasks at that time were more like just examples. Things were not ready to take the start of

---

[38] Initial Coin Offering - https://en.wikipedia.org/wiki/Initial_coin_offering

actual development. Although the participation and presentation of the events was positive, the platform was still only in its concept phase.

It's no coincidence that the development was restarted. That's why it's got the version 2.0 version. This development period will be long before it reaches the open beta version. The calculations justify this.

Everything has been reworked from the basics, such as the interface, the pages, the design, the look, the features and so on. The concept itself has changed. Its got a frame. Literally. Lessons learned and we have caught the weak points to get develop further them. Let's introduce some of these.

1.1.3.2.10.1 - Just log in or "Welcome token!" *Image_token*

One of the most important thing is the *Sign in* part. Unlike other sites, this platform will not require the user(s) to sign up and then in. This has been a tedious job for a long time and it's been unfashionable way. Besides, it is not safe either. Even if we do it with a community platform profile, like Facebook or Google. Taking these points into account, we thought there is should be a simpler solution out there.

The goal was to make it easier to log in. Without any stipulations or agreements. This has been achieved through a technical solution that is already used in Blockchain. It's called the token. Originally, the token is itself is meant for the cryptocurrencies, because blockchain-based tokens provide an ingenious way to fuse practicality and buy-in. If we take the theory behind this, we'll able to use the system as a *"Sign in"* or *"Login"* module. This will create a secure bridge between the server and the client (user).

The token is not more than an encrypted number sequence. What is unlocked when the user is connected to the server. All this without any password and memorized by the user. You do not have to worry about forgetting your password. Each token is valid until the user is not logging out. A token can be sent in a simple link. The advantage is that it can be sent without waiting and quantity. Of course, the question is how can you imagine this in the reality? Here's a short a example: Go to the website, especially the login part. Then just type your email address. Finally you will get an email with the token. Click on the link and you will be navigated into the website landing page. Tada, that was all!

After the login, the user will able to do almost anything. For instance to create a new project, it is required to fill out your profile with more specific informations like skills and experiences. With the token login your Gravatar[39] profile will activate your (newly created) profile inside the platform. Means short personal information about you will be placed there, such as *names*, *email address, about* and so on. So basically all the public things you shared before. That is all in a nutshell. After all these you are good to go to make a change in the world with your groundbreaking projects.

1.1.3.2.10.2 - Surface / Interface issue

The user interface is very important, we are not talking about a traditional interface. Although the site will have a social network, the goal is to collaborate and not the online social life, as we used to do with the Facebook. This place will not about the kitten videos, rather than technological solutions. More like *how to make a Farmbot in your garden* or *make your own wind turbine*. This is important, because the site guide will says *entertainment is not the primary goal of the website*.

---

[39] Gravatar - https://secure.gravatar.com/

Of course, the goal isn't that the users are should not having any entertainment. It is on the contrary, the productive entertainment/fun is the point. Making the users to create and enjoy creative things. This will require tools of course. Therefore, the profile page will be one of the most important developments. This page is all personal, that's means the user will have tools like in a regular file manager. Although this part is still unfinished, the goal is to shape the functions.

As we get used to a file manager, we can handle multiple tabs. So we will able to separate the workflow to get an overview of our process. In this way the project management is much easier. These tabs gonna be pinnable. If you are middle of a project, it's easily could be your best friend. You can edit all of your work at one time. The long-term goal is to use an universal iFrame to display other pages. Therefore, visiting other sites may become redundant or unnecessary.

So the interaction is essential here. However, entertainment and relaxation will also appear as an option. We will be able to play our own music without leaving the browser. This is true for the movies and other files too, essentially for everything what you can play in a browser. All this can drastically save your time, not to mention that, all these just in a browser window, which is portable/mobile. You can work wherever you want, with the given tools, without restrictions.

A similar initiative has already been a case in the history of the Internet. For instance the Myspace, where the website itself built on a real online music player. Or take an example of the well-known gDrive from Google, which is a file manager based on cloud computing. These are just two example of what a browser is capable today. Envienta is endeavors to collect these and merge them into a powerful surface.

1.1.3.2.10.3 - The Social "Experience"

As we mentioned above, the site does not an online social media and social networking service. At least not like Facebook does. Although there are already and will be signs which are similar, but these are gonna be different. The purpose makes the difference. In our case, the goal is the productivity and the innovation. A new kind of community space is the goal. In a matter of fact, we could compare more common social network to highlight the essentials. But rather, we list briefly the differences.

Medias	Links/sources	Description/Focus
1. Facebook 2. WhatsApp 3. QQ 4. WeChat 5. Qzone	● Review ● Review ● Review ● Review ● Review	1. General: photos, videos, blogs, apps 2. Gen: instant messaging platform 3. (chat-based) social media platform 4. All-in-one communications app 5. General. In Simplified Chinese; caters for mainland China users

Sources: 60+ SOCIAL NETWORKING SITES.. in 2017, List of social network websites

The Top 5 list shows that community media are more likely to take their place because of their popularity and habit. But in many cases, which is popular, it is not necessarily effective or useful. It is true that these are rather devices and communication channels, but we can not find any on the list, which is put the "DIY" (Do it yourself) philosophy on the front. Or, at least, build on a similar topic.

Of course, in the presented list we find all kinds of options (brands) to implement our various creative processes. They are not bad, but they do not give a solution or a real surface. They do not simplify the surface.

" A lot of times, people don't know what they want until you show it to them. " - Steve Jobs

From the ranked list, it seems that these sites have strong community power, however they do not giving anything new in relative terms. Of course, this is a tough exaggeration, but if we look at the facts, we can see that they do not differ, they just competing with each other. Nearly in the same categories and topics. None of them is an environment or a form that would be independent of the competition or would focus on other things.

Among other things, this is why Envienta should be a place in the community life, with this platform. We have not seen a platform on the market that always offers an editable interface where the user can publish their own project and engage it with the community without any financial or advertising costs. Or at least other alternatives to be involved.

1.1.3.2.10.4 - Common UX patterns *Image_ux*

But there are usual things and arrangements that we should keep and use. The user activity is largely depends on how familiar the surface on the website. Which common patterns are used for social networks(?). If we look at the most popular networks, we can find "well-proven" common patterns. These patterns or features have been refined and simplified over the years. The users are "learned where to find these", moreover what they are for? These are the "*notification icons" or "boxes".* For instance *Messages, notifications, requests.* All major social sites has these, such as *Facebook, Twitter, Instagram, YouTube, WhatsApp, SnapChat* and so on. Of course all of them are using different names and ways as well.

We do not want to deviate from these patterns/samples either. The content is more important than developing and building a new method that people will get used to. This is time-consuming and hindering. The layout of social networking sites are also custom, but we can see patterns there too. Following the idea, we should come up our own custom style and layout. That's obvious, it is described below, at 'Pages' section.

At first impression the Envienta platform will look like a frame. Everything in this frame will be organised around a dynamic content part. This content area is gonna be special part, because most of the pages (around 90% of them), are will be fixed there. That means all the contents and links are be shown dynamically with the help of jQuery. So the frame around the content area will stay, no matter what. Above this part there will be the (pinnable) tabs what we mentioned earlier. The contents from each site will also pinnable as well.

