



**Silesian
University
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Faculty of Automatic Control,
Electronics and Computer Science

Internet Technologies – project work

FinTax

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Year 2023/2024, semester 5, group 5, section 533:

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Gliwice 2023

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Chapter 1

Introduction

Our intention for this project was to create a website for a client in need of a simple business card-like page that would entice people to collaborate, showcase their services, and provide an easy means of contact. This project resulted in the FinTax website – a platform designed to present the offerings of an accounting firm actively seeking clients for various services such as audits, accounting, and many more.

Chapter 2

Aim and scope of the project

The primary aim of this project was to develop a user-friendly website tailored for clients, embodying a simplistic business card-like design. The goal was to showcase fundamental company information, such as opening hours and contact details, while integrating essential utilities like a newsletter and an admin page to facilitate effective communication.

The scope encompassed creating the FinTax website, specifically designed for an accounting firm seeking client collaboration in services like audits and accounting. The overarching design objective was to ensure seamless adaptability across various devices, including desktops, tablets, and mobile devices, to optimize the user experience.

As part of our proposal, we introduced the concept of a User Contact Information Management System, allowing users to log in and manage their contact details. This feature was aligned with the principles of user autonomy and personalized data management within the platform.

Additionally, our proposal included the implementation of a subtle and optional newsletter signup div, designed to encourage voluntary subscriptions and foster a positive user experience without being intrusive.

Furthermore, we outlined a system enhancement for administrators, providing them with the capability to send direct messages to users through the newsletter. This feature aimed to streamline communication, offering administrators insight into individuals expressing interest in contact and enhancing their ability to engage with users effectively.

Chapter 3

Schedule

A good design pattern is to establish a schedule and goals, allowing for the allocation of resources and a clear understanding of what needs to be accomplished. Therefore, right at the beginning, we created a 9-week schedule Tab figure 3.1 in which we outlined our project milestones.

3.1 Schedule approved at the beginning

Week	Date	Planned Actions
1	19.10.2023	Designing the website mockup, its functionality, and the graphic elements.
2	26.10.2023	HTML - Creating the page structure part 1.
3	02.11.2023	HTML - Further development of the page structure part 2.
4	09.11.2023	CSS - Defining the page's interface.
5	16.11.2023	CSS and Grid - Fine-tuning the page layout.
6	23.11.2023	JavaScript - Creating basic scripts.
7	30.11.2023	JavaScript - Developing scripts for website interactions.
8	07.12.2023	PHP - Implementing scripts connecting to the database, enabling login, and adding Cookies and Newsletter.
9	14.12.2023	Implementing databases to allow user login.

Table 3.1. Tab 3.1 - Schedule approved at the beginning.

3.2 Schedule reflecting actual work

Of course, not every project will proceed according to the plan - sometimes you encounter unexpected issues, there are instances when meetings cannot take place, and other times tasks are completed much faster than anticipated. Therefore, the above schedule tab figure 3.1 did not unfold exactly as we had initially planned. The table Tab figure 3.2 shows the actual course of our work.

Week	Date	Planned Actions
1	19.10.2023	Designing the website mockup, its functionality, and the graphic elements.
2	26.10.2023	HTML - Creating the page structure part 1.
3	02.11.2023	HTML - Further development of the page structure part 2.
4	09.11.2023	CSS - Defining the page's interface.
5	16.11.2023	CSS and Grid - Fine-tuning the page layout.
6	23.11.2023	JavaScript - Creating basic scripts.
7	30.11.2023	JavaScript and PHP - Developing scripts for website interactions, Implementing scripts connecting to the database, enabling login, and adding Cookies and Newsletter.
8	07.12.2023	PHP - Implementing databases to allow user login.
9	14.12.2023	Improving layout and bug fixing

Table 3.2. Tab 3.2 - Schedule reflecting actual work.

Chapter 4

Software implementation

4.1 Defining the problem

In its conception, our website was intended to serve as both a business card and a platform where users could:

- 1) Familiarize themselves with our client's office offerings.
- 2) Obtain a brief overview of our client's company.
- 3) Create an account (and log in) to schedule appointments with a consultant for a specific day.
- 4) Subscribe to the newsletter to receive updates.
- 5) Provide an administrator with the capability to build a simple environment where they can view a list of newsletter subscribers and user data.

4.2 Analysis of possible solutions

Familiarize themselves with our client's office offerings:

- **Interactive website tour (chosen solution):** We opted for an interactive guided tour feature as it offers a dynamic and engaging way for users to explore the client's office offerings. This immersive experience provides a step-by-step walkthrough, ensuring that users grasp key services and highlights effectively.
- **Alternative Solution: Video Presentations** - Another option could be creating informative video presentations that showcase the office offerings. However, we chose the guided tour for its interactivity, allowing users to navigate at their own pace.

