

SmartStyle

Software Engineering



SmartStyle Requirements Specification

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1. Executive Summary

1.1 Project Overview

SmartStyle project is determined to offer the core management and sale activities support in regards to an actual Spa & Hairdresser salon stationed in Tirana, Albania. In this project, our team will design and build a Web-based Application based on the salon's management system. The application will not only be a simple appointment booking and user support regarding the C2B aspect, but also a fairly complex and completely secure management and accounting system, encompassing all the needs of specifically this type of business. The system's users are divided into five main characteristics, each with their own functionalities and support: Admin, Accountant, Secretary, Employee and Client.

1.2 Purpose and Scope of this Specification

The main purpose of SmartStyle Salon Management System is to track inventory, booking, personnel, in-store sales, accounting and marketing, to then collect all of this data from various sources, processes and to organize it, so that ultimately it generates a user-friendly report that the owners can consult while making decisions.

2. Product/Service Description

A Spa and Hairdresser salon management provides valuable tools to simplify management of different operations. The system keeps track of all the activities that are carried out on a daily basis within the salon. It maintains stock of inventory coming in and going out. Another feature is management of individual employee salary. The system is even equipped to manage customer billing and data storage, with a nice retouch to show a special bonus reminder to each client on their special day. SmartStyle will help improve the scheduling process by managing client appointments and regulating staff members' availability, which will

be transparent to the customer. This fully equipped system alone is able to manage the entire operations of a spa and hairdresser salon, including the accounting aspect.

2.1 Product Context

The system is automated in the sense that it does not require human efforts in calculating bill and maintain the details of clients and employees and in the accounting records. Also it maintains records of all the employees along with their salary information so the payments will be correct both with the employee and the government. This feature makes the link between owner and accountant that more transparent. It saves efforts and time and it is cost-effective. Within the business, this system is a single unique data pool with no connection to other systems and it is independent. As a management system, it will be firstly used by the actors inside the business and then as a web application, it will used also by the clients of the business.

2.2 User Characteristics

The users of the system will be Admin, Secretary, Accountant, Employee, and Client, and which will include the following functions:

A D M I N

- The Administrator can login in the system.
- S/he may manage and check the employees and their salaries.
- S/he may manage and check the inventory and read reports regarding it.
- S/he may check the client list.
- S/he may manage and check the products and services provided.
- S/he may manage and check the appointments calendar.

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- S/he may check bills/invoices.
- S/he may access various financial reports of the business.
- S/he may create or delete accounts for her/his employees in the system.

SECRETARY

- The Secretary can login in the system.
- S/he may manage and check the appointments calendar.
- S/he may arrange the employees' weekly or monthly schedule.
- S/he may manage and print bills/invoices for clients.

ACCOUNTANT

- The Accounting can login in the system.
- S/he may manage and check the employees and their salaries.
- S/he may manage and check the inventory.
- S/he may check bills/invoices.
- S/he may create and access various financial reports of the business.

EMPLOYEE

- An Employee can login in the system.
- They may check and ask for change in their schedule.
- They may check their own salaries and contributions.
- They may request for vacations and/or paid leave.

CLIENT

- A Client can sign up and login in the system.
- They may access their own page and see their information.
- They may create and change their own appointments online.

2.3 Assumptions

- It is assumed that all the actions are performed regularly according to the law.
- It is assumed that the admin will create the accounts of every employee.
- It is assumed that the information added in the system is checked prior by the admin or other users of the system.
- It is assumed that full access is handled only by the admin and no other user.
- It is assumed that anyone for logs in or uses the web application and make an appointment to the system and therefore each appointment is assumed to be checked by either the admin or the secretary.
- It is assumed that personal information of the users can be viewed themselves, the admin or a user that has necessity to such information such as the accountant for salary expenses or the secretary for marketing.
- It is assumed that no one can access the application externally, they must login the system and so leave a print.

2.4 Constraints

Some of the calculated constraints or disadvantages of our Salon Management System are as following:

- It requires large database.

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- It requires stable internet connection.
- The admin or the accountant has to manually manage the inventory

section in the system like what items have been used and what items are coming.

