HarismaDent
DENTAL CLINIC

REPORT

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Link:

http://des-iis.ucn.dk/mmdj0914/1035388/HarismaDent/Default.aspx

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1. INTRODUCTION

When talking about health we can refer different things to different people, depending on the situation. In order to feel and be healthy people are doing all kinds of physical activities, taking nutritiants, sticking to diets, keeping good hygiene. Oral health also takes place in these categories. It is extremely important and must not be neglected because it can affect our general health. Basic dental care involves not only brushing and flossing your teeth regularly but also seeing your dentist and/or dental hygienist for regular checkups and cleanings.

“HarismaDent” LTD is a dental medicine clinic founded on the 1st of May,2003. The founder of the clinic is Slavko Gyulev. His nationality is Bulgarian and he has been living in Plovdiv, Bulgaria for his whole live. He has graduated Faculty of Dental Medicine in Plovdiv, Bulgaria. With lots of years of experience he is now proficient in the fields of Surgery, Implantology, Orthopedics and Paradontology.

Over the years the clinic has started growing and at that momment it has six professional doctors working together as a team - Dr. Misova, Dr.Gyulev, Dr.Gyuleva, Dr.Stoev, Dr.Sbirkova and Dr.Urumova. Dr.Gyulev, Dr.Gyuleva and Dr. Misova are one of the founders of Bulgarian Society of Periodontology and Oral Implantology in 2001. Working with the latest technology and trends they are the first ones to use the most modern American aesthetic system for the arrangement of teeth and treatment of tooth and jaw deformities - INVISALIGN.

2. PROBLEM DESCRIPTION

Our client - Harisma Dental Clinic has been established before 12 years as a small bussiness in the beggining, but has started growing over time. Their crew consists of 6 professionals, following the latest trends in dental medicine, who work together and help each other on the different medical cases. “Our aim is to have healthy and smiling customers” - they say.

After the first meeting with our client a few problems were determined. After asking them how do they promote their bussiness and attract clients they coudn’t answer us. The only thing that they did about promoting them is paying monthly to some of those websites which make online ads to show the name and location of the company in an article. All of the other customers have had heard about their services mostly from their friends and families. It also turned out that they don’t have a logo which is a major graphical representation for every company.

Another issue is that a lot of their clients wanted to get information about the treatments they offer and see some showcases of their medical help on other patients before leaving themselves in their hands. Until now in this case they had prepared some printed photos and had been showing them to the patients.

Overall, our client admitted that they don’t know much about digital advertising and wants us to help them advertise their company.

3.PROBLEM FORMULATION

How to spread the word about the dental clinic taking into regard the target audience, promote their professional services and attract more patients?

4. METHOD CHAPTER

4.1 RISK MANAGEMENT

It is important to realize your attitude towards risks – also when you choose which development method to use. Risk management deals with the problems of predictable or unpredictable results.

Agile methods do not allow risks as far as deadlines are concerned; it is vital to comply with the envisaged ”time boxes”. Agile principles aim at minimizing risks derived from market and client requirement changes. As the course is established by the client on the basis of a functioning (though unfinished) product, it is practically up to the client to decide the risk margin of a given project. Therefore, risk management pertains to the percentage of completion, but not to quality, time and technique. It can be discussed if risk management only pertains to predictable or unpredictable results.

For every project there are risks hiding behind every corner. So the best way to avoid or deal with them is to use risk management.

Risk	Risk management approach
Unrealistic time schedules	Short project period
Development of wrong functionalities	Analysis of field, prototyping, early user tests
Development of wrong user interfaces	Prototyping, analysis of tasks/needs, analysis of use environment/user profile. Early user tests
Excessively flashy design	Downscale demands, prototyping
Development time	Compression, downscale demands

The methods are based on the approach that it is necessary to limit risks as much as possible.
Risk management is a suitable method in a situation involving high risk. First of all, the method leaves little room for major surprises; and secondly it is a method that ensures a rapid development through the entire project life cycle.

Fischer and Oossterbann, 2011, p35 and 78

4.2 SCRUM

For this project our team decided to work with SCRUM. The decision was very easy, because SCRUM was used in previous projects and the group is familiar with this framework and how it works. Scrum is a framework for developing and sustaining complex products. The Scrum framework consists of scrum team and their associated roles, events, artifacts, and rules. Each component within the framework serves a specific purpose and is essential to Scrum's success and usage.

4.2.1 The Scrum Team

It consists of a Product Owner, the Development Team, and a Scrum Master. Scrum Teams are self-organizing and cross-functional. This means that the team can choose to best way to accomplish their work, rather than someone outside of the team telling them how to do it. Also the people who are in the team can finish the work without interference from people outside the team.

The Product Owner - He is responsible for maximizing the value of the product and the work of the Development Team. The Product Owner is the person responsible for managing the Product Backlog. Product Backlog management includes:
-Clearly expressing Product Backlog items;
-Ordering the items in the Product Backlog to fully achieve goals and missions;
-Optimizing the value of the work the Development Team performs;
-Ensuring that the Product Backlog is visible, transparent, and clear to all, and shows what the Scrum Team will work on next;
-Ensuring the Development Team understands items in the Product Backlog to the level needed.

For this project Lyuboslav was in the role of Product owner.

The Development Team – it consists of people who do the work of delivering a possibly obtainable increment of "Done" product at the end of each sprint. Only members of the development team create the Increment.

The Scrum Master – he is responsible for ensuring Scrum is understood and used properly. Scrum Masters do this by ensuring that the Scrum Team adheres to Scrum theory, practices, and rules. He serves the Product Owner in several ways:
- Responsible for effective product backlog management
- Helping the team to understand the product backlog items and to maximize the value of the product backlog
In our case Vasil was the scrum master.