- **Reasoning:** The interactive guided tour provides a hands-on experience, catering to different learning preferences and fostering a deeper understanding of the client's services.

Obtain a brief overview of our client's company:

- **About Us section (chosen solution):** We selected a dedicated "About Us" section as it offers a structured and easily accessible space for users to obtain a concise yet comprehensive overview of the client's company, including history, mission, values, and key team members.
- **Alternative solution: infographics** An alternative could be using infographics to visually represent the company's key information. However, the "About Us" section allows for more detailed storytelling.
- **Reasoning:** The "About Us" section provides a user-friendly and detailed narrative, offering a more personalized connection and fostering trust through a comprehensive overview.

Create an account (and log in) to schedule appointments:

- **User Account Portal (chosen solution):** We opted for a secure user account portal to streamline the appointment scheduling process. This portal allows users to manage their appointments conveniently, ensuring a seamless and personalized experience.
- **Alternative solution: social media integration** - An alternative could be allowing users to schedule appointments through social media accounts. However, we chose the user account portal for its centralized control and customization.
- **Reasoning:** The user account portal provides a dedicated space for personalized interactions, maintaining user privacy and offering a structured environment for appointment management.

Subscribe to the newsletter:

- **Prominent subscription CTA (chosen solution):** Featuring a prominent call-to-action (CTA) on the homepage was selected to ensure visibility and accessibility for users. This visually appealing CTA encourages users to subscribe easily.
- **Alternative solution: pop-up subscription forms** - An alternative could be implementing pop-up subscription forms. However, the chosen CTA is less intrusive and provides a consistent presence.

- **Reasoning:** The prominent subscription CTA ensures a user-friendly experience with a clear and consistent option for newsletter subscription.

Provide an administrator with the capability to manage user data:

- **Admin dashboard (chosen solution):** The development of a user-friendly admin dashboard was chosen for its comprehensive functionalities. It allows administrators to efficiently manage newsletter subscribers, user accounts, and appointment schedules from a centralized location.
- **Alternative solution: separate management interfaces -** An alternative could be creating separate interfaces for managing subscribers, user accounts, and appointments. However, the admin dashboard provides a unified and streamlined approach.
- **Reasoning:** The admin dashboard offers a consolidated view, enhancing the administrator's ability to oversee and manage various aspects of user data efficiently.

4.3 The proposed solution

1 and 2). **Creation of simple subpages proposal:** In this proposal, we suggested the development of straightforward subpages to present our client's company. This includes a main page, an "About Us" page, and an "Offerings" page. These subpages are designed to offer a clear and concise representation of our client's business, providing users with essential information about the company's background, values, and services. The simplicity of the design aims to enhance user navigation and understanding. Additionally, we want to prioritize the visual appeal of the website, and thus, we are committed to ensuring its responsiveness. Our goal is to create a design that seamlessly adapts to various devices, maintaining an optimal user experience regardless of whether users access the site on desktops, tablets, or mobile devices. This focus on responsive design aims to enhance accessibility and user satisfaction with the website's appearance and functionality across different platforms.

3). **User contact information management system:** In our proposal, we suggested the implementation of a system where users, upon logging in, can provide, modify, or delete their contact information. This feature empowers users to have control over the information they share, ensuring a personalized and user-friendly experience. It aligns with the principle of user autonomy and data management within the platform.

4). **Newsletter signup div proposal:** Our proposal includes the creation of a subtle and optional newsletter signup div. This unobtrusive element aims to encourage users to subscribe voluntarily. The design will be simple and inviting, fostering a positive user experience without

being overly aggressive. This approach ensures that users feel empowered to engage with the newsletter at their own discretion.

5). **Proposal for system enhancement:** Our proposal involves the creation of a system enhancement where, upon logging in, the administrator gains the capability to send straightforward messages to users through the newsletter. Additionally, the administrator will have visibility into the details of individuals expressing interest in contact. This feature aims to streamline communication and improve the administrator's ability to engage with users effectively.

4.4 Implementation

At the outset, we established an environment tailored to our collaborative needs, placing a high priority on seamless file exchange. To achieve this, we opted to create a repository on GitHub [1], facilitating efficient collaboration and version control.

Subsequently, we engaged in crafting the initial mockup of the website. The mockup served as the foundation for designing the overall appearance of our site. However, as our work progressed, the mockup underwent significant changes, deviating from its original form and evolving dynamically. Throughout this process, we utilized tools such as Mockflow [2] and Photoshop to refine the visual representation of our website.

Our mockups (and codes) are readily accessible on our repository. Feel free to explore and review our work through the following repository link [1].

When it comes to reports during the project, we used the Overleaf [3] tool for writing in the LaTeX technology.

