

WineSight Requirements Specification

Version 1.0

April 03, 2019

Adelajda Rami

Anxhela Kastrati

Borana Begaj

Erjon Halili

Lorika Bercaka

Table of Contents

1. EXECUTIVE SUMMARY	3
1.1 PROJECT OVERVIEW	3
1.2 PURPOSE AND SCOPE OF THIS SPECIFICATION	3
2. PRODUCT/SERVICE DESCRIPTION.....	4
2.1 PRODUCT CONTEXT	4
2.2 USER CHARACTERISTICS	4
2.3 ASSUMPTIONS	6
2.4 CONSTRAINTS.....	7
2.5 DEPENDENCIES	7
3. REQUIREMENTS	7
3.1 FUNCTIONAL REQUIREMENTS	7
3.2 NON-FUNCTIONAL REQUIREMENTS	12
3.2.1 User Interface Requirements.....	12
3.2.2 Usability	12
3.2.3 Performance.....	13
3.2.4 Manageability/Maintainability.....	14
3.2.5 System Interface/Integration	15
3.2.6 Security.....	16
3.2.7 Data Management.....	17
3.2.8 Standards Compliance.....	17
3.2.9 Portability.....	17
3.2.10 Other Non-Functional Requirements.....	18
3.3 DOMAIN REQUIREMENTS	18
4. USER SCENARIOS/USE CASES.....	18
APPENDIX.....	18
APPENDIX A. DEFINITIONS, ACRONYMS, AND ABBREVIATIONS.....	19
APPENDIX B. REFERENCES	19
APPENDIX C. REQUIREMENTS TRACEABILITY MATRIX	19
APPENDIX D. ORGANIZING THE REQUIREMENTS.....	21

1. Executive Summary

1.1 Project Overview

In our project we implement a Web- based application for a Winery Management system. We decided on the title of our project to be WineSight. The Winery Management system aims to build an application which will ease the management of the winery in an effective and efficient way. It will be an easy –to- use application which will have the following functionalities and user characteristics:

- 1-BOD which can log into their own account which can view all pages in the software and the information it provides but can only edit the personal information located in Admin.
- 2-Admin which can log into the admin account which has access to all accounts and can connect to other users by sending e-mail.
- 3- HR Manager which has access to past reports and has the obligation to upload monthly reports of his department when the time is due.
- 4- Sales Director which has to upload the monthly reports of his department and can change the information on his account while having the HR Manager permission.
- 5- Financier which is able to view only his old reports and connect to other user via e-mail.
- 6- The Specialist of the company which need to upload its own weekly reports and can also build graphics with the data he/she has put into the system in order to analyze it.

It will also offer the features listed below:

- Show the sales.
- Keeping track of the purchases.
- Having records on the products that the company offers.
- Showing which product is easier to produce and is more profitable and also shows which problems the company faces.
- Ensuring that there are no problems with taxes and that they are computed in a correct way.
- A method of innovation in our project will be the ability to contact with the employees and with seasonal workers.
- 2 hardware devices (hand-held device and drone) will help the specialist of the company measure and analyze the data regarding raw ingredients.

1.2 Purpose and Scope of this Specification

The Winery management system will solely be designed with the purpose of offering the capabilities and features, so we can help a certain winery in their ways of managing and operating. This management system may become a center of focus which will help the winery work in a more efficient manner and in the end is able to bring more profits in the company.

It will make it easier for every operator to find the needed material faster but also keep track of every process and data collected. We want the program to be designed in a way which is easy for every user to work on and that does not have unnecessary elements to it.

2. Product/Service Description

2.1 Product Context

Our software's main aim is to facilitate the managerial objectives of the "Gjergj Kastrioti Skenderbeu" winery. It will be an independent web app that will be accessible from six major genres of users which are: BOD, HR Manager, Administrator, Sales Director, Financier and the Specialist. The Admin will have the superior access to this program.