Dynamic content includes the already mentioned *Platform features* with the *Online office, 3D Cad, File Manager* and so on. This area is extremely useful, because simplifies the structure of the upcoming contents. The Laravel has been aligned with this view. This will completely separates the contents because these features are quite complex. In many cases, these are integrated modules which are Open-Source with shared API. For instance the Telegram Messenger which is explained below.

It has been a question since the previous version of the platform (v1.0), how should be the UI will look like? As we know, the profile page will be a central element. Most of the interaction will be there, because the user will able to monitor all the personal activities. In the other hand the User Experience and the User Interface should be a mix of harmony. None of them should be more or less to show or interact with. The update in this area is the above-mentioned "tab" system with the dynamic content. This distribution will make a balance between the huge information and the interaction with them. This part is very important, because that makes the soul of the platform.

Envienta have been using user experience design for many years now, but they are much more familiar with UX design. They told us what the UX and UI means here in the platform, what's the difference between them, and they showed us how to plan the user experience. The user experience design is the "caution" of the web-design, just from another approach. However every design takes attention of the "user", there is a personality, floating in front of the designer's eye, this is where the focus is on. Every element of design is subordinated to the user, we are all looking at the user experience. This part is described with more details in the Envienta Design section.

1.1.3.2.10.5 - Search - be universal

The platform will be absolutely opened to the visitors as well. Anyone who just want to search on the site, can do it. There will be a universal search engine for that. Almost any kind of topic can be uploaded to the site, so a lot of information will probably be generated. This will require an advanced search engine with settings and filters. This will be a separated development for the back-end team.

With this feature, you can not only search for blogs, members or shares. Essentially, as a browser search engine works, it will list all the hits by categories. Included the projects and campaigns too, with all datas. These results are could be literally everything from a garden technology to a watch. No one knows what kind of projects will come from the future users.

On the other hand, this is a great help for us to see the people's needs, so it can be used as a survey. The purpose of the site is to help the people all over the world. This also includes the local workshops across the countries, they are the key to creating nodes.

1.1.3.2.10.6 - Chat - Open-Source ways

As we mentioned above there is gonna be some integrated modules and functions from other open-source projects. The Telegram messenger is just one from these and the developers can use the source code. It was not accidentally selected. It has many advantages, such as *message encryption, groups with up to 200 member, any kind of files can be send (up to 1gb), works on many devices, full commitment to privacy, temporary conversations and secret chats ..etc.*

The other advantage is for the platform itself. If we implement the API into the system then we don't have to develop a brand new messenger application, which would take more time to code. Instead, we simply just use the given code. The second advantage is for the users who already using the app, since the website makes no difference. They will just keep using and adding new friends from the site.

First, we wanted our own messaging application to make the page unified. However, the telegram has many advantages and those can be integrated. That's why we changed our thought about it. It's a great opportunity for the network, because the project management is at the center. So it is beneficial for the members to create their own channels with a large number of staff. Also, they can send any type of file format. Probably this will generate a big traffic, so it's not a disadvantage if it is not necessarily run our own server. At least considering the current resources.

1.1.3.2.10.7 - Blockchain - as technology *Image_blockchain*

Blockchain technology has become very advanced over the years. But what do you need to know about it? What is that? What is it good for? Blockchain is a technology based on cryptoelements, a decentralized, shared database, but it is also called a shared mainsheet. Even simpler: a "book" of inventory, not just one copy, stored in a central location and shared with many people (such as sharing your photo album via Dropbox), but thousands of copies of the inventory book are

available worldwide, at home on your computer or on business servers. Therefore, the term "decentralized".

In this shared inventory book, a block contains a data packet - a list of transactions for financial transactions. Blocks are always closed with timestamps and are digitally signed. Whenever a participant in the network wants to submit a new data packet to the network - remaining in the financial example, adding a new transaction to the list - creates a new block and sends it to the participants. Blocks are linked by a secure cryptographic procedure (this is the "hash" function).

The new block is valid only with the preceding block, it must contain a reference to the preceding block. The first player who can verify and validate the block, sends the result and the logic of the transaction authentication (called "Proof of Work") to "reply to everyone". Each block must be approved by at least 51% of the participants in the network. Upon approval, participants will update their database. The inventory "book" is constructed from the chain of blocks so approved - also that's the origin of the name: blockchain.

When is it good to use blockchain technology? Blockchain technology should be used when storing, transmitting, and identifying a proprietary identity in a digitally authenticated form of a unique tool, a scarce resource - whether it is a value, (e.g.:) diamond, identity, or objective facts. Blockchain technology has many opportunities, so banks are also actively interested in it. Of these, the following uses can be of particular interest to them:

- digital customer identification in onboarding and KYC (Know Your Customer) processes
- securities trading
- optimizing the clearing and settlement process related to transaction management (eg reconciliation, domestic transfer, sending money abroad, etc.), which can significantly reduce operating costs
- compliance with regulatory requirements

What else can be built for this?

1. Banking and Payments
2. Cyber Security
3. Supply Chain Management
4. Forecasting
5. Networking and the Internet of Things
6. Insurance
7. Private Transport and Ride Sharing
8. Cloud Storage
9. Charity
10. Voting
11. Government
12. Public Benefits
13. Healthcare
14. Energy Management
15. Online Music
16. Retail
17. Real Estate
18. Crowdfunding
19. New Startups

Thanks to Laravel's popularity, we can get easily blockchain support for the framework. With this branch we can create and manage wallets, send funds and generate payment gateways. It's just an example of course. We will code our custom blockchain system and grid from scratch. It is will be based on the users projects, to make it simpler to share the knowledges, know-hows, guides and tutorials on the network.

This will require a new way how to implement, share and upload the newly created files and datas. An integrated network will be needed for the users and customers. This is not decided yet, how we gonna manage this part, but the current ideas are to making little nodes in the system. These nodes represent the "dots" that are related to each other. Like a Peer-to-Peer network where the

endpoints are communicate directly with each other without a centralised node. That's not bad, but we need more like an intranet[40].

An intranet is a computer network that uses the Internet protocol, but the access is closed to the outside world (for the Internet), or only through a gateway or firewall that controls the external connections of the intranet. This solution is actually good for projects like ours, but we would like to share things in a distributed way. So we need, more like an "expanded intranet" which is not centralised with a main server node.

1.1.3.2.10.8 - Distributed systems - as alternatives Image_distributed

The platform development will take a long time. But in the meantime, we should consider what kind of network base we should install and run the platform. So, we did some research in this field. In this experiment we found some really interesting solutions/projects. The most exciting open-source projects of the last year, the winners of the Black Duck "Open Source Rookies of the Year" Award. This site is create a survey in every year about the most interesting/popular IT trends.

According to the award, the open source world it is known that it has many innovations to develop simple solutions for complex issues/problems. Each year, there are lots of new open source projects, but only a few of them will be successful. Some initiatives are based on existing technologies, while others have completely new solutions. Many projects are designed to solve simple development problems, while others build ambitious plans that require developers to collaborate around the world.