4.4.1 Appearance of the website

We began the design of our website by defining the colors we wanted to use. Initially, we employed the following color palette figure 4.1:

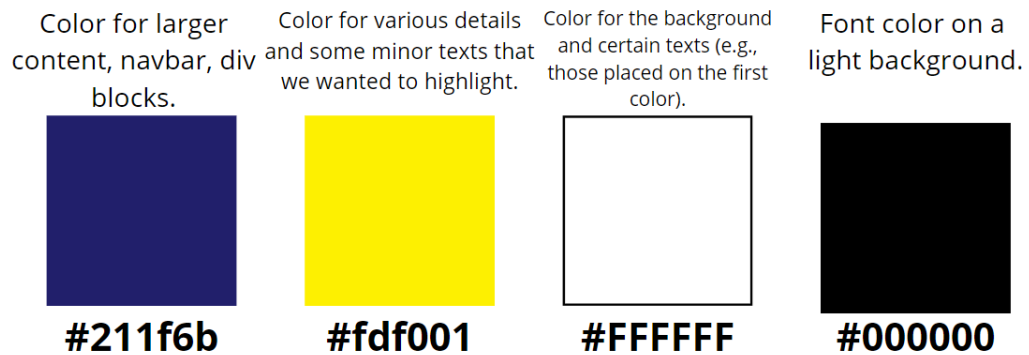


Figure 4.1. The first idea of colors.

And we selected a new color palette on figure 4.2, in our opinion, is more pleasing.

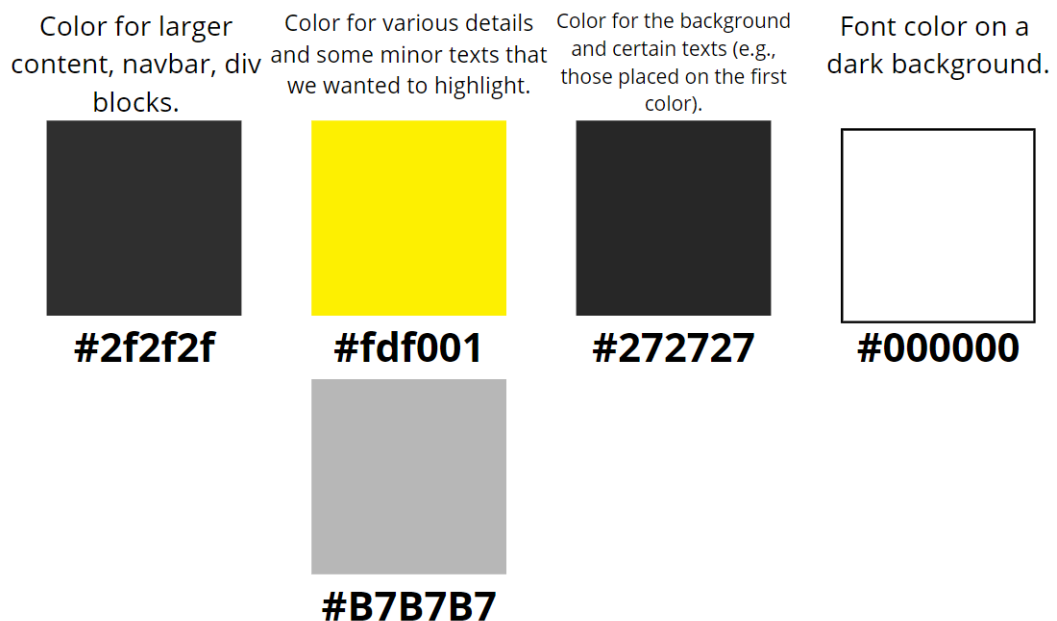


Figure 4.2. The main idea of colors.

Initially, we used two fonts: Newsreader and sans-serif. However, ultimately, we concluded that the sans-serif font (figure 4.3) is much more legible.

Istniejemy, aby służyć pomocą i radą naszym klientom na ich warunkach, zawsze i wszędzie i w każdy możliwy sposób.

Figure 4.3. Example of font.

4.4.1.1 Creation of simple subpages

The technologies on which we based our steps to create a user-friendly website include: HTML, CSS, SCSS, JavaScript (including the imported wow library).

During the developing process, we relied on tutorials from "Pasja Informatyki" regarding Bootstrap [4] and also referred to the official documentation [5].

At the very beginning, we created a simple and clear navbar figure 4.4 that includes/should include the company logo, links to subpages - Home, About Us, Offers, My Profile, Join.



Figure 4.4. Our navbar.

In addition, we also added a simple footer (figure 4.5) containing essential information about the client's company, including contact details and the company's registration information in official records.