2.5 Dependencies

The system as a web application will perform most tasks and processes by itself; however, it is not autonomous. Therefore, it requires the input of the human user to input some of the data and to choose some reports and items to be generated, apart from other necessities such as the device and internet for it to function properly.

3. Requirements

A requirement, in software and systems engineering, is a declaration of the intended function of a system and its components. Based on functional requirements, the team shall determine output that the system is expected to exhibit in the case of a certain input.

Priority Definitions

The following definitions are intended as a guideline to prioritize requirements.

- Priority 1 – The requirement is a “must have” as outlined by policy/law.
- Priority 2 – The requirement is needed for improved processing, and the fulfillment of the requirement will create immediate benefits.
- Priority 3 – The requirement is a “nice to have” which may include new functionality.

It may be helpful to phrase the requirement in terms of its priority, e.g., "The value of the employee status sent to DIS **must be** either A or I" or "It **would be nice** if the application warned the user that the expiration date was 3 business days away". Another approach would be to group requirements by priority category.

3.1 Functional Requirements

Req #	Requirement	Comments	Priority	Date Rvwd	SME Reviewed / Approved
BR_01	The system is designed in the form of five functional user modules: Admin, Secretary, Accountant, Employee, and Client.	As a web application, and to be useful to the users, the communication between users and their functionality is the scope of the system.	1		
LOGIN AND IDENTIFICATION					
BR_02	The system should allow all the user to be able to access is by a log in interface.	By imputing unique username and password, all users can enter their respective pages.	1		
BR_03	A database shall be connected to the interface, in order to hold and access all the data.	The data shall be well structured to be easily used and contained	1		
BR_04	Each user in the database will be identified by a unique primary key and accompanied by their role in the company.	This will make each user uniquely identified and not duplicated.	1		
BR_05	The system should check with the database if the user exists by checking the username and password.	No two users can have the same username, so a red text shall appear to the user if they have imputed something wrong.	1		
BR_06	After login, each user should have their unique pages and all user categories have different views.	Each user has bounded access based on their respective roles in the business, except of admin.	1		
A D M I N					
BR_07	The admin dashboard shall have full access to the system, which is limited only by the Law.	Admin can view everything in the system and can edit most of the information.	1		
BR_08	The dashboard will generate small statistical numbers regarding the business data in the system.	The main data totals of the system shall be shown in the dashboard, such as no. of employees, clients or products, etc.	2		
BR_09	The admin menu will redirect towards all the system: Appointments, Employees, Client, Accounting and each their info and statistics.	With drop down buttons, the admin can go and view each labels main feature or a specific interface to edit or generate specific content.	1		

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Req #	Requirement	Comments	Priority	Date Rvwd	SME Reviewed / Approved
BR_10	A calendar with today's appointments is a must to have, in order to calculate the day's workload. It can be as a calendar or tabular format.	It is an important feature to show the day's appointments and the people responsible for each one.	2		
BR_11	A section with quick reports in order to, when clicked, generate a few basic but very important business reports for the month or year.	As the adjective "quick" dictates, it is to save admin time for some of the most needed reports of the everyday management.	2		
BR_12	Another section will show the most loyal clients and their respective special days for rewarding.	With this info, the admin might decide to send coupon or discounts as popup/email to these clients.	3		
BR_13	The system allows the admin to add appointments to the calendar or reserved free slots for vacation or breaks.	Appointments can be not only generated by the system from the clients, but also by the admin.	2		
BR_14	The admin has full access to the booking calendar, in order to accept, modify or cancel appointments.	The booking calendar shall show both approved and pending appointments for confirmation or change.	1		
BR_15	The admin will have also a Bride section in the booking calendar, since the admin is also the main stylist of the salon, who does the brides.	It is to see all the info and schedule for the bride(s) in order to free them as a stylist to be picked for the day.	1		
BR_16	Completed Appointments table is an additional feature for the admin. A report of the table can be saved.	By grouping and searching by the table, the admin can use the info for decision making.	2		
BR_17	Graphical or tabular data will be generated by the system regarding the appointments info for interpretation by the admin.	This is an optional but nice feature which analysis the times schedules and moments when appointment are mostly booked, etc.	3		
BR_18	The admin can access the employees CRUD table with their respective info, salaries and taxes to be paid.	A report can be printed at the end and totals of the salaries and expenses are shown too.	1		
BR_19	The system must allow the admin to register the new employees hired, because they cannot give themselves the corresponding status.	As employees cannot register themselves, admin needs to give them the corresponding access to the system.	1		