Year after year, the Black Duck Open Source Software Logistics company selects the most promising new open source projects based on their activity with a weighted evaluation system. The initiatives are a good illustration of what topics are currently the most common in the open source community. Here's a list what we collected from this research:

1. DebOps
2. Storj
3. CockroachDB
4. Kubernetes
5. Open Bazaar
6. IPFS
7. cAdvisor
8. Terraform
9. Dat Project

All of them are very interesting and promising. But the most promising what we were found was the IPFS and Dat Project. These two were the most relevant to us. But later on, we choice the IPFS. Dat Project and the rest of the list did not really support the distributed grid system, what we wanted actually.

An exciting new initiative is IPFS, which aims to create a global file system that can reliably store all resources on distributed platforms. This concept would create the next iteration of the web. Interplanetary File System (IPFS), developed by the Interplanetary Network, aims to create a distributed, peer-to-peer network that simultaneously lends properties from the web, BitTorrent and Git concept. In a specialised language, "IPFS" is a high-throughput, content-centric block store, where each content element is targeted to hyperlinks.

This corresponds to a generalized Merkle-Damgard structure[41], a data structure that can be built into a versioned file system, blockchain, or the Permanent Web. In our case, this means that IPFS has no *single point of failure*, and even the nodes do not have to trust each other. First, IPFS can be understood as the successor to HTTP / HTTPS, which is an alternative protocol for locating and

---

[40] Intranet - https://en.wikipedia.org/wiki/Intranet
[41] Merkle-Damgard Structure -
https://en.wikipedia.org/wiki/Merkle%E2%80%93Damg%C3%A5rd_construction

accessing resources on the Internet. However, while in HTTP there is a client-server relationship (the former asks, the latter send the data), IPFS breaks this distinction.

The nodes are become the part of the network, and these nodes automatically begin to mirror the data in the system, which is shared in a distributed way, redundantly available, depending on the available storage. Since all the resources are located at multiple nodes at a time, failure of a node does not cause any interruption or loss of data - just as a *seeder* exit does not endanger a BitTorrent *swarm* operation.

The worst scenario (from the BitTorrent example) if the last seeder leaves the swarm with the user who have the full set of (the origin) data. The essence of this system is to avoid this scenario - replicating all data on as many nodes as possible, protecting data loss. The implementation is virtually a track-free BitTorrent implementation, combined with Wuala, Git, Bitcoin driven Blockchain and many other technologies. IPFS is not just a concept, developers are already working on the first implementation.

Go-ipfs (obviously) made in Go, and already includes a full-featured IPFS node, a Linux CLI, libraries, a JSON-based API (for node control), a gateway (which is allows http-based browsers to view IPFS content) and an UI which is required for server management and configuration. The current software version is 0.26.0.

1.1.4 - Monitoring

Monitoring is an ongoing process in our working process. The goal is to identify any upcoming problems and take the necessary action. Monitoring includes three parts: measurement, evaluation and correction. In the measurement part we measure the ongoing project and ask ourselves where we are. In the evaluation part we monitor the project management plan and ask ourselves where we should be. In the correction part we identify actions to address the upcoming issues and we ask ourselves how we can get on track again.

For example in the case of the sign in page we need to ideate more on how to make it easier for the user to understand why this type of sign in process is more beneficial to them. It is not an easy task since the company decided to take a more unusual approach. It is worth to consider for us to rethink and remind ourselves that if users are used to a certain way of doing certain actions we either need to find a new, better but still comprehensible way or just simply go along with what the users would be more willing to go for. In our plan we need to make changes since we will work more on this particular issue and might advise other solutions and present them to the creative team of the company and argue for our ideas.

1.1.5 - Closing

Closing is the formal acceptance of the project and the ending itself. This phase consists of completing and settling all tasks in process and finalizing all activities of the process to formally be able to close the project. Here we can think of correcting grammar mistakes, checking the general structure, finalizing bibliography and appendix, reading through and check or change if necessary parts that do not make a logical continuity.

Conclusion

In our report we were focusing on to response to the problem formulation which is:

"Creating the front-end of the non-profit organization called Envienta and deciding on the possible solutions for its implementation"

The report was following the structure of the already given requirements from the part of the educational institution, ZIBAT Roskilde Campus. The structure was refined to one that would fit the nature of our report. We used the Project Management as a frame for our report regarding the content part. It would mean that we divided the Production part which is the third stage of the Project Management into two parts. The first part was focusing on the actual design considerations and processes. The second part was focusing on the considerations regarding the different technologies of the implementation of the design and the functionalities of the platform. In our dissertation we described and argued for the processes and the choices we made regarding the design and its implementations.

In the first part we used the 5 stages of the Design Thinking Model to tackle the issues regarding the design processes. We used our previous knowledge and expertise from our former education as Multimedia Designers. We put a high emphasis on to find the core message that the company stands up for. We believe that we reached a high level of understanding which was the base for our further work. We concluded that the main focus in design considerations should be towards the idea of creating the sense of community which would provide general purpose solutions for the various aspects of daily life on short and long term. In certain situations we needed to go along with the already made concepts of the creative team of the company.

One example which was also described in the report was the sign up page. There were general disagreements regarding the technologies to be used on that particular site which affected the design considerations and the user experience. In the report we described our considerations and ideas for the sign up page and also wrote down why we thought it would be beneficial to consider other solutions which would create a better user experience. It is also worth to mention that reading through the official documentations of the company made us realize that the company needs to a better job in telling its story to people in a form which is easy to understand. During our time at Envienta a marketing specialist joined a creative team who shared the same view as us and stared on working on materials.

We believe that our further considerations regarding for example colors, fonts or design layout gave a better insight for the company in which direction it would be worth to move to. As the creative team of the company is gradually growing it is important to point out that such project management and working flow that we used would not suit the needs of a growing creative and professional community. It was definitely a lesson we learned on the way. So the approach of learning by doing would very much describe the process we had while writing this part of the report.

The second part was focusing on the technological implementations. In this part we were using our knowledge we gained through our studies at ZIBAT, Roskilde Campus. Our main focus was to list the various functionalities and come up with web technologies that would fulfill the requirements of such functionalities.

We were also considering how might these technologies would serve the platform in the future as well when it would have more users and generate more flow of data. To our advantage there was a software developer in the creative team with whom we could consult our ideas and considerations. The goal of the company is to attract as many creative and professional developers as possible therefore using widely used technologies was also one of the main considerations when choosing from different web technologies. As it stands by now our ideas were taken into consideration and confirmed by the software developer through various meetings. Since our future plan is to be the

part of the creative team of the company in the future we believe that we will widen our knowledge in the technologies we advised and the creative team confirmed.

All in all the writing of the report and the working process with Envienta gave us insight into how a startup company functions within and saw the advantages and challenges of such an initiative. We can only thank for our supervisor, Vibeke Sandau and cofounder of Envienta, Gabor Kiss so that we could be part of such a working flow and made it able to widen our professional expertise.