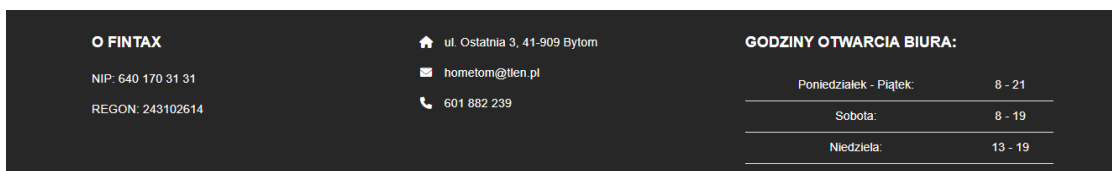


Figure 4.5. Our footer.

Now, briefly describing what we've created to encourage users to avail themselves of our company's services. We will describe what we have done on each of the respective subpages.

- **Home:** We created a simple photo gallery figure 4.7 using JavaScript, accompanied by an enticing caption and a call-to-action button.



Figure 4.6. Photo gallery.

We created a simple divs (figure 4.7 and figure 4.8) with brief information about the company.

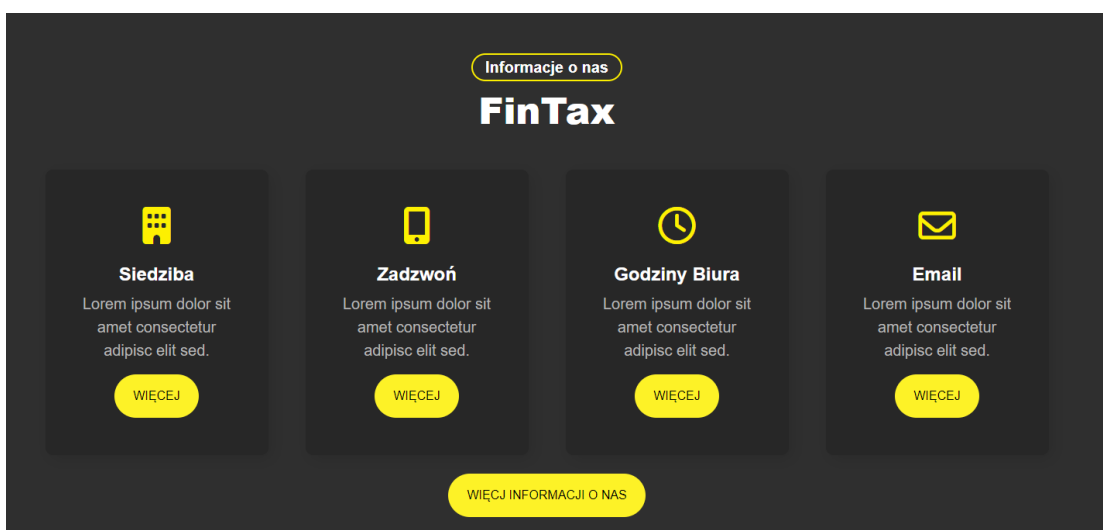


Figure 4.7. First simple div with brief information.

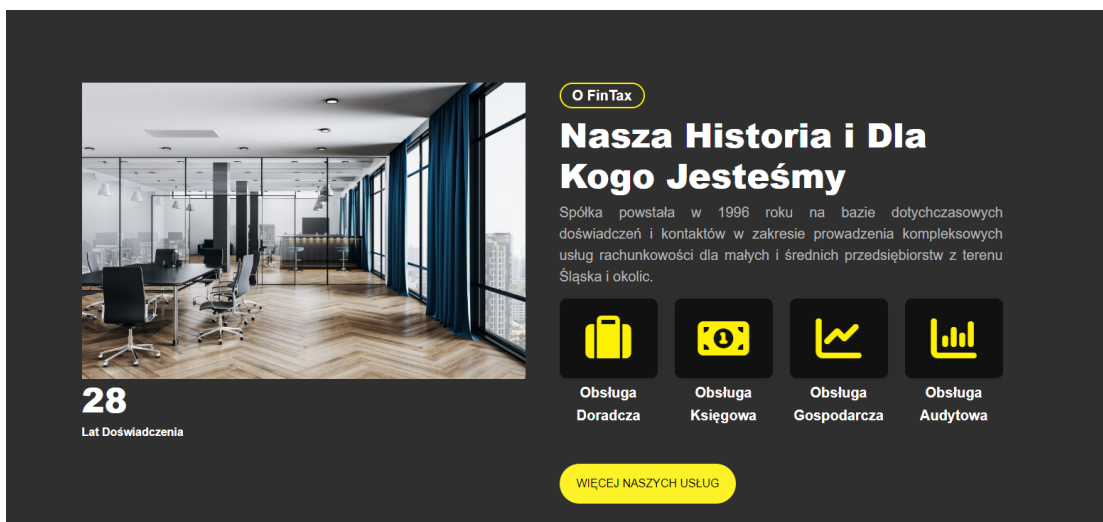


Figure 4.8. Second simple div with brief information.