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Req #	Requirement	Comments	Priority	Date Rvwd	SME Reviewed / Approved
BR_20	The admin can provide a username and password to the employees. The username can be assigned by the admin.	The starting password will be the same for every employee which they can change later, once they login.	2		
BR_21	The admin can access the clients table with their respective info.	On top will be the clients that are most loyal and those less active.	2		
BR_22	A client can only be deactivated by the admin if they haven't been active for long.	The client won't show on the table, and they can re-activate by login in.	3		
BR_23	The admin can add Clients but only to store their information, for those loyal clients not familiar with tech.	No client account will username or password will be generated as user in the system.	3		
BR_24	The admin can view the inventory in a tabular form with CRUD integration and sort the data as the items with low quantity will be automatically shown first.	In this way, the admin can easily navigate and change the information of each product. Totals of the inventory value will be shown for major info.	1		
BR_25	The addition of items in the inventory will be done in the form of an invoice with more info than just the one shown in the inventory.	So the admin can not only enter the new/old items, but also recalculate their prices and provide additional info.	2		
BR_26	The admin can diminish the quantity of used items in the inventory.	This will calculate the used products as costs to the business.	2		
BR_27	The admin can view, generate and download accounting reports, files and statistics.	This will be important to generate quick or detailed reports for interpretation and decision making.	2		
BR_28	The admin can view in tabular form all the bills from the precious clients, put them in time frames and see important overall info on the revenues.	This will be important to create a deeper understanding of revenues and frequency to different time frames and to generate a report on it.	2		
BR_29	The admin accounting reports will be able to be downloaded in the format of an Excel file.	The feature will help both the admin and accountant to use some data for state declarations.	3		
BR_30	The admin can change their password in the settings.	Only their password and not other users.	3		
BR_31	The admin can obviously log out of the system.	All users can and should log out for their own security.	1		

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Req #	Requirement	Comments	Priority	Date Rvwd	SME Reviewed / Approved
S E C R E T A R Y					
BR_32	The secretary dashboard has limited access to the system, only in regards to booking settings and clients' bills.	The access is limited within the responsibilities of her role in the business, namely the works of a secretary	1		
BR_33	A schedule in either calendar or tabular form will show the appointments scheduled or to be approved by the secretary.	The main task of the secretary is to view, accept, edit/reschedule, or cancel appointments.	1		
BR_34	The system will show a small table with the shifts of the employee and can even change them.	The system will notify the employees for the changes in the shifts.	2		
BR_35	The secretary can assign appointment to employees working that shift.	The secretary can view the shifts and assign each employee accordingly.	2		
BR_36	In a tabular form, the secretary can view the new canceled appointments.	They can message the client in order to ask why they cancelled.	2		
BR_37	In a tabular form, the secretary can view the new changed or rescheduled appointments.	They can recheck with the other staff about the changes to confirm it on the most adequate time for all.	2		
BR_38	The secretary will generate and print bills for the clients. This applies if no additional services or products are purchased at the salon.	A bill is generated by the system and can be directly printed.	2		
BR_39	The secretary will generate a new bill for clients that come in without an appointment.	A bill form is filled by the secretary and can be directly printed.	2		
BR_40	The secretary will generate and add items to a client's bill for additional services or products purchased in the salon.	The system will generate a bill based in the appointed services, which the secretary can edit and then print.	2		
BR_41	Another section in the secretary dashboard will show the most loyal clients and their respective special days for rewarding.	With this info, the secretary can send coupon or discounts as per messages or email to these clients.	3		
BR_42	The secretary can change their password and personal info in the settings.	They can only change their own personal info, but not their salary.	3		
BR_43	The secretary can obviously log out of the system.	All users can and should log out for their own security.	1		