4.2.2 Scrum Events

The events are used in Scrum to create regularity and to minimize the need for meetings not defined in Scrum. All events are time-boxed events, such that every event has a maximum duration. The main thing in the scrum is the SPRINT. All sprints contain and consist of the Sprint Planning, Daily Scrums, Sprint Review and Sprint Retrospective.
To finish the product the team had 18 days. So it was decided to hold 3 sprints and after each sprint to have day or two to rethink, to change or add something to the next sprint. Basically every sprint was around 5 days.

Sprint planning – for one sprint to be successful the team needs to decide what will be included in the sprint. What kind of work should be done and how long will every step take. No one else can decide that except the team. There are two parts to the sprint planning meeting: the “What?” part and the “How?” part.

Daily scrum meeting – The team is holding daily meeting to check what is the progress within the sprint. The sprints are with short duration so it is needed every day to finish some steps from the sprint so it can be finished in time. Every meeting is around 15-20 minutes. If member of the group is having problems with his assignment he can ask for help or ask questions the other members of the group to make everything clear.

Sprint reviews – At the end of every sprint is necessary to hold a meeting to inspect the Increment and adapt the Product Backlog if needed. The team used this time to see what is finished and what is not and discussing what went smooth and where and what they had problems with. Also the group discussed what should be done to the next sprint in this way we can provide a little input to sprint planning

Sprint Retrospective - The Sprint Retrospective is an opportunity for the Scrum Team to inspect itself and create a plan for improvements to be enacted during the next Sprint. The purpose of the sprint retrospective is to:

-Review how the last sprint went
-Analyze and form the major items that went well and potential improvements
-Create a plan for implementing improvements to the way the scrum team does its work.
The scrum master encourages the scrum team to improve, within the scrum process framework, its development process and practices to make it more effective and enjoyable for the next Sprint.

4.2.3 Scrum Artifacts

Scrum artifacts represent work or value to provide transparency and opportunities for inspection and adaptation. Artifacts defined by Scrum are specifically designed to maximize transparency of key information so that everybody has the same understanding of the artifact. There are 2 artifacts:

Product backlog - represents everything necessary to develop and launch a successful product. It can be change during the sprints to be relevant after/before every sprint. Product Backlog is sorted in order of priority. The higher the priority, the more urgent it is.

Product Backlog
Logo
Website
Business card

Sprint backlog – Its' consists of the tasks the team performs to turn product backlog items into a "done" increment. Many of the tasks are developed during the sprint planning meeting. The sprint backlog is a visible, real-time picture of the work that the development team plans to accomplish during the Sprint

Sprint 1					
Product backlog	**Refined items**	**Hours**	*Started*	*Working*	*Finished*
Logo	Analyse and research logo	2			
	Brainstorming/ Sketching	2			
	Design	2			
Website	Analyse and research problem	8			
	Analyse and research target audience	10			
	Questionnaire	2			
	Brainstorming/ Sketching	2			
	Total hours:	32			

The Scrum Guide™ - Developed and sustained by Ken Schwaber and Jeff Sutherland (2008-2010)

5. APPLIED THEORY

5.1 BRAINSTORMING

It is a method that can give you different options for approaching the given problem, as well as immediately start solving the given problems by using the countless ideas that it generates and offers. It is helpful in many situations and most importantly for the problem solving of many different creative processess that lead to the completion of the final product.

5.2 IDEA GENERATING

The main goal behind “Idea generating” is to bring people from different workfields with different knowledge and skills together and combine them, resulting in the creation of a team with diverse team members. By doing this it gives everyone the chance to take part in the creating of new ideas or building up on already existing ideas or solutions, foreseeing problems that may appear in the near or far future, have a clear view in terms of Designing and as a whole gives them a chance to think big.

5.3 QUESTIONNAIRE

Questionnaires are typically considered a quantitative method. It is not time consuming to prepare a questionnaire compared to preparation time for qualitative methods. But it is still a considerable task to prepare a well-formed questionnaire. Because of the closed nature of the questions, the data generated by questionnaires may oversimplify or even distort reality because the categories you are using may be misleading.

The two general requirements for a well-formed questionnaire is that answers should give you relevant data about the field you are researching and that the questionnaire should be designed for the respondent group. Using the Internet for distributing questionnaires is increasing rapidly. There are softwares that automatically will sort replies into pre-defined categories in a database, and even calculate your statistics. Using the Internet for gathering data has great potential. You have a huge potential receiver group, it is free to distribute questionnaires to large respondent groups and the data you get will be digital and easy to process.

When you are making a questionnaire the questions must:

- be relevant for the field you are researching
- ask precisely
- be relatively short and composed of short words
- not be composed of ambiguous words
- not be leading
- specific
- general

Fischer and Oossterbann, 2011, p105

5.4 SWOT ANALYSES

SWOT analyses are an analyses technique that can be used to develop organization or personal strategy by taking into consideration some factors of the company. This planning method asures that you have considered all of your business's strenghts and weaknesses, as well as the opportunities and threats it faces in the marketplace no matter whether it is a new bussiness or an existing one. In other words you are identifying the internal and external factors that are favorable and unfavorable for your bussines venture.

5.5 STAKEHOLDER ANALYSIS

In order to the determine the individuals and organisations and the benefits they have from the current project they should be analysed closely, divided and viewed separately. It is essential to properly analise the stakeholders and their possitions in a project, because when analised and described properly, the information given from them is crucial for determining the key points for the current project. The stakeholders as a whole are the individual or company, that are being affected by the final product. The analysis is important in order to determine the stakeholders' power and influence, benefits and interests towards the final product.