- **About us:** We crafted a subpage (figure 4.9 and figure 4.10) where we described our client's company and outlined the collaborations they have had thus far.



Figure 4.9. The first part of subpage.

Firmy z jakimi współpracowaliśmy:

Przy realizacji usług :

- Silesia Promed Sp. z o.o. Zabrze.
- ArsJosta Consulting Sp. z o.o. Zabrze.
- Kabir Sp. z o.o. Zabrze.
- Alumat S.C. Zabrze.
- Despol Sp. z o.o. Będzin.
- Solidglas Sp. z o.o. Zabrze.
- FPHU MINOR Zabrze.
- Dual Sp. z o.o. Będzin.
- Evatronix S.A. Bielsko-Biała, Gliwice.
- Unikol Sp. z o.o. Zabrze.
- Unikol Budownictwo Sp. z o.o. Zabrze.
- Miejski Ośrodek Sportów i Rekreacji w Zabrzu.
- NFI Fund 1 Warszawa
- Fundusz Górnośląski Katowice.
- Auto Color Service A. Costazza Zabrze.
- KORMAKS Zabrze, Warszawa.
- Progresor Sp. z o.o. Zabrze.
- PHU ADAM Chorzów.
- PHU JAKUB S.C. Katowice.
- I wiele innych...

Figure 4.10. The second part of subpage.

- **Offers:** We developed a subpage where we briefly described our client's offerings (figure 4.11).



Figure 4.11. Offers subpage.

4.4.2 Newsletter system

We created a simple div (figure 4.12) located on the homepage near the footer. It is non-intrusive, not popping up abruptly, but features a distinctive color. Additionally, we implemented a script that collects provided emails, verifies their correctness, and sends them to the database (more details in the next section).



Figure 4.12. Newsletter.

4.4.3 Registration and login system

Given that on our website, we envisioned the possibility of contact through the site, we had to create a system for this. We began by developing a PHP-based registration and login system.

4.4.3.1 Register section

The registration system is simultaneously very simple yet potentially risky - we had to design it to be user-friendly while also securing it appropriately. In the figure 4.13, we present what the registration system looks like.



The image shows a registration form titled "Rejestracja" in yellow text on a dark background. The form is enclosed in a rounded rectangle with a yellow border. It contains three input fields: "Email" with placeholder text "Wprowadź Email", "Hasło" with placeholder text "Hasło", and "Powtórz Hasło" with placeholder text "Hasło". Below the fields is a checkbox labeled "Zapamiętaj Mnie". At the bottom of the form is a yellow button labeled "ZAREJESTRUJ". Below the button, there is a link that says "Masz już konto? [Zaloguj się](#)".

Figure 4.13. Register form.

4.4.3.2 Login section

The login system follows a similar approach—striking a balance between simplicity and security. We designed it to be user-friendly while implementing robust security measures. In the figure 4.14, we illustrate the login system.

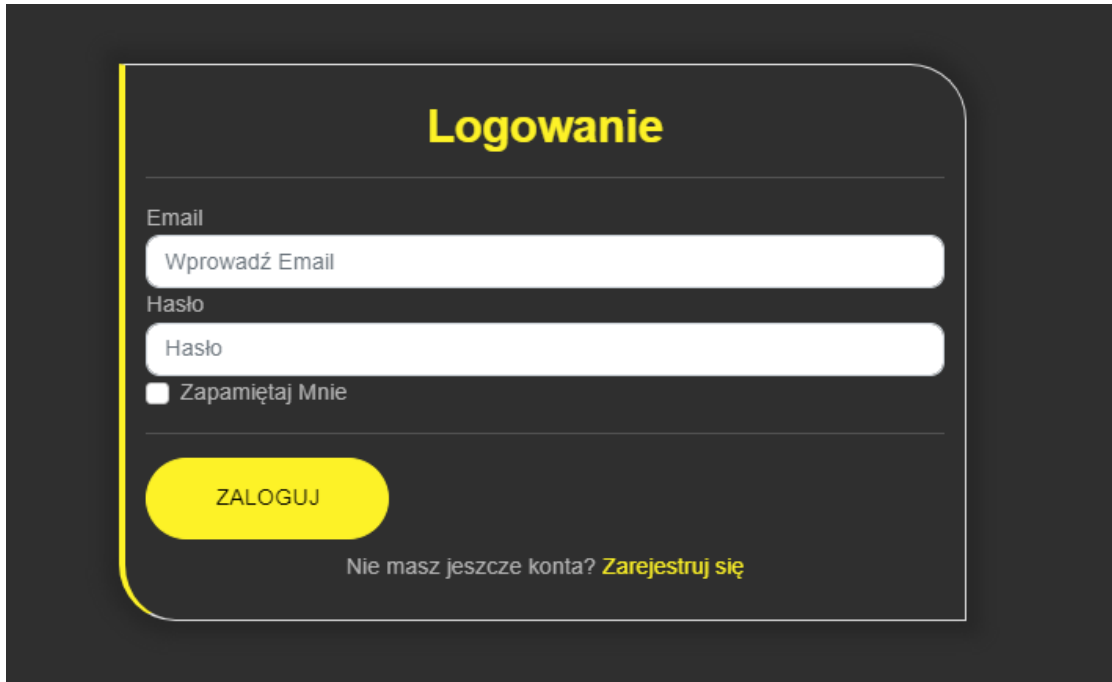
The image shows a login form titled "Logowanie" in yellow text on a dark background. The form is enclosed in a rounded rectangle with a thin white border. It contains two input fields: "Email" with a placeholder "Wprowadź Email" and "Hasło" with a placeholder "Hasło". Below the password field is a checkbox labeled "Zapamiętaj Mnie". A yellow button with the text "ZALOGUJ" is positioned below the inputs. At the bottom, there is a link that says "Nie masz jeszcze konta? Zarejestruj się" in yellow text.