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Req #	Requirement	Comments	Priority	Date Rvwd	SME Reviewed / Approved
A C C O U N T A N T					
BR_44	The accountant can view the statement of financial performance.	They can select the period and print the statement.	1		
BR_45	The accountant can created new invoices to record the expenses incurred by the business.	The invoice will be recorded by the system and expenses directly calculated.	1		
BR_46	A graphical view of the revenues and expenses as a bar chart will be displayed in the accountant dashboard.	This is to makes it easier for the accountant to interpret the revenue and expenses for each month.	3		
BR_47	In tabular form, all of the invoice (revenue and expenses) will be listed so the accountant can mark as paid or unpaid.	This is important for the accountant to view and group invoices.	2		
BR_48	The system will generate reports for the accountant to view and download.	Reports are important to verify the systems records and for declarations.	2		
BR_49	The accountant can view the inventory in a tabular form with CRUD integration and sort the data as the items with low quantity will be automatically shown first.	In this way, the accountant can easily navigate and change the information of each product. Totals of the inventory value will be shown for major info.	1		
BR_50	The addition of items in the inventory will be done in the form of an invoice with more info than just the one shown in the inventory.	So the accountant can not only enter the new/old items, but also recalculate their prices and provide additional info.	2		
BR_51	The accountant can diminish the quantity of used items in the inventory.	This will calculate the used products as costs to the business.	2		
BR_52	The accountant can access the employees CRUD table with their respective info, salaries and taxes to be paid.	A report can be printed at the end and totals of the salaries and expenses are shown too.	1		
BR_53	The accountant can change their password and personal info in the settings.	They can only change their own personal info, but not their salary.	3		
BR_54	The accountant can obviously log out of the system.	All users can and should log out for their own security.	1		
E M P L O Y E E					
BR_55	The employee can view and edit their personal information.	They can only change their own personal info, but not their salary.	1		

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Req #	Requirement	Comments	Priority	Date Rvwd	SME Reviewed / Approved
BR_56	The employee can view and edit their shift for the current day.	The today's shift will be shown in a one day calendar mode.	1		
BR_57	The employee can view and edit their schedule for the month.	In a calendar for the current month will be shown the work and vacation days.	2		
BR_58	The system will show messages regarding changes in the shift by either the admin or secretary.	This is an optional feature to let there be communication regarding changes between them.	3		
BR_59	The employee can change their password.	After the first login, they can change the default one.	1		
BR_60	The employee can obviously log out of the system.	All users can and should log out for their own security.	1		
C L I E N T					
BR_61	The client can register into the system by giving same personal information.	They must enter a unique username, name, password and few relevant data.	1		
BR_62	The client can view and edit their personal information and even password.	They can change their own personal information.	1		
BR_63	The client can book an appointment in an assigned time with the desired services.	The client will enter the info they want for the appointment and it will be sent to through the system.	1		
BR_64	The system will show automatic messages regarding pending appointments or other status, and other info.	This is a feature to show the approved future appointments and other messages from the system.	2		
BR_65	For each appointment, the client will gather points which he or she can later redeem.	The points can be converted to discounts for the client.	3		
BR_66	Previous appointments will be stored for the client to view.	It might be useful for the next appointment's time.	3		
BR_67	A slide show gallery with photos of the client or salon will appear on the client dashboard.	This feature is to give a personal touch and experience to each client who came to the salon.	3		
BR_68	The client can obviously log out of the system.	All users can and should log out for their own security.	1		

3.2 Non-Functional Requirements

3.2.1 Product Requirements

3.2.1.1 Usability

For making a good web application for our smart style salon we are going to follow some key principles.

Availability and Accessibility

Our web application should always work and ensure the users don't get an error trying to load the site. The system that we will create for SmartStyle should be active 24/7, and it will be reachable to anyone who owns a digital device like a phone, laptop, desktop, iPad etc. We won't limit the accessing by only one browser even though Google chrome is the most used browser we will be available also on Firefox, Microsoft edge, safari etc. In this way people won't feel limited on the offered ways to access the website. The website will be used by customers but also by the staff and admin which means it will be available in 2 languages Albanian and English and also considering that there is sensitive data we will try to avoid any failure in the system which will make it go down be it scheduled or unscheduled maintenance.