5.6 THINK OUT LOUD

Think out loud testing is a method used to test web design by the help of the user. By this method you can gather data by evaluating the prototype of the website to check what is there and what is not. To conduct this test you need to give different task to the user, so you can see how he/she is doing them. The task should be from 5 to 15. While user is doing the task he/she need to think out loud and speak about every step or move is doing. In this way you can collect your necessary information.

5.7 GESTALT LAWS

The gestalt as a whole is basically defined by several key features: Emergence (the whole is identified before the parts that are forming it); Reification (the mind fills in the gaps); Multi-stability (the mind seeks to avoid uncertainty); Invariance (the mind good at recognizing similarities and differences). Through these features are formed the six basic principles of Gestalt: Similarity; Continuation; Closure; Proximity; Figure/Ground; Symmetry and order. These basic principles are in the basis of the design process. They help the team for the proper creation and visualisation of the developed products' layout. Gestalt laws help for the perception of the users.

6. ANALYSIS

6.1 TARGET AUDIENCE

Our client for the current project is a dental clinic called “Harisma”, and as such the team analysed it’s target audience as of identifying the one’s needing of their services. They are recognised as kids, teenagers, adults, the elderly and all ages.

Speaking of health, the target audience is large enough to be divided in target groups regarding their characteristics and needs. The client for the current project uses the products of other companies and as done so they are also part of the target audience.

1. People in need of treatment:

Despite being considered a whole target group, it can be described by the people with different needs and characteristics.

- people who go only for a check-up
- people that are having a treatment done in the clinic
- people who must have a treatment done and are searching for a professional individual or clinic to complete it
- people who are having children and need a professionalist to monitor its dental higyene and care or help them if it is in need of treatment

2. Companies that sell their products to clinics or individual professionalists.

6.2 SWOT ANALYSIS

Internal factors:

Strengths: Strengths are what the company has a distinctive advantage at doing or what resources it has that is strategic to the competition.

For finding out what are the strenghts of our company we were using some general questions to help us:

- Dental Clinic Harisma already has patients that go there regularly and the patients family and friends’s too.
- The team often goes on different courses and meetings in Bulgaria and in foreign countrys also to follow latest trends, get specializations and improve their skills.
- The team are professionals in the different fields of dental medicine and work together as a team not individually.

- Dental Clinic Harisma works with the latest and best quality materials. When doing Paradontology treatment they send microbiological tests of the patient to Germany to check whether the patient doesn't have some.

Weaknesses: A weakness is a limitation, fault, or defect within the organization that will keep it from achieving its objectives. It is what an organization does poorly or where it has inferior capabilities or resources as compared to the competition.

- The clinic doesn't use logo or other medium to represent the brand of their company.
- Poor marketing strategy
- Absence on the internet

External factors:

Opportunities: Opportunities include any favorable current prospective situation in the organizations environment, such as a trend, market, change or overlooked need that supports the demand for a product or service and permits the organization to enhance its competitive position.

- Patients that come from foreign countrys to care their teeth, so there is an opportunity for the clinic to attract more foreign patients.
- The clinic already has a group of clients so it may spread the word among their friends and familys easier.
- Competitors are failing to satisfy customer needs cause they are not working with the latest technologys and the cost of the treatment is more expensive than in Dental Clinic Harisma so our client may steal their customers.

Threats: Threats include any unfavorable situation, trend or impending change in an Organizations' environment that is currently or potentially damaging or threatening its ability to compete.

- Many competitors on the market in the city and in the country at all is big.
- Most of the competitors has marketing strategy and are well promoted on the local market.
- Actions of dental clinics
- Rising the costs of working materials

(Masoom,2014, p.526)

6.3 STAKEHOLDER ANALYSIS

Analysing the stakeholders is essential for one's product. The first step towards analysing them is finding out who are they exactly. Depending on the theme for the project, the stakeholders may vary as there would be different groups of people or different types of individuals, that may be interested and affected by the final product.

Determining the stakeholders:

Brainstorming is used for finding out the stakeholders. In order to determine them properly there are few basic questions that should be asked as: who are all the people who are affected by your work? Do they have influence or power over it? Do they have an interest in its successful or unsuccessful conclusion?

After answering these questions the stakeholders are revealed. For the current theme the client's stakeholders are: The companies which deliver materials, the users (the dental clinic's patients.), the dentists that work in the clinic, special dentists that are essential for some operations, but do not work in the clinic, and the university.

Analysing the stakeholders:

By doing the following, the team is able to determine the qualities of the stakeholders. This is possible by answering correctly the questions that are used to find them in the first place. That way, every one of them, gives crucial information about their power, interest and position.

- companies: (Ultradental, 3M ESPE,GC, Dentsply)

1. high power, have many clients, companies or individuals.
2. have interest in the successful conclusion of the product. Good avertisement means more clients for the dental clinic, and to finish it up the companies have interest in the clinic to expand, have more users and use more materials.
3. their position in the workflow of the clinic is to teliver the materials, needed to treat the users/patients.

- users

1. low power, because every user is an individual
2. their interest is in using the features that the clinic provides
3. in order for one's business to be successfull, he would have many clients. Their position is essential, as they are the main goal of the clinic.