Bibliography

Websites

A Guide to the Project Management Body of Knowledge - https://www.pmi.org/

Belbin Roles - http://www.belbin.com/about/belbin-team-roles/

Design Thinking Process - https://www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process

Primary data - https://www.reference.com/education/primary-secondary-data-5e4a8333252bf73b#

Secondary data - https://www.reference.com/education/primary-secondary-data-5e4a8333252bf73b#

Quantitative data - https://www.reference.com/math/quantitative-data-mean-7183ca415cad2c27?aq=quantitative+data&qo=cdp Articles

Qualitative - https://study.com/academy/lesson/what-is-qualitative-data-definition-examples.html

Space saturation and Group Diagram - https://dschool-old.stanford.edu/groups/k12/wiki/65da6/Space_Saturation_and_Group.html

Social Media Fact Sheet - http://www.pewinternet.org/fact-sheet/social-media/

Facebook Core Values - https://www.facebook.com/media/set/?set=a.1655178611435493.1073741828.1633466236940064&type=3

Facebook Mission Statement - https://www.facebook.com/media/set/?set=a.1655178611435493.1073741828.1633466236940064&type=3

Why People Use Social Networking Sites - http://www.pewinternet.org/fact-sheet/social-media/

Color Meaning and Symbolism - https://www.canva.com/learn/color-meanings-symbolism/

Feeling blue - https://gigaom.com/2013/07/10/feeling-blue-why-tech-designers-may-want-to-give-the-color-a-rest/

Color Psychology - https://sites.psu.edu/siowfa15/2015/09/10/color-psychology/

How long do users stay on web pages? - https://www.nngroup.com/articles/how-long-do-users-stay-on-web-pages/

Negative aging: leave quick or stay long - https://www.nngroup.com/articles/how-long-do-users-stay-on-web-pages/

Inside OAuth 2.0 - https://www.upwork.com/hiring/development/oauth-2-authorization-framework/

Common region - http://vanseodesign.com/web-design/gestalt-principles-of-perception/

BitShares Your share in the Decentralised Exchange - https://bitshares.org/

Bitcoin to be accepted by university for free payment - https://www.timeshighereducation.com/news/bitcoin-to-be-accepted-by-university-for-fee-payment/2010698.article

Brainstorming tool: Realtimeboard - https://realtimeboard.com/brainstorming-tool/

Bitcoin: Transaction block chains - https://www.khanacademy.org/economics-finance-domain/core-finance/money-and-banking/bitcoin/v/bitcoin-transaction-block-chains

Blockchain (database) - https://en.bitcoin.it/wiki/Block_chain

Blockchain is set to take the tech world by storm here's why - https://www.computerworlduk.com/galleries/security/how-could-blockchain-be-used-the-enterprise-3628558/#2

Blockchain.info - https://en.wikipedia.org/wiki/Blockchain.info

Blockchains and the Internet of Things - https://www.postscapes.com/blockchains-and-the-internet-of-things/

Build unstoppable applications - https://www.ethereum.org/#power-tools

Create your own cryptocurrency with ethereum - https://www.ethereum.org/token

Creative Commons - https://creativecommons.org/

Creative commons Ascribe.io - https://www.ascribe.io/our-radar/creative-commons

Decentralised Autonomous Organisations: Ethereum Sparks Up Googles of Tomorrow - https://cointelegraph.com/news/decentralize

Ethereum vs Bitcoin - https://www.coinmama.com/blog/ethereum-vs-bitcoin#

GNU GPL - http://www.gnu.org/licenses/gpl-3.0.html

How Bitcoin Works in 5 Minutes (Technical) - https://www.youtube.com/watch?v=l9jOJk30eQs

How One School is Using Bitcoin Blockchain to Authenticate Degrees - https://thenewstack.io/one-school-using-bitcoin-blockchain-authenticate-degrees/

How To Deploy A DAO [non devs] - https://github.com/slockit/DAO/wiki/How-To-Deploy-A-DAO-%5Bnon-devs%5D

How does Bitcoin work? - https://bitcoin.org/en/how-it-works

How marketers use social media - https://www.statista.com/chart/2289/how-marketers-use-social-media/

How to create a proposal [Blockchain] - https://github.com/slockit/DAO/wiki/How-to-create-a-proposal

MultiChain Private Blockchain — White Paper - https://www.multichain.com/download/MultiChain-White-Paper.pdf

Oxford Dictionary - http://www.oxforddictionaries.com/definition/english/target-market

Parisian Engineering School Will Certify Diplomas on the Blockchain -
https://www.cryptocoinsnews.com/parisian-engineering-school-will-certify-diplomas-blockchain/

PwC network - https://www.pwc.com/gx/en/about/corporate-governance.html

Schools are recording students`results on the blockchain -
https://www.cnbc.com/2016/05/09/schools-are-recording-students-results-on-the-blockchain.html

Sociale medier i Denmark -
http://businessculture.org/northern-europe/denmark-business-culture/social-media-guide/

South African Primary School Blockchain -
https://www.coindesk.com/south-african-primary-school-blockchain/

The 9 Mistakes I Made When Bringing Blockchain to My Startup -
https://www.coindesk.com/the-9-mistakes-i-made-when-bringing-blockchain-to-my-startup/

The greeter Your digital pal who's fun to be with - https://www.ethereum.org/greeter

Understanding the blockchain - https://www.oreilly.com/ideas/understanding-the-blockchain

Why Business Schools need to teach about the Blockchain -
http://www.the-blockchain.com/docs/Why%20Business%20Schools%20need%20to%20Teach%20Blockchain.pdf

html5 framework for blockchain applications - http://blockstrap.com/

Books

- ❖ A Long Finance report prepared by Z/Yen Group (2014 dec) Chain Of A Lifetime: How Blockchain Technology Might Transform Personal Insurance

- ❖ Bergstrøm, Bo (2008): Essentials of Visual Communication. Laurence King Publishing Chap. 2, 5 & 10.

- ❖ Boulton, Mark (2009) : A practical Guide to Designing for the Web, Five Simple Steps (Free ebook).

- ❖ Business Models Osterwalder, Alexander & Pigneur, Yves (2010): Business Model Generation, John Wiley & Son, New Jersey, US

- ❖ Communication Windahl, Sven; Signitzer, Benno; Olson, Jean T (1992): Using Communication Theory. SAGE. Pp. 133150.

- ❖ Deloitte (2016) Blockchain: Enigma. Paradoxon. Opportunity

- ❖ Design Thinking Cross, Nigel (2011/2013): Design Thinking Understanding how Designers Think and Work. Introduction pp. 130, Bloomsbury Academic.