Clarity and Simplicity

The web application should be easy to utilize, clear for the users and to focus on what it is important. In the simplicity of construction, the web application is designed mainly using a two-tier architecture, in which a client communicates directly with a server.

Usability Defects to Avoid

A usability defect has one or more of the following characteristics. It irritates or confuses the user. It makes a system hard to install, learn, or use. It causes mental overload of the user. (For example, the user may have to think a lot as the required action or feedback from the system may not be obvious or sufficient.) It causes poor user performance. It violates design standards or guidelines. It reduces trust or credibility of the system.

3.2.1.2 Efficiency

SmartStyle will be a very efficient web application meaning that each user can accomplish every task easily and also every client will have their own account where he can enter and see his own data. The website will also be very efficient for the owner to manage his business because all the finances and products will be posted on the system. Efficiency is reached when the application is easy to learn and navigate with buttons and when its messages will be very easy to understand by all users.

Performance requirement

SmartStyle system's performance is determined by the internet connection and the strength of the devices. For a good performance we need, first of all, the storage space. We are going to have a lot of appointments, products, invoices or bills, employee and client data, accounting data, etc. and for this reasons we need a lot of storage space. The PC should have a powerful CPU and fast internet speed that the system can respond the user as fast as we can. Also very important is the way of building of our web application. This means building and coding an efficient web application with a very high performance and with less space.

Space requirement

- The system should be able to deal with at least 150 users in the same time.
- The website will be able to handle at least 25 requirements per second.
- RAM storage will be at least 4 GB.
- Processor 2 x 1.6 GHZ.
- The maximum simultaneous user: 150.

3.2.1.3 Dependability

Monitoring and control

Monitoring and Controlling are processes needed to track, review, and regulate the progress and performance. It also identifies any areas where changes are required and initiates the required changes. In case of any error the admin and users will all be notified with particular notifications where they will be notified for how long the system will be down. The system will be build to be reliable and trustworthy.

Maintenance

It appears after the user has created his/her account on SmartStyle. Maintenance is basically making sure that the system works correctly. It is easier to maintain the system with high quality coding which is easily readable. The website will be built in a way which can be ever updated and extended with new features which will keep SmartStyle ever interesting.

Maintainability

Software maintainability is defined as the degree to which an application is understood, repaired or enhanced. Understanding software maintainability allows us to identify improvement areas as well as determine the value supplied by current applications or during development changes. We will also be able to update, upgrade, and extend/change our features easily.

Operations

The SmartStyle software should be 24/7 online. Users are all able to login in the system of SmartStyle. Their passwords will be encrypted and impossible to be accessed by someone else. All the data will be secured in the system. Admin or any authorized user will be able to edit, delete or change information.

Threats and error removal

Fault Prevention: it deals with prevention faults being incorporated into the system. This can be accomplished by development methodologies and good implementation techniques.

Fault Removal: it can be divided into two sub-categories: Removal during Development and Removal during Use.

Removal: during development verification is required so that faults can be found or detected and removed before the system is put in production. Once our system has been put in production, then we will need another system to record failures and remove them via a maintenance cycle.

Fault Forecasting: predicts likely faults so that they can be removed or their effects can be prevented.

3.2.1.4 Security

Authentication and password management

Authentication and password are the some of the most important requirements that we will apply on our website. This will be the best way to be a trustworthy website. Authentication will always notify the user if something is wrong or not valid and according to the password we will try and make it invisible in the database like showing apteryx "*" instead of numbers and letters. This way the password will be protected all the time and known only by the user. There will be a function that will check if:

- Your email is valid.
- Your password is valid.
- Your username is valid.

If they are not than there will be a warning that the username or password is not correct.