-dentists from the clinic

1. As they are like the heart of the clinic, they have power, but only in the matter of running the clinic and monitoring it's growth and expanding
2. They have large interest in the success of the clinic, because it will mean their success

3. they are the workers in the clinic

-special dentists

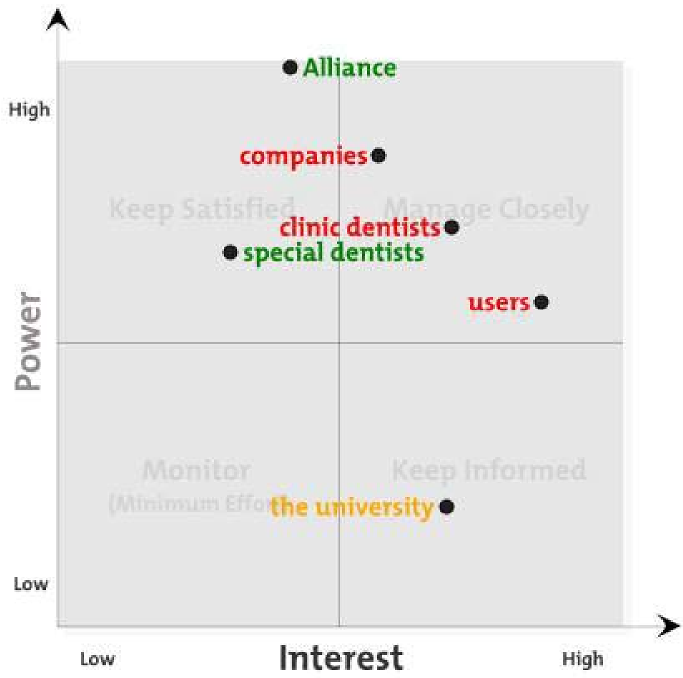
1. They are specialists who are being called only for special treatments
2. Their interest is in having more clients, nomatter from which clinics or individuals
3. As dentists in the different clinics, they are not officially part of any of them

- the university

1. As an institution it has great power. It works woth many clients- companies or individuals. Regarding the current project it has power over it.
2. It has interest in the success of the project, in meaning the success of the team and clcients' happiness.
3. Its position is as na evaluator for the final product for the current project.

- Alliance for dental care

1. As a national organisation it has the greatest power over all stakeholders.
2. Their interest is people to receive proper dental care
3. Its position is as to any other individual or institution that are part of it.



7. PROBLEM SOLVING

7.1 BRAINSTORMING

When one uses the brainstorming method, he/she should be aware that it has rules, which if not followed would not result in a steady workflow in the processess. Theis method is open, easily adjustable regarding the given problem and it basically gives the team great toold to use, but these are the main reasons which result in these tools being loose and therefore the method's rules must be followed in order to use the tools the right way and achieve success. The rules help the team members come up with all the ideas possible and choose the best options or combine them, etc.:

1. set time for the brainstorming session, because depending on the project it could be more than needed or less.

2. assure that the session could not be interrupted

3. a goal for the quantity of suggestions should be set.

4. a good idea should not be immediately jumped onto. The flow should keep going.

5. it is not allowed to criticise the ideas as every other idea is as good as the given one.

6. no idea should be held back. All ideas should be collected, riviewed and sicussed. In the end of the process, the ideas which are not applicable should be just left out.

7.2 PAPER PROTOTYPING

For this project our team made paper prototyping. By this method the team based some of the decisions how to the website should look like. The team drew a prototype of the project and show it to users to see how they will navigate thru the website. Can they find what we told them to find. Also it was used for information architecture. How to put the information and in what order. The team used it also design testing. It really helped us a lot. Because it is unexpansive and we can easily change different things or just slightly to fix for example some info, article or content. Basically everything we need.

7.3 MESSAGE:

The one of most important things to consider when making an advertisement is the message that our product is going to hold. A user being able to understand what the product is about, find his/hers way around the product with ease and use it without problem in the way it is supposed to be used is a user that has received a proper message from the final product. The message could be implemented in many ways, using different layouts, design methods, positioning, call to action, etc.

For the current project, the team had the task to inform the users properly of our client services, make sure they see the treatments that are offered and the products for special treatments, that our client receives from the companies that have created them. In this case the client is a clinic, and in other words it offers proper healthcare. Furthuremore the clinic's employees are specialist in different fields of dental healthcare and together they form a team which can handle a given problem without hesitation. In order to advertise heathcare, the team uses proper information architecture as to divide the key points of the message into the layout of the final product.

For a dental clinic a proper message should advertise all the features the clinic has to offer and the most important information about it that may concern the users, such as booking an appointment online, seing it's location on the map, see information about the different specialists that may form the clinic's team, compare cases, see the specialists work after he/she is done, and of course to promote dental healthcare and the beast features it offers for users of all ages. The idea behind the purpose of the message is to promote the professional treatment at reasonable prices.

7.4 LOGO

Logos are a critical aspect of business marketing. Because one company is represented by its logo. Everywhere you turn around you are surrounded by different logos from different companies. Most of the copmanies are selling their products/services with the help from their logo. For this reason, a well-designed logo is an essential part of any company's overall marketing strategy.

The purpose of the logos are intended to be the "face" of a company: They are graphical display of a companys unique identity, and through colors and fonts and images they provide essential information about a company that allows customers to identify with the company. Logos are also a shorthand way of referring to the company in advertising and marketing materials; they also provide an anchor point for the various fonts, colors and design choices in all other business marketing materials.

The logo should answer to some principles like uniqueness and comprehension. Although there are myriad choices for color, visual elements and typography, in general a logo should help convey some information about the company, or be designed in a way that gives some sense of meaning about the company or its industry.

Logos are the main visual component of a companys' overall brand identity. You can see logos on websites, business cards and every advertising platform. For that reason, a well-designed logo can contribute to business success.However, a logo should cohere well with other aspects of a companys' visual presentation.This is why a logo is the basic unit of a larger brand identity that includes company fonts, colors and document-design guidelines.