- ❖ Frederic Laloux: Reinventing organisations

- ❖ Graphic Design Dabner, Calvert og Casey (2010): The New Graphic Design School: A Foundation Course in Principles and Practice

- ❖ Gregersen, Ole & Wisler, Ian (2013): Usability – Test methods for making usable websites, 1. ed., ISBN: 9788791171451

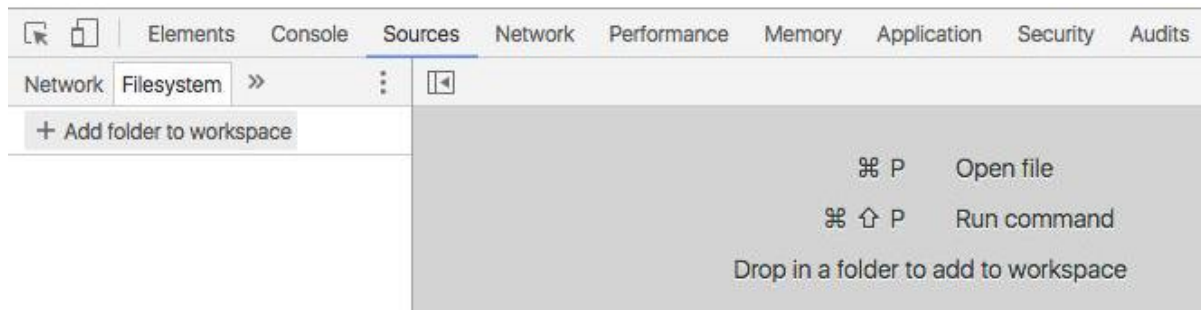- ❖ Jake Spurlock, Dave Winer (2013) Bootstrap: Responsive Web Development

❖ Kevin Delmolino (2015 nov 18) Step by Step Towards Creating a Safe Smart Contract: Lessons and Insights from a Cryptocurrency Lab

❖ Melanie Swan (2015) Blockchain: Blueprint for a new economy

❖ Organizational Culture Shein, Edgar H. (2010): Organizational Culture and leadership. Chapter 2 and 3, JosseyBass, San Francisco, US

❖ Osterwalder, Alexander (2010) Business Model Generation John Wiley and Sons; 1st edition

❖ Project management Kousholt, Bjarne (2012): Project management theory and practice, 2nd edition, Nyt Teknisk, Forlag, Valby, Denmark

❖ Stickdom Marc, Schneider Jakob (2011) This is service design thinking

❖ T. Kotler, Philip (2011) Marketing Management Pearson; 14th edition

❖ UK Government Chief Scientific Adviser (2016) Distributed Ledger Technology: Beyond Blockchain

❖ Wysocki , Robert K (2013) Effective Project Management: Traditional, Adaptive, Extreme