Authorization and role management

Authorization and role management will separate the users from employees and administrators where every account will have their limits with administrator being the main account which has access in the databases. It will allow us to add new employees, to inform us when a time is scheduled for which employee; all this of course will be accessed by administrator or authorized users.

Audit logging and analysis

By logging we mean recording information which is not sensitive or has anything to do with the privacy of the user. For example how active an account is in our website or which part of the website is used less than the other parts in order for us to improve it. Auditing, however, is more complex. Auditing is the practice of inspecting logs for the purpose of verifying that the system is in a desirable state or to answer questions about how the system arrived at a particular state. In this way we will be able to see where our website stands and how well it is going and how we can improve on certain fragments or even extend our system.

Network and data security

Network and data security means that we need to protect our data and information from being infected or reached from a third party. This is a worldwide problem and customers get more and more aware of these issues and demand their privacy protected and defended which is one of the main points we will focus on our site.

3.2.2 Organizational Requirements

3.2.2.1 Environmental Requirements

SmartStyle application is planned to be stored in a Mac computer inside the salon on the second floor, where the office of the salon owner is located. The attributes of the Mac seems favorable enough towards being energy efficient to prevent accidents from happening from causes such as overheating of the computer's hardware, etc. As the system will firstly start as an inner Salon management system, with few to no clients, the current conditions are more than adequate to make the application work perfectly for the few employees. The power supply to the computer server will be uninterrupted as a small battery will be connected to it in case of energy blackouts and reinforced by standard and adequate cables.

When clients will be allowed to register and use the web application, additional hardware might be advised to increase performance in proportion to the number of users and information generated by the system. Periodical check-ups by the team will be performed to the system and the server will be secured from outside/physical occurrences, as well as internal occurrences such as malwares and other attacks, which will be secured with firewalls and antivirus, apart from the usual password-protected user.

3.2.2.2 Operational Requirements

The main basis of the operations of the SmartStyle web application is: **(1)** the CRUD operations on the tabular forms accessed mainly by the admin and accountant; **(2)** creating, approving and editing of appointments booked or to be booked; **(3)** operations with forms to get client data and perform with information called from invoices/bills; and **(4)** viewing various information and statistics in different formats from the database. The overall system of the application will be responsible to maintain and collect all the data, and demonstrate them in the adequate instances within it.

3.2.2.3 Development Requirements

Client-Side Programming (Front-end)

Technologies to be used in client-side web development will be Hypertext Markup Language (HTML), Cascading Style Sheets (CSS), JavaScript (JS) and bootstrap as they make it easier for us to build this web application.

Server-Side Programming (Back-end)

Technologies to be used in client-side web development PHP, since we are more familiar with it. To begin with, it is easier to use, and you can build a web app with fewer lines of code. Furthermore, it is open source and it is supported by a large community. PHP supports popular databases such as MySQL and is platform independent with regard to operating systems and major web servers. As for the database decided to be used is MySQL, which is very easy to install, and thanks to a bevy of third-party tools that can be added to the database, setting up an implementation is a relatively simple task. In addition, it's also an easy database to work with. Although MySQL's popularity has waned somewhat in recent years, it remains one of the most-used database systems in the world. It's compatible with virtually every operating system, and is more or less an industry standard. MySQL stored procedures are secure because the database administrator can grant appropriate permissions to applications that access stored procedures in the database without giving any permissions on the underlying database tables.

3.2.3 External Requirements

3.2.3.1 Ethical Requirements

Software

The software should deliver a quality solution to the customer, which is in line with the original specification made by him/her. It also has to provide users with clear information about

how their information is used. To conclude, the software should allow users to export their data and respect the confidentiality of every stakeholder even though a previous agreement might not have been signed.

Developers

The developers should not take any steps that would unnecessarily force the customer to award business to them again in future. They have to make sure that they use standard approaches and fully document their solution, so as to make it easily maintainable by others. Moreover, no steps should be taken that might put the customer's business interests at risk, even if it was an action that would benefit their own organization. Everything should be done by respecting the rights and entitlements of other developers, avoiding plagiarism or the unethical or even illegal use of software components built by others.