7.5 WEBSITE

7.5.1 Following the six principles

In order to make the most efficient and logical navigation bar the development team was following six principles.
Concise - To make the navigation bar easy-to-navigate the team have divided the information into most important sections and included them as a navbar buttons. Thats how the user can easily read the link and find what he is looking for.

Selective - The primary navigation only reflects the main sections of the website. The side navigation bar on some of the pages that have more information is seperated.

Clear - The team also used as straight-forward words as possible for the titles of the links so the user can easily read and understand what the page contains.

Context: After chosing a page the background of the button in the navigation turns into different color that can be vissually destinguished from the other links. That way the user understands on which page he is.

Interactive: Interaction has been used to change the color of the link text and also the background when the users hovers over it. The background is usually blue but when hovered it becomes white.

Consistent: The navigation menu doesn’t change its appearance and order no matter on which page you are.

Duckett, John (2011): HTML & CSS. John Wiley & Sons, Ltd. (p.471)

7.5.2 Functionality prioritization

For the current project, the given information should be structurized in such a way that it leads the users without any confusion and show them the information they are looking for. The proiritizing of the information happens by the dividing of it with the help of the navigation bar, thus creating different sections with different types of information. The booking form and the carousel slides contain call to action. This way they are being prioritized among every other information.

The navigation bar and the secondary navigation in the “Treatments” section also contain a certain levell of call to action in order to help the user through the website and guide him to the key points that will help him/her find the needed information. The whole information structure and the page layout are prioritised, structured and decribed as they are, also with the help of the user testing, questionnaire as well as think out loud testing. This helps for the concideration of the right desicions throughout the development and design proccesses.

By doing the described, with the help of SCRUM, the team is able also to prioritise the importance of the different parts of the website as well as the final product as a whole. It manages to give the team members the opportunity to prioritize the work, depending on the changing variables of information that proceeds to flow out of brainstorming, idea generating, and the described proccesses and methods earlier.

7.5.3 Information Architecture

By using the information architecture the team is able to understand how the users, regarding the target audience, see the information and funtionalities of the website as well as what they expect to find. In order to achieve a working solution the team used the “Eight principles of information architecture”. Though not all principles were striclty used, the information architecture can be well structured and is able to provide the team with the needed solution.

The principle of choices

The following principle is followed by dividing the information on several levels, allowing the users to brose the given information freely, helping them following their final goal. It is done by substracting the information in the navigation bar, then in the secondary bars which occur as navigation or as additional information. This way the user is able to keep track of the key features at all times, as well as be navigated to the booking form always, while navigating through the website, using the buttons, secondary bars with dropdown revealance of information, in order to reach their final goal.

The principle of disclosure

The already described secondary menu bars or dropdown bars are the key feature which manages to develop this principle in its fullest. Otherwise it is also done with the help of the carousel. The main feature of the dropdown bars is that manages to keep hidden the information that describes the main topics which occur in the bars themselves. This way they give the user a hint what types of information the given section consists of. This is done in order not to irritate the user, but exactly the opposite, conduct his interest by hiving him a basic hint and let him/her choose what their final goal should be and which section should they enter.

The principle of exemplars

By showing an example of a given content the users may navigate easily, by having no trouble finding what they are looking for. Exampler could also be shown of showcases or users’ opinions, not only parts of the services secction.

The principle of front doors

By using this principle, the team should assume that not all users will land on the webpage through the home page. Considering this, the information should be structurised such as to be easy to understand, navigate and make it at best to point the users to the key features as the booking form which is easily accessible at all times. The button for the change of language is also static and easily visible.

The principle of focused navigation

The call to action that takes place in the website takes great part in the completion of this principle. This is done so by dividing the navigation in parts. The navigation bar helps the user to see the key sections the website has, the dropdown submenu in the “Treatments” section gives the user the opportunity to browse through the treatments, see tips, questions and answers about them, showcases, important information, symptoms etc. All this is done by layering the call to action and implementing it in the different navigation buttons or menus and dividing their design appearance by their importance or level of showing and searching by the users.

The principle of growth

Assume the content you have today is a small fraction of the content you will have tomorrow. The layout of the website is designed as to be possible to extend different sections, add different features or just add whatever information needed without disrupting the call to action features that have already been imported or the overview of the page. In the given case this principle is applicable especially in the showcases section, where new and new showcases could be adde over time. The same goes to the user review or comments section as well as it gives the opportunity to add new possible treatments using new products in the “Treatments” section.

Organization structures

To relate and organize all the content in the website in logical and consistant way so that it can answer user expectations the team used Hierarchical Organization Structure.

The Hierarchical Organization Structure, often reffered as tree structure, uses top down approach or parent/child relationships between pieces of information. In other words users start from broader categories of information and go further into more detailed information.

Morville and Rosenfeld , 2007 , p69

Another thing that the team took into regard is building such a structure that allows updating of categories and adding new information easily.

7.5.4 Layout and Grid

In order to make the design of the website responsive we used Bootstrap which is an open-source front-end framework. Bootstrap helps you build design that re-adjusts its elements and layout in order to respond well, depending on the screen that you are rendering it. The framework has many predifined classes for different elements but we customized it only with the one that we need to reduce the size of javascript and css files.

“Bootstrap is the most popular HTML, CSS, and JS framework for developing responsive, mobile first projects on the web.” – (Bootstrap)

Bootstrap has a built-in 12 column grid system which is collapsing and can easily be manipulated by grouping the columns together or use them individually. This flexible grid and the style properties of the predefined classes - col-xs, col-sm,col-md,col-lg- helped the team to make fluid layout for different devices (cell phones, tablets, desktops and larger screens.