Figure 4.14. Login form.

4.4.3.3 Appointment system

We created a system that allows users to input data indicating when a consultant could contact them. Additionally, there is a second part of the system where the administrator has a view of individuals subscribed to the newsletter and those who wish to be contacted.

4.4.3.4 User section

The user can easily and conveniently provide their contact information (figure 4.15).

The image shows a user registration form titled "Formularz zgłoszeniowy" in yellow text on a dark background. The form is enclosed in a rounded rectangle with a yellow border. It contains four input fields: "Imię" (Name), "Nazwisko" (Surname), "Numer telefonu" (Phone number), and "Data spotkania" (Meeting date). Below these fields is a yellow button labeled "WPROWADŹ" (Login). At the bottom of the page, there is a red button labeled "WYLOGUJ" (Logout).

Formularz zgłoszeniowy

Imię

Nazwisko

Numer telefonu

Data spotkania

WPROWADŹ

WYLOGUJ

Figure 4.15. User View.

4.4.3.5 Admin section

The administrator has the ability to download the list of emails for the newsletter and can review information about clients who want to be contacted. They can also remove a specific contact from the database after contact has been made (figure 4.16 and figure 4.17).

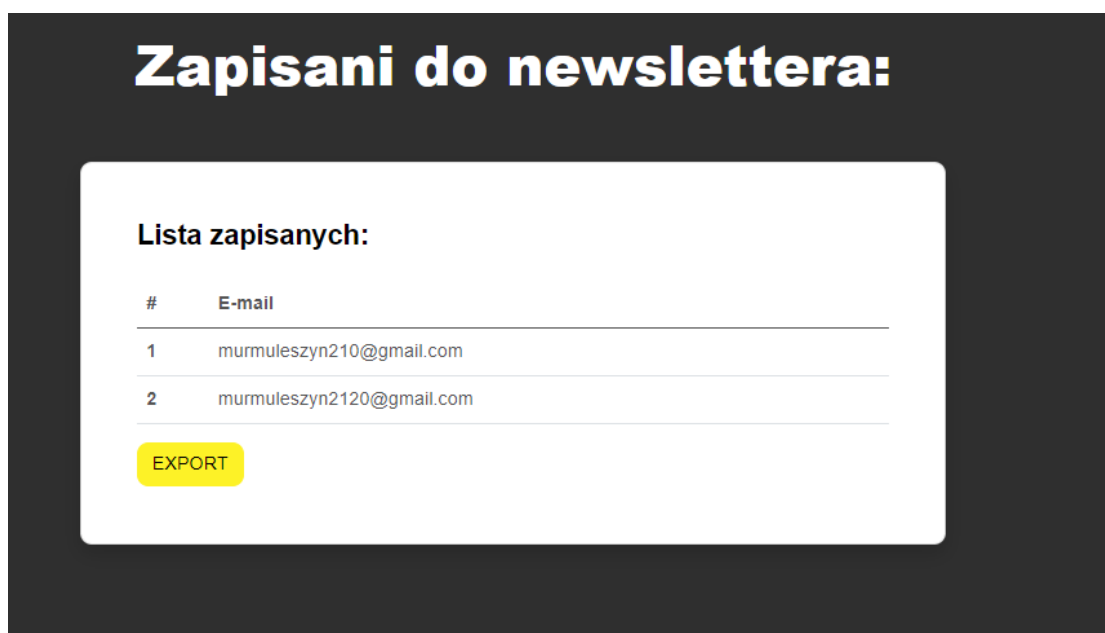


Figure 4.16. Newsletter - admin view.