Appendix

How_Might_We_questions

- How Might We create some material that would serve the better understanding?
- How Might We make the website so that it would represent the core values and philosophy of the company on an easy to digest way?
- How Might We write an About part of the website that is short and easy to understand?
- How Might We use design principles to serve a better understanding of the usability?
- How Might We create a website that simplifies the complexity between the values of the company, the functionalities and the ease of usability user?
- How Might We create a feeling of community for the user?
- How Might We tell the story of the company?
- How Might We make the topic of sustainability accessible, fun and engaging?
- How Might We be different from other platforms that offer a sense and feeling of belonging to a community?
- How Might We tell the user what Blockchain is in simple terms?
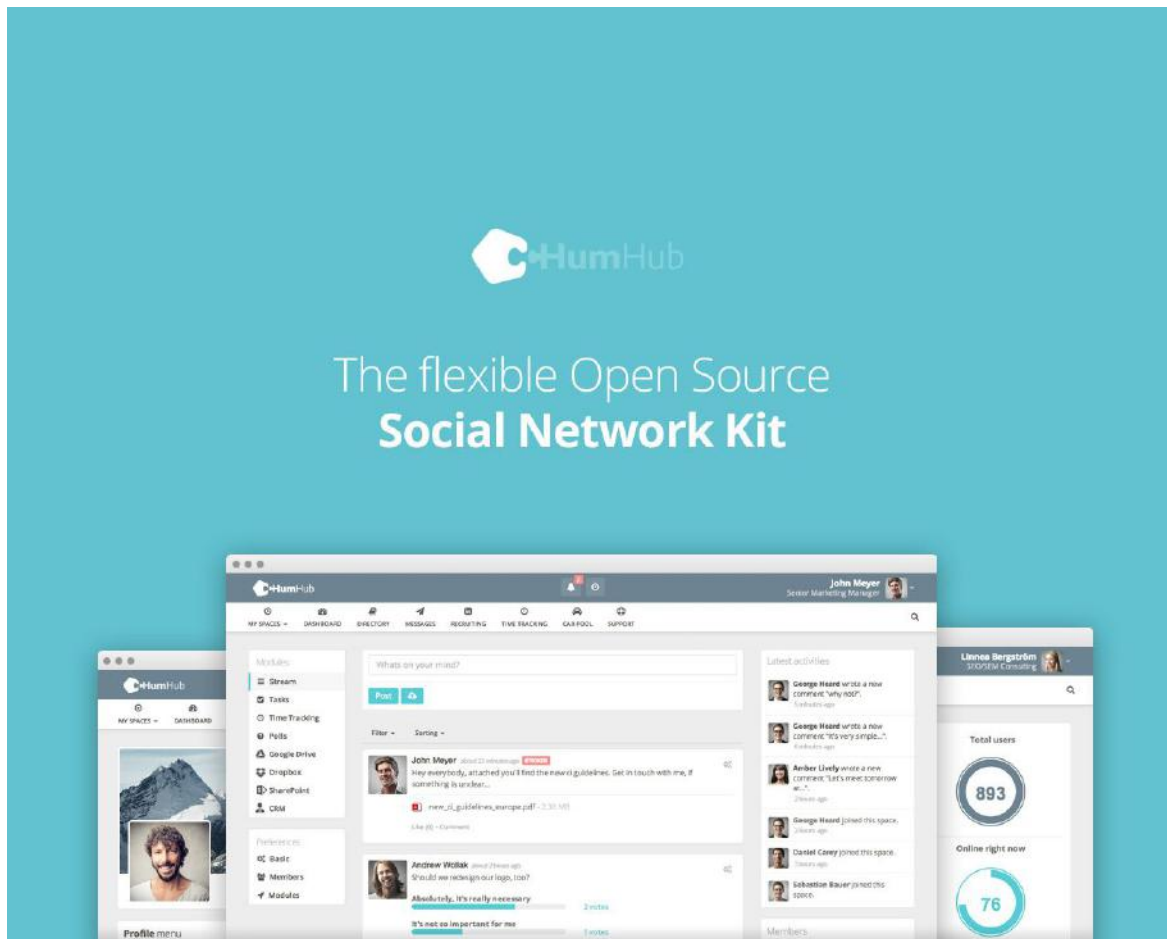
Image_workplace - workspace
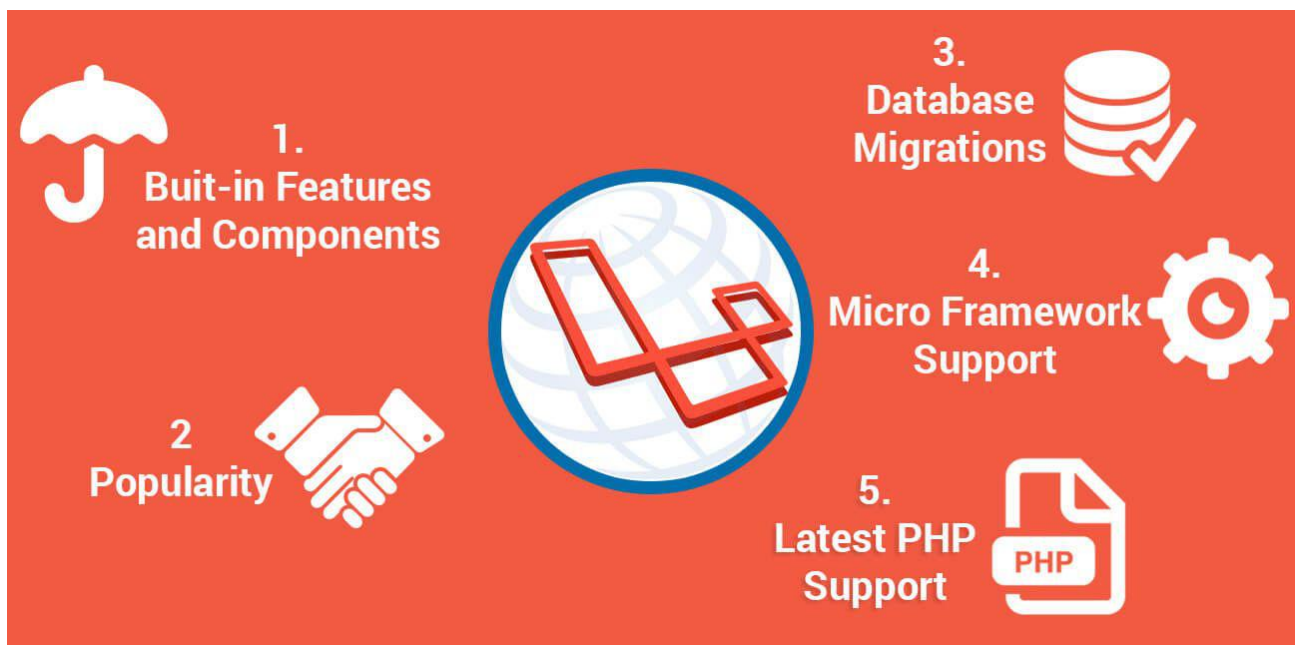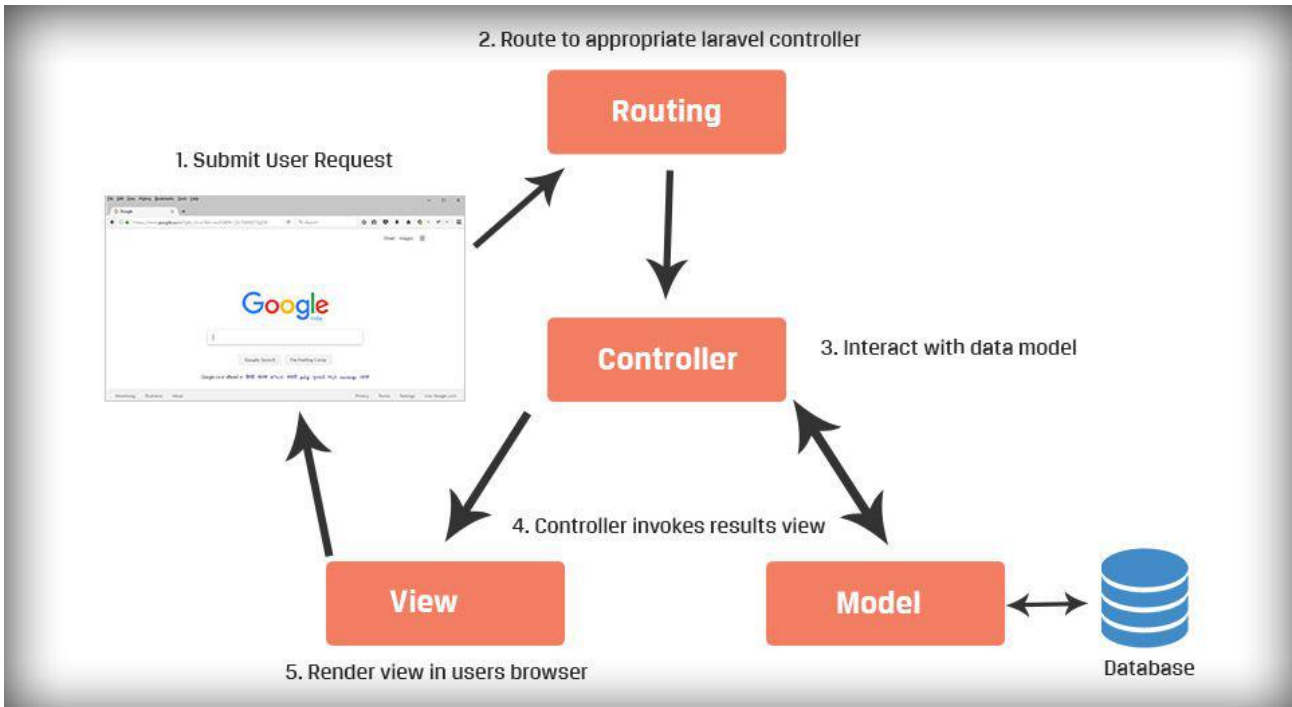
Image_web_frameworks
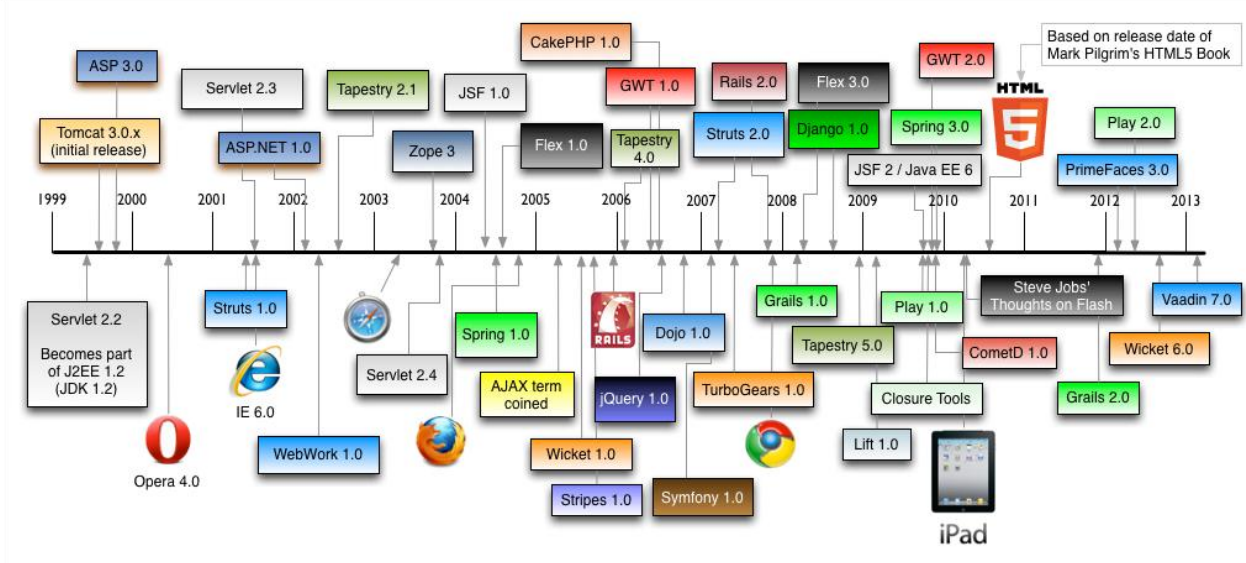
Image_php