The 12 columns grid allowed the team to make interesting and flexible design by grouping the columns in different ways. You can easily customize the bootstrap style sheet and make the number of the columns different but the 12 columns grid has a lot of adoption and is easy to use.

7.5.5 Call to action

It can take place anywhere in the marketing - on your website, in an ebook, in an email, or even at the end of a blog post. Call to action literally is something “call” to take an “action”. After all, the main point of a call to action button is to get visitors to do something. This action can be downloading something, requesting information, adding a product to their shopping cart, or in our case is Book an appointment.

While designing our call to action button we followed some principles to make it effective - size,color,language.

Size - Using bigger size for your call to action button to grab the attention of the user. It is important to do so because giving it bigger size will make it overpower everything around it otherwise it will be lost in the shuffle of all the other content on a page. On the other side, it shoudn’t overwhelm the design.

Color - Color is crucial when talking about call to action cause it makes your button stand out from the other content. By choosing contrasting color you make the button pop up. Due to the fact that we have more than one call to action butttons we had to use color to highlight the most important button on a page and to make the less important ones seem less prominent.

Language - The exact word you choose for your call to action button are also essential. The point is to use straight-forward and simple as possible words so that the users will need only a glance to understand what they will get by clickin it. In our case after brainstorming about different phrases we came to the conclusion that “Book an Appointment” is the one that fits best.

7.5.6 Back End

For the development of the product the team used Visual Studio and all the pages were build in ASP.NET using Web Forms. ASP.NET is server-side Web application framework which enables developers to produce dynamic Web content and also use the object-oriented language C#.

The team used C# to make Bookin Appointment form and also Contact form which are sending E-mails to the clinic's E-mail.

Using the ASP.NET Text Fields the forms were build and later stylised with Css. Another tool that has been used are the asp validators, which enables you to restrict the information written in the text fields and make sure the user has filled out all the required fields.

```
    <div class="col-md-6 clear" style="padding-left: 0px;padding-right: 0px;">
  <label for="YourName">Your name:</label>
  <asp:RequiredFieldValidator ID="RequiredFieldValidator11" runat="server" ErrorMessage="*"
      ControlToValidate="YourName" ValidationGroup="save" /><br />
  <asp:TextBox ID="YourName" runat="server" Width="100%" CssClass="form-control"/><br />
      </div>

      <div class="col-md-6" style="padding-right: 0px;" >
   <label for="YourSurname">Your Surname:</label>
  <asp:RequiredFieldValidator ID="RequiredFieldValidator4" runat="server" ErrorMessage="*"
      ControlToValidate="YourSurname" ValidationGroup="save" /><br />
  <asp:TextBox ID="YourSurname" runat="server" Width="100%" CssClass="form-control"/><br />
       </div>
</div>
```

After that the team used C# to transfer the values of the filled out text fields and send them to the E-mail of the Clinic after the send button is clicked.

```
string subject = "Booking Appointment";
string body = "From: " + YourName.Text + "\n";
body += "Surname: " + YourSurname.Text + "\n";
body += "Date: " + TextBox1.Text.ToString() + "\n";
body += "Telephone: " + Telephone.Text + "\n";
body += "Email: " + YourEmail.Text + "\n";
body += "Question: \n" + Details.Text + "\n";
// smtp settings
var smtp = new System.Net.Mail.SmtpClient();
```

For the pickind date box we are using an DateTimePicker control which is under GNU LGPL liscense

After successfully send E-mail we give the user feedback to understand what happened and we null all the text fields.
Despite sending the form on the E-mail the team used SQL to keep the data in a database. Keeping all the information in one table is better and more organized way of keeping all the bookings.

```
SqlConnection ConnString = new SqlConnection("Data Source=des-sql.ucn.dk\\DESSTUD;Initial Cat
SqlCommand ConnectionCommand = new SqlCommand("INSERT INTO PatientInfo(firstName,lastName,boo
ConnectionCommand.Parameters.AddWithValue("@firstName", YourName.Text);
ConnectionCommand.Parameters.AddWithValue("@lastName", YourSurname.Text);

ConnectionCommand.Parameters.AddWithValue("@bookingDate", TextBox1.Text.ToString());
ConnectionCommand.Parameters.AddWithValue("@phoneNumber", Telephone.Text);
ConnectionCommand.Parameters.AddWithValue("@email", YourEmail.Text);
ConnectionCommand.Parameters.AddWithValue("@details", Details.Text);
```

7.5.7 User Testing

The team execute 2 times the think out loud testis. First it was on the prototype and the second was on the final product. For the first test was on paper prototype and it helped us to improve the structure of our information and build logical sitemap. For the second test the team found out that is it better to create a drop down menu which will be shown when you hoover the treatments button in the main navigation menu. Also we changed the color of the headings to blue from black, because we wanted to them to stand out from the text which is also black. The group also told the user to do 8 tasks. He had some problems to understand clearly some of the information in section by reading the name of the section, so we changed them to be clearly what you can find in every section. Some of the task were:

1. To find contact us form
2. To find information about the clinic
3. To find where is the clinic located
4. To find information about removable dentures in treatment section
5. To book online appointment
6. To find a doctor
7. To find information about patients feedback
8. To enter from one section in the navigation bar to another

7.6 BUSINESS CARD

The business card is one of the fastest, easiest and cheapest ways to advertise a business. It also ives the opportunity to structure it in such a way, that completes you website design, navigation and call to action, and by doing so, making it easily readable. This great way of advertisement gives the team the opportunity to complete the final product, by creating a solution which finalises the overview of the message and the main goal of the whole project. It could be developed in such a way that it combines the key features of the website and though is made out of paper and could not be divided into sub sections and so on, it merely gives the option to structure the main information and divide it in such a way that is as easy to follow as the concept of the website.