3.2.3.2 Regulatory Requirements

Privacy policy

As the software will be web based, it is a must to have a privacy policy, a clear disclosure of how you'll be using any data that you collect.

E-Commerce policy

The software will probably include e-commerce, and as a result it should follow the rules for selling things online.

Copyrighted content

Software's content should be protected from copyright infringement through use of symbols and notices of conditions of any reproduction of content.

3.2.4 Legislative Requirements

3.2.4.1 Accounting Requirements

All action, accounting records and reports will be done in accordance with the National Accounting Standards (NAS). According to LAW Nr. 8438, dated 28.12.1998 ABOUT TAXATION ON INCOME amended Minimum wage decided 26000 decided in 2019. Albania makes use of three-bracket progressive income; for income in range (0-30'000 lekë) 0% taxation, (30'001-150'000) 13% taxation; more than 150'000, 23% taxation. Social security and health contributions are taken into consideration. Social security tax is 11.2 % from employee contribution, 16.7% for employer, 23% for self-employed. Health contribution is 1.7% for both employer and employee, 6% for self-employed.

The currency that the software will use is Albanian currency. Although payments can be performed in other currencies on cash, they will be registered in 'lekë' taking into consideration proper exchange rates on the day when transaction took place. In addition to this we will take into account VAT (Value added tax) which has value of 20%. System will handle VAT value according to law on taxation specifications. The Income Statement or otherwise known as the Statement of Financial Performance is one of the main financial instruments to generate profits and loss of the business. The system should allow recording data on Sales and Purchases Ledger (2018 format base), which accompanies the document on declaration of VAT, complying the regulation on it by the Tax Office.

3.2.4.2 Safety Requirements

The goal of safety requirements engineering is to identify protection requirements that ensure that system failures do not cause injury or death or environmental damage. Our safety requirements are constructed to meet national and international standards, regulations and directives mentioning:

SmartStyle Requirements Specification

Defense Standard for safety Critical Software addresses simplicity as a governing technical principal of software design.

DEF STAN 00-55: “The system functional and interface requirements that are allocated to software should be analyzed for ambiguities, inconsistencies and undefined conditions”.

IEC 61508-3:1998 **International Electro technical Commission* is an international standard for the “functional safety” of electrical, electronic, and programmable electronic equipment, which focuses attention on risk-based safety-related system design, that should result in far more cost-effective implementation.

The General Data Protection Regulation (EU) 2016/679 (GDPR) is a regulation in EU law on data protection and privacy in the European Union (EU) and the European Economic Area (EEA), contains provisions and requirements related to the processing of personal data of individuals who reside in the EEA.

Copyright regulations: DIRECTIVE 2009/24/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 April 2009 on the legal protection of computer programs (15)
The unauthorized reproduction, translation, adaptation or transformation of the form of the code in which a copy of a computer program has been made available constitutes an infringement of the exclusive rights of the author.

Data protection: LAW Nr. 2/2017 FOR KIBERNETIC SECURITY. This law applies to communication networks and information systems, the violation or destruction of which would affect health, safety, economic well-being of citizens and the effective functioning of the economy in the Republic of Albania. The processing of personal data, in order to implement this law, must be carried out in accordance with the provisions of law no. 9887, dated 10.3.2008, "On the protection of personal data", as amended.

Safety-related process activities

- Appointment of project safety engineers who have explicit responsibility for system safety;
- Extensive use of safety reviews;
- Creation of a safety certification system where the safety of critical components is formally certified;
- Detailed configuration management.
- Simple architecture
- Safe software should be verifiable and testable
- Verification includes self test and diagnosis
- Strong compile time checking
- Strong run time checking
- Support for encapsulation and abstraction
- Exception handling
- Forward recovery via robust (redundant) data structures
- Monitor channel redundancy
- Remove redundant code
- Ensure the environment is safe (e.g., freezing of actuators) while restarting
- Ability to trap anomalies as they occur for later diagnosis

3.3 Interface Sketches

Interface sketches of how the web application is expected to look and work are drawn with pen and paper by the team and carefully discussed and planned in order to have a clear understanding of the system as a big picture of how it shall perform.