Image_humhub

Image_laravel

Image_MVC

Image_Blade

Image_ico

Source: Autonomous NEXT analysis

Image_token

Image_ux

Image_blockchain
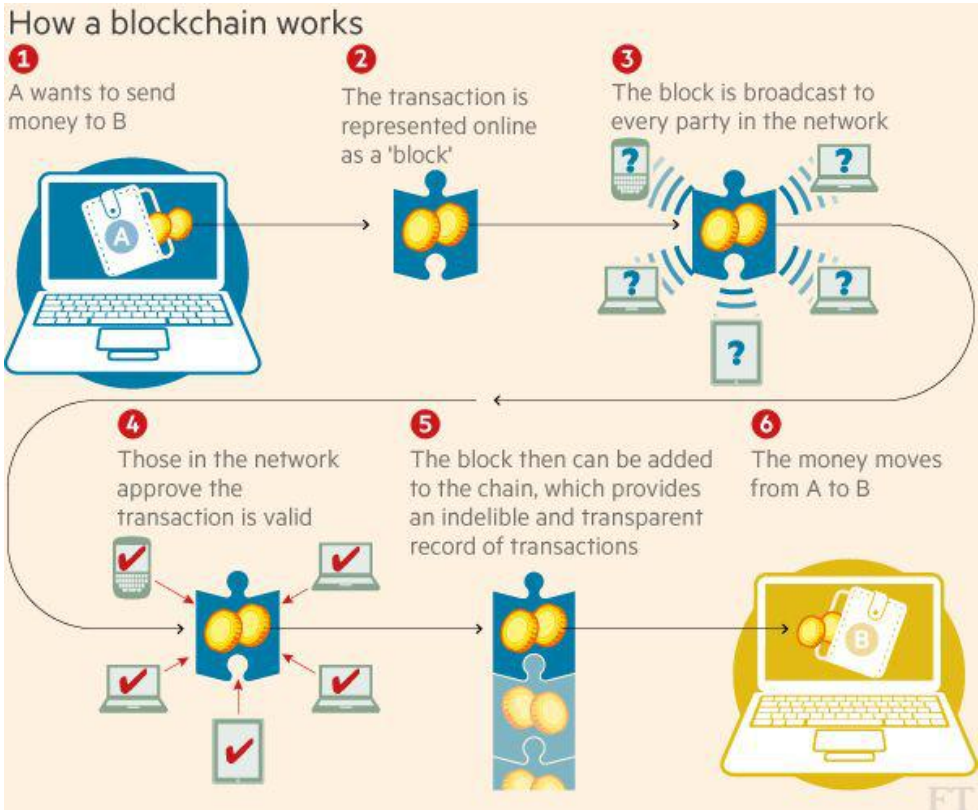
Image_distributed
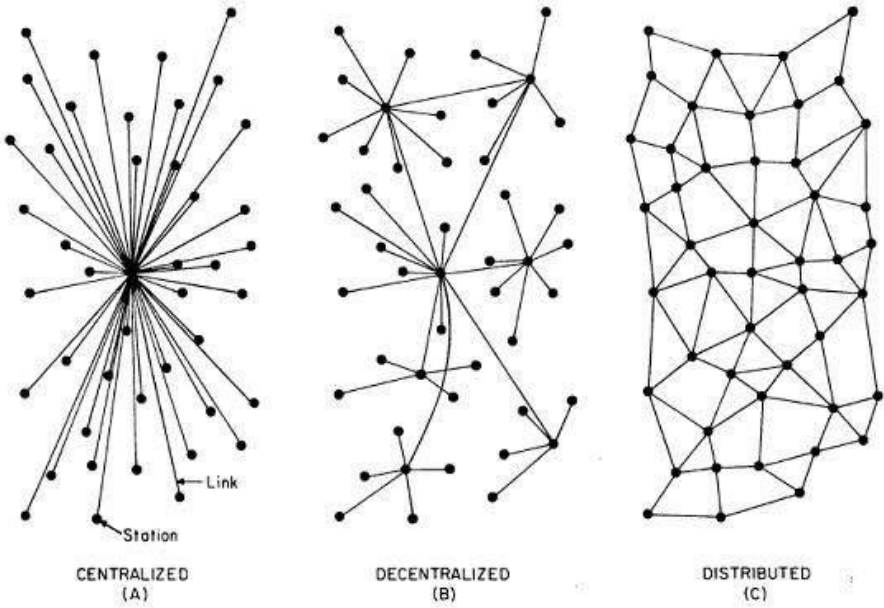
Image_logo_design

Image_prototype_1

Image_prototype_2

EREDETI LOGO

Image_logo_orig

Image_test

Interviews

1. Do you use internet?

    - *Yes.*

2. How many hours do use internet?

    - *Quite a lot actually. Let me see. Maybe 3-4 hours per day.*

3. Which social media platforms do you use?

    - *I use the major ones. So I use Facebook, Instagram and Twitter and Pinterest.*

4. Why do you like to use them?

    - *I use Facebook to see what is happening with the people who are close to me. I also like to make new friends. Also I like to get news feeds. Because I can see what happening in the world. I use Instagram and Twitter for mainly the same reasons. But I know they are very different ones. I mainly use Pinterest to find what I like but in a more organized way. I think it is great that you can do that with pictures.*

5. How many hours do you spend on each platform?

    - *Uh..it is hard to tell because I never measured it. I know that I spend most of my time on Facebook. So I would say maybe 1-2 hours on Facebook. Oh yeah I forgot to say that I also use 9GAG a lot but I do not know if that one counts a social platform. So do not spend that much time on the other platforms.*

6. Have you heard about sustainability and do you know what it means? (if yes can you explain in short?)

    - *Yes I heard about it and I know what it means. Basically I would say...that the way we humans live today is not in balance or in harmony with our nature. We use a lot of resources and we also waste a lot of things and buy things we do not really need but we do it because we are used to do so.*

7. Where did you read about sustainability?

    - *I first heard about it in school. Then I read about it a lot and talked with my friends about it.*

8. What do you do at home or in your local area to contribute to sustainability?

    - *I would like to think of myself as someone who cares about it. I do recycling at home. I take care that I do buy quality products - even though it costs a little bit more.*

9. Do you know what Venus Project is and it stands for?

    - *I heard about it. I think it is a project that gives ideas how to live in a better way. Well that is all I know suddenly...I do not really remembers the details.*

10. What kind of news resources do you use on a daily basis?

    - *I have subscribed to a few news resources on Facebook and this is where I read some news. Or it also happens that my friends send me some links that they find interesting.*