The main visible feature is that is multilingual, offering the native language of the clinic and the main target audience as well as an englih version of it, thus reaching a wider range of users. The difference between the languages is made by contrasting the main colors used for the concept of the website by chanching their places for the layouts. Otherwise it contains the main contact information such as location, e-mail, phone and possible social media. Of course the logo and the name of the clinic are centered and are used as call to action as for the project's client is important that their users easily recognise the clinic and it will leave a good impression in them, thus givving an opportunity to become more popular and gain more clients.

8. CONCLUSION

To help our client the team developed a function website, logo and business card. By that way we are sure that will help the client to successfully advertise their clinic and attract more people. Now everyone who is interested to visit them can check their website for more information, booking appointment or contact them. Also when a patient visit them they will receive business card which also will spread the word about them. The logo is crucial part for their visual identity. Now they will be more recognizable. So the team fulfill the clients' wishes and goals and they were happy with the work was done.

9. PERSPECTIVISATION

The layout of the website is developed in such a way that it gives opportunity for further development. New features could be added depending on the client's ideas, but the first thing that should be improoved in the future would be the development of a calendar which would show the taken hours and the free hours for appointments. Furturmore an admin panel could be added, where the team's client would be able to add showcases, new comments from customers and even new treatments if some of the companies start providing new toold or ways of treatment. Of course the main feature of the admin panel would be the table with the appointments, which will make it easier to manage and edit. Also questions and answers as well as tips could be added to every section in the "Treatments". All in all the current final product gives the opportunity to develop any new idea that may occur.

10. PROCCESS REFLECTION

This project the team worked with Harisma Dental Clinic. It was very pleasing to work with them. Also it was very interesting and educating for us. The group had the opportunity to practice and develop their skills in different fields and to use the knowledge thru the year. For completion of this project we had to read a lot of things relevant with dental medicine and they were very intriguing. Some of them were not very pleasant but this is the life and every one of us in point of it we had to visit a dentist no matter how painful could be. Thru the project we followed our SCRUM. It was really helpful for. Thanks to it we had good time management for the whole project and for the different steps in it.

11. LITERATURE LIST

Books:

Louise Harder Fischer and Marie Oosterbaan ,2011, *Digital Multimedia Management 2nd edition*

Ken Schwaber and Jeff Sutherland ,2008-2010, *The Scrum Guide™ - Developed and sustained*

Khwaja Masoom,2014, *The Entrepreneur's Dictionary of Business and Financial Terms*

John Duckett ,2011, *HTML & CSS. John Wiley & Sons, Ltd.*

Peter Morville and Louis Rosenfeld's, 2007, *Information Architecture for the World Wide Web: Designing Large-Scale Web Sites*

Links:

Swot analysis - http://www.free-management-ebooks.com/dldebk-pdf/fme-swot-analysis.pdf

Gestalt law - http://www.creativebloq.com/graphic-design/gestalt-theory-10134960?page=1

http://www.smashingmagazine.com/2014/03/design-principles-visual-perception-and-the-principles-of-gestalt/

For Logo - http://smallbusiness.chron.com/importance-logos-business-577.html

Information architecture and Functionality Prioritization - https://www.asis.org/Bulletin/Aug-10/AugSep10_Brown.pdf

Stakeholder analysis - https://www.mindtools.com/pages/article/newPPM_07.htm#Interactive

Call to action - http://www.xhtmljunction.com/blog/the-theory-of-call-to-action-and-how-one-should-implement-it/

Back end - https://tldrlegal.com/license/gnu-lesser-general-public-license-v3-(lgpl-3)

12. LIST OF RESPONSIBILITIES

Vasil was responsible for coding the website. Also Vasil created the logo with the help of the other members of the group. Everyone of us participated for gathering and translating different information for the website. We all were involved in the brainstorming and all decisions for design, content etc. were coordinated among the group. Everyone were writing parts of the report and they are as follow:

Lyuboslav:

Brainstorming
Idea Generating
Stakeholder Analysis
Target Audience
Message
Functionality Prioritization
Information Architecture
Business Card
Gestalt Law
Perpectivising

Radostin:

Risk Management
SCRUM
Questionnaire
Think-Out-Loud
Paper Prototyping
Logo
User testing
Conclusion
Proccess Reflection

Vasil:

Introduction
Problem Description
Problem Formulation
SWOT Analysis
Following the 6 Principles
Layout and Grid
Call-to-action
Back end

13. APPENDICES

Client Meetings

First client meeting - Receiving basic information for the clinic, generating and discussing ideas for the overall structure, understanding of the information that should be included and ideas that should be implemented and how everything should be divided.

Second client meeting- discussing of the developed prototype, discussing of the gathered information from the questionnaire and anlysis that concern the layout and design, receive feedback on the developed prototype and discuss the options for solutions.

User profile

Nikola is 21 years old man from Bulgaria. He is studying at Denmark and going to his home country for the holidays.

This summer while he was on a summer holiday on the Bulgarian seaside he had lost one of his front teeth in a fight. He says that at that time he needed information about dentists and treatments that he can help him take care of his tooth.

We have contacted Nikola a few times during our process as far as he is part of our target audience and he helped us in building a better product by answering some questions and testing our product.