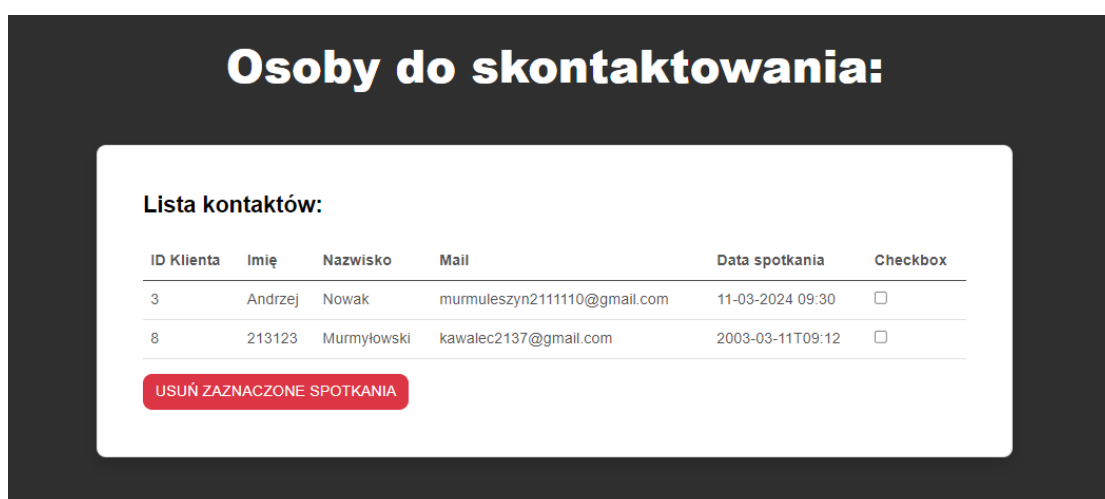


Figure 4.17. Contact system - admin view.

4.5 Problems during project development

4.5.1 Client

It is said that our client is our master, so during the work on the website, the concept of the site evolved. However, we managed to complete a certain stage. We had plans to upload the site to hosting, but we have to wait for that - the client is opening a new part of the business, so, as he stated himself, he wants to wait for a while. He will then want us to add another section of subpages (we don't have detailed information yet). Therefore, we are waiting to complete

the rest of the text. Another issue was the graphic designer working for the client who has not provided us with all the graphics so far.

4.5.2 HTML,CSS,JS

Our main goal was to create an aesthetically pleasing website, so for the front end, we chose HTML, CSS (and SCSS), Grid, Bootstrap, and JavaScript. The challenge we faced was how to structure the website - this is where the initially created mockup proved to be very helpful. Another issue we addressed was writing a custom script for the photo gallery since ready-made solutions from the internet were causing significant lag on the website. For animations, we imported the wow.js, easing.js, waypoints.js libraries, along with some code from Ajax, to enhance the overall user experience.

4.5.3 Backend

We chose PHP and MySQL for building the backend, utilizing tools such as Xampp and Php-MyAdmin. At the very beginning, we constructed a model for how our backend should function. Currently, it looks like this at figure 4.18.

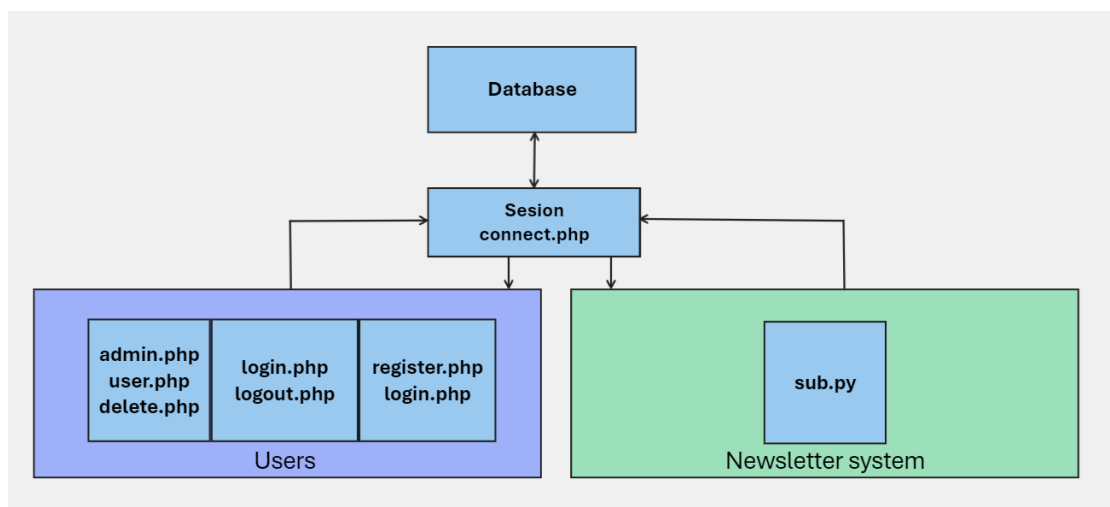


Figure 4.18. Our backend.