1. Do you use internet?

    - *Yes.*

2. How many hours do use internet?

    - *I check and answer some emails during work. After work I usually use mainly Facebook. I would say I use internet 3-4 hours a day.*

3. Which social media platforms do you use?

    - *I use mainly YouTube and Facebook.*

4. Why do you like to use them?

    - *I use YouTube to listen to the music I like and watch some documentaries. I use Facebook to keep contact with friends and see what was going in the world.*

5. How many hours do you spend on each platform?

    - *I do not know. I never really measured it. I think I spend more time on YouTube. I do not spend so much time on browsing on Facebook only if I chat with someone. I would say that I spend 1-2 hours on YouTube and as I said it depends on what I do on Facebook. Maybe 1-2 hours.*

6. Have you heard about sustainability and do you know what it means? (if yes can you explain in short?)

    - *Yes I heard about it and I know what it means. It means that we should take care of our environment and not to waste the resources. Like we cut out forests and we do not plant new ones.*

7. Where did you read about sustainability?

    - *I read about it on the internet.*

8. What do you do at home or in your local area to contribute to sustainability?

    - *I do selectively collect garbage. Besides that I do not do anything I guess. Though I must say I see a lot of things people do with garbage or videos where they use some machines and computers to do things smarter. It is quite interesting and I like to watch these videos.*

9. Do you know what Venus Project is and it stands for?

    - *Yes I know. I heard about it. Somebody wanted to make a place where people could live. It would be a better place I guess. You know like no pollution and healthy food and things like that.*

10. What kind of news resources do you use on a daily basis?

    - *I usually do not follow the news. I get some news on my Facebook feeds and sometimes I read them if they are interesting.*

Interview - Gabor Kiss

1. Where did the idea come from?

First: *suffering from income inequality, financial problems and without alternatives, a growing number of people can't afford appropriate housing, access to resources and thus enjoy the benefits of sustainable technological innovations.*

Second: *Inspired by the same trends in the open source software market (Android, Linux, Ethereum, etc.), exactly the same will happen to open source hardware. It's a relatively new area and, due to the free access and source code that costs nothing, and based on decentralized markets, there are plenty of affiliate services. So we are expecting exponential growth here.*

2. How could you describe Envienta shortly?

It's a next generation sharing economy model, a DIY maker movement, a community-based solution package and ultimately a sustainable, cost-effective and decentralized socioeconomic framework for the 21st century. ENVIENTA is also a P2P open source platform cooperative, which provides shared know-how, blueprints, products and resources for members.

3. What is your vision for the company?

When things we produce and our homes become a mini-IoT infrastructure that connect communities across regions, the economic paradigm changes. That is important because we confronted with the inconvenient facts: the end of social safety and infinite growth, huge inequality, collapse of the market economy, political, immigrant crisis and the climate change. We must gradually shift to a harmonic, stable, science-based, inherently sustainable model.

4. What are the values of the company?

We've been working hard in the past two years on our project, that seems a very slow process for the outsiders who usually expected few products and services at least by this time. But considering the fact, that our aim is to take huge part of the social, economical and technological paradigm shift, we soon realized that we have to create frameworks and platforms instead of products and services - these would be the outcomes and not the goals.

If we are talking about platforms and frameworks, we have to concern not only R&D, software and hardware development, but the network of people, the specific and scalable organizational model that enables more and more people to collaborate by free will. So the past two years is about building our team from this network of experts.

The organizational model is decentralized, evolutionary teal, which is a purpose driven organization. We put great emphasis on flat hierarchies and self-management techniques at the same time, with greater responsibilities on a personal level. We are giving a human centered environment for our members and partners, letting them experience their wholeness through their activities. That is equivalent to the open source, holistic approach we working with from the beginning. We think that it is the source of our success, the root of everything we could achieve.

5. What are your plans for an exit or IPO and how fast are you growing? (**Initial public offering** (**IPO**) or **stock market launch**)

We are planning to do series of ICOs, instead of IPO. ICO is better if you don't want to involve venture capital and transform your natural community into a private business, but gives people the opportunity of acting like shareholders in the project through the blockchain. After the ICO, ENVIENTA transform itself to a DAO - Decentralized Autonomous Organization.

6. What does keep you up in the night?

We at ENVIENTA believe that technological progress can bring abundance and unlimited wealth to people. This is only possible if every human beings is able to access to technology. If it's only the privilege of the rich, then we'll see even greater social inequality, poverty and unemployment instead of prosperity for the greater part of mankind. The open source approach could help everyone benefit from the abundance of technology. This is the vision of ENVIENTA.

7. Where do you see yourself in 5 years?

As Uber is the largest taxi service without cars and AirBnb is the largest hotel network without real estate, ENVIENTA can be the largest manufacturer of open source, high-tech, sustainable products but does not actually have its own design and manufacturing capacity.

8. What kind of resources do you need to accomplish your goals?

We've seen so far the power of the crowd in progress, and hundreds of volunteers of course. But we might need some money investment to move quickly and effectively forward.

9. Are there others like you in the internet space?

There are similar projects in the US, Open Source Ecology and Open Building Institute and collaborator partners in the commons space. Open SOurce CircularEconomyDays is our strategic partner (http://oscedays.org).
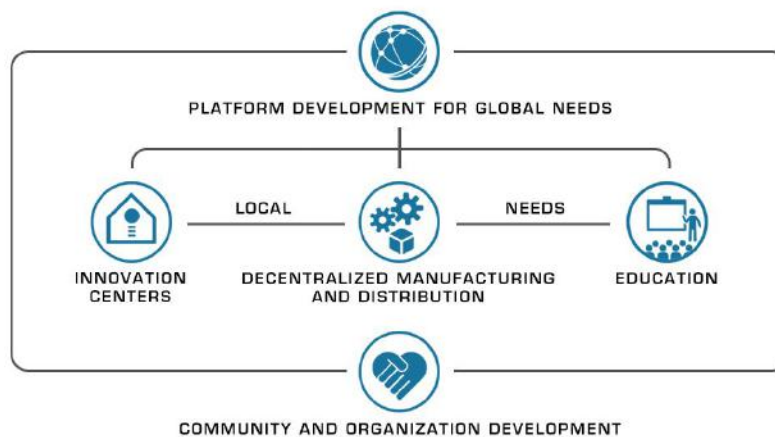
10. If there is any why do you think that your company is better?

Because it's not a company, ENVIENTA is a collaborative commons initiative.

11. Who do you think would use the website?

12. What products or services do you offer?

13. What products or services do you offer?

The goal of the platform is the creation of value and transfer of goods and services through interactions between stakeholders and the capture of some part of this created value, using some form of currency. The value exchange occurs on the platform, so we take a small transaction cut in the following cases:

- *Crowdfunding campaigns*
- *Consumers access to products in marketplace*
- *Producers, consumers and distributors of premium tools and services*
- *Businesses for access to high-quality, curated producers / makers*
- *Manufacturers and distributors to gain licenses*
- *Advertising campaigns*

14. What products or services do you offer?

Appr. ~10.000 users