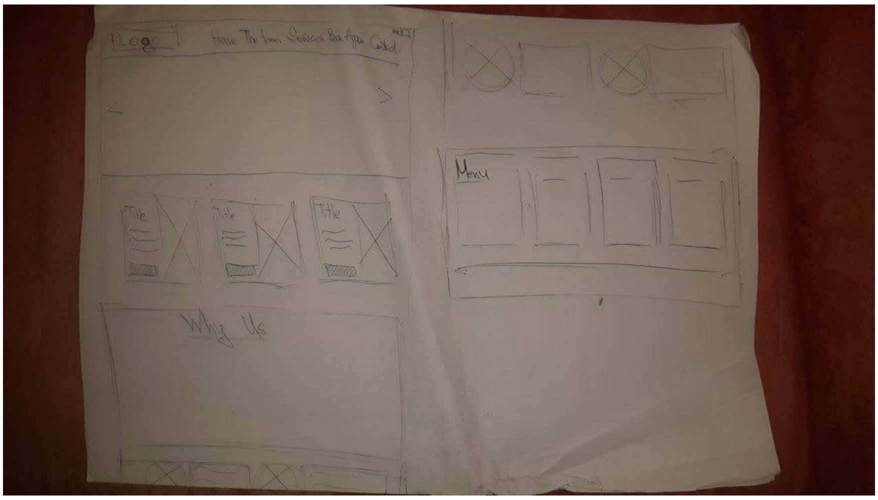
Sprint 1					
Product backlog	**Refined items**	**Hours**	*Started*	*Working*	*Finished*
Logo	Analyse and research logo	2			
	Brainstorming/ Sketching	2			
	Design	2			
Website	Analyse and research problem	8			
	Analyse and research target audience	10			
	Questionnaire	2			
	Brainstorming/ Sketching	2			
	Total hours:	32			

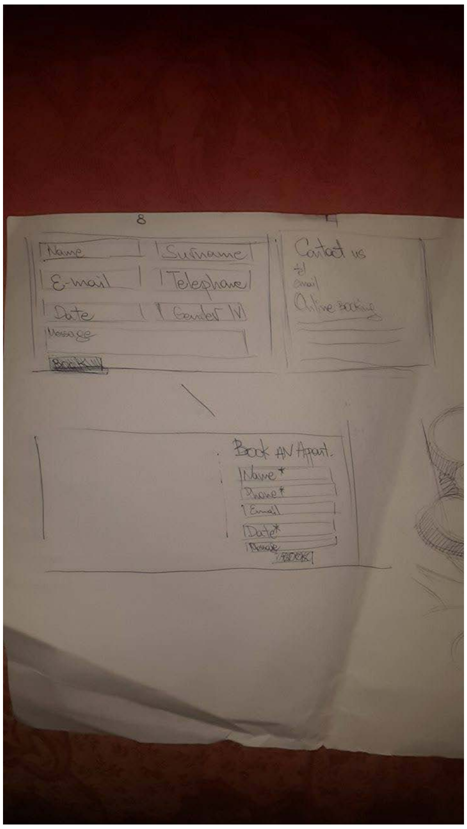
SCRUM Sprint Tables

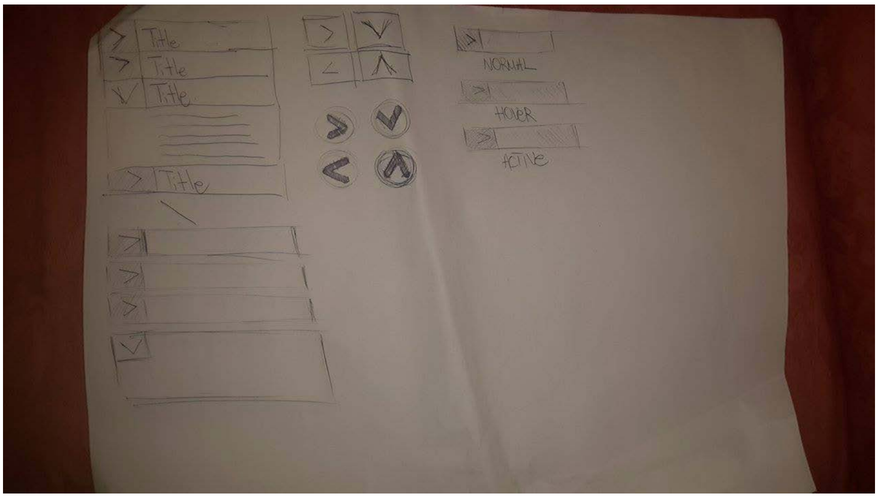
Sprint 2					
Product backlog	**Refined items**	**Hours**	*Started*	*Working*	*Finished*
Website	Questionnaire	2			
	Analyse and research target audience	2			
	Brainstorming (Idea generating)	4			
	Research content	4			
	Write and edit content	2			
	Brainstorming	2			
	Sketching	2			
	Prototyping	2			
	Coding homepage	6			
	Testing	4			
	Editing and adding photos	2			
	Working hours:	34			
	Client meeting	2			
	Total hours:	**36**			

Sprint 3					
Product backlog	**Refined items**	**Hours**	*Started*	*Working*	*Finished*
Website	Research content	2			
	Write and edit content	2			
	Coding homepage	2			
	Testing	4			
	Editing and adding photos	2			
	Coding other pages	8			
	Brainstorming	2			
	Information structure	2			
	Placing CTA	2			
	Database	2			
	Finalising and clearing bugs	2			
B. card	Research and analysis	2			
	Brainstorming/Idea generating	2			
	Creating and finalising	2			
Working hours:		36			
Total hours:		**36**			

Mockups







Qusetionnaire statistics