During the writing process, we utilized tutorials from "Pasja Informatyki" on the subject of PHP [6] and MySQL [7].

We also had to create a suitable database for this backend - it had to be well-designed, and we carefully selected primary/foreign keys. Below is the figure 4.19 with schema of our solution.

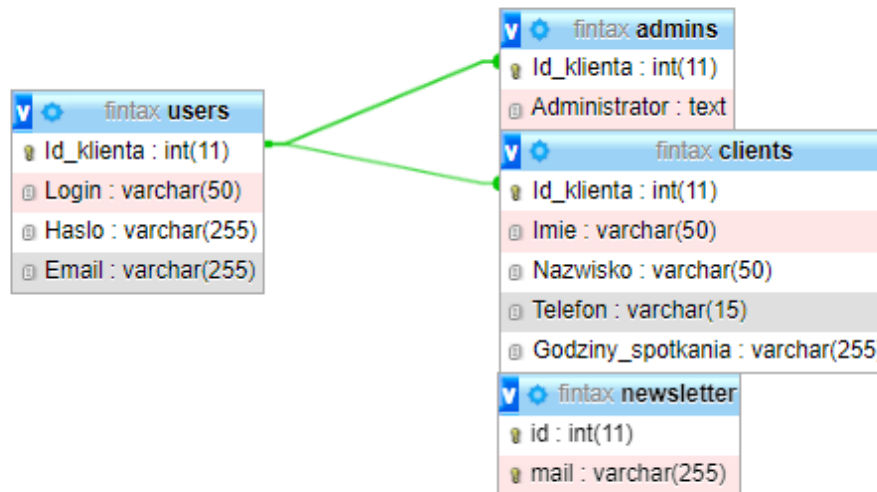


Figure 4.19. Our database.

4.5.4 System security

Our database-based system encountered certain issues that we needed to secure:

- **SQL injection:** It was relatively easy to inject SQL into inputs, so we implemented special filters on inputs.
- **Password security:** We encrypted passwords in scripts and utilized the POST method in PHP to make it harder to compromise them.
- **Session:** We had to secure it properly. Initially, it was possible to access the administrator panel through the URL, but now it's not possible (we secured it by adding a session condition that checks if the logged-in user is an admin or a regular user).

4.5.5 Hosting

As our client did not want to upload the website to the official hosting at fintax.pl (on home.pl) yet, we have placed our website on 000webhost.com [8] to test its functionality. It turned out that the website is fully functional, responsive, and both scripts and security measures are working as intended.

Chapter 5

Summary

The project aimed to create a user-friendly platform showcasing the company's services and fostering collaboration. The report outlines the project's objectives, schedule, and the actual implementation, covering frontend design, backend development, and security measures.

5.1 Key achievements

1) Website structure and design:

- Implemented a responsive and visually appealing design using HTML, CSS, SCSS, Bootstrap, and JavaScript.
- Created subpages for Home, About Us, and Offers, emphasizing simplicity and user-friendliness.
- Developed a photo gallery and engaging content to showcase the company's offerings.

2) User interaction features:

- Designed a non-intrusive newsletter signup system with a distinctive color to encourage voluntary subscriptions.
- Implemented a user registration and login system with PHP and MySQL, focusing on security measures.
- Developed an appointment system for users to schedule consultations and an admin section to manage contacts.

3) Backend development:

- Established a well-structured backend using PHP and MySQL, addressing SQL injection and password security concerns.
- Secured the session to prevent unauthorized access to the administrator panel.

4) **Project management:**

- Created a detailed schedule with milestones, showcasing both the planned and actual progression of the project.
- Emphasized collaborative skills, effective communication, and meeting deadlines throughout the development process.

5.2 Challenges and future considerations

1) **Client collaboration:**

- Adapted to evolving client requirements, anticipating further updates as the client expands their business.
- Faced delays due to incomplete graphic designs from the client's side.

2) **Frontend challenges:**

- Addressed HTML, CSS, and JavaScript challenges, opting for custom scripts to enhance website performance.
- Incorporated animation libraries to improve the overall user experience.

3) **Backend security:**

- Implemented security measures against SQL injection, password compromise, and unauthorized access.

5.3 Conclusion

In conclusion, the **FinTax** website project successfully achieved its primary goal of creating a transparent, user-friendly platform. The report provides insights into the development process, challenges faced, and considerations for future updates.

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