2.2 User Characteristics

1. BOD

- can log in the BOD account(common account for all BOD members)
- can view the reports uploaded by admin
- can edit Admin personal information
- can view all Admin actions on the software
- can view all pages on the software same as Admin
- can connect to other users by sending email
- can log out

2.Admin

WineSight Requirements Specification

- can log in to admin account
- can upload monthly reports of the company overall to BOD
- can view his past reports
- can connect to other users by sending email
- can view the HR manager's, Sales Director's, Specialist's, and Financier's page
- can change the password of admin account
- can edit personal info with the BOD permission
- can log out

3.HR Manager

- can edit personal info with admin permission
- can log in to his account
- can change the account's password
- can upload the monthly reports of his department
- can view his past reports
- can connect to other users by sending email
- can log out

4. Sales Director

- can log in to his account
- can change the password of his account
- can upload monthly reports of his department
- can edit his account with the HR Manager permission
- can build graphics related to sales and distribution area
- can view his old reports
- can connect to other users by sending email
- can log out

5. Financier

- can log in to his account
- can upload monthly reports of his department
- can view his old reports
- can change the password of his account

WineSight Requirements Specification

- can edit the personal info with the permission of the HR Manager
- can build graphics related to financial area
- can view specific data of both the HR Manager's page and Sales Director's page
- can connect to other users by sending email
- can log out

6. The Specialist

- can log in to his account
- can upload weekly reports
- can view his past reports
- can change the password of his account
- can edit his personal info with the permission of the HR Manager
- can build graphics
- can log out

2.3 Assumptions

- It is assumed that all the actions are performed regularly according to the law
- It is assumed that the profile of admin is created by BOD and it can not be changed, edit or deleted by anyone else except the BOD permission
- It is assumed that while editing a new Sales director, Admin ,Financier, Specialist Personal information the HR manager should make sure that all needed information is verified and documented.
- It is assumed that the HR manager, Specialist, admin, financier, and Sales director will be trained to use this program in order to avoid difficulties in using it. As for the BOD there is no need for training as their profile is only read mode.
- It is assumed that the admin will know that his actions on the program are registered and accessed only by BOD.

2.4 Constraints

This project is constrained by the internet connection since it is supposed to be a web app. It needs a stable internet connection.

2.5 Dependencies

This system is an independent system. The admin personal info update is dependent on the BOD permission. The other users personal info update is dependent on the HR Manager permission.

3. Requirements

3.1 Functional Requirements

Req#	Requirement	Comments	Priority	Date Rvwd	SME Reviewed / Approved
BR_01	The Software should have different views for different accounts that correspond to various user levels.	Administrator, accountant, sales manager, HR manager, Specialist will all have different views.			
BR_02	Each level of user will have an authentic username and password.	By entering their personal username and password they can be logged in to their respective page.			
BR_03	Each account will have an unique Id.	Id must be unique so that no two users will have the same one.			

WineSight Requirements Specification

Req#	Requirement	Comments	Priority	Date Rvwd	SME Reviewed / Approved
BR_04	A database will be created to hold all information about id, username, password for each user.	By having a database it makes the authentication process run more easily, secure.			
BR_05	The system should check if the user exists in the database.	If they have entered the correct information (user/psw), they will be logged in and the system will firstly check the database.			
BR_06	Once the user has logged in with the given username and password they can change the password but not the username.	Changing the username is not included in the rights of the users, because it interferes with the authentication process.			
BR_07	A view will be created for the 4 members of the BOD. 1 account with the same username and password will be given to all of them.	There are 4 BOD members in the company, and all 4 of them will have the same account.			
BR_08	BOD members will have the same view as the Administrator, they can see everything but have no editing rights.	BOD members can see everything but do not have the right to edit things.			
BR_09	BOD members will be provided with one unique feature that only they can see: be informed with the administrator's actions.	Since they elect the administrator of the company they have the right to see the actions done by the admin.			
BR_10	Administrator will be given the right to control most parts of the software.	Admin will be able to see the whole software and can change/edit parts of it.			

WineSight Requirements Specification

Req#	Requirement	Comments	Priority	Date Rvwd	SME Reviewed / Approved
BR_11	Administrator can organize activities, they will almost have all the rights that the other users have.	They will control everything besides the main construct of the software.			
BR_12	Administrator can add/remove accounts.	The admin should be able to approve the creation of accounts and employee data.			
BR_13	Administrator will have the right to view the financial part of the company, add/remove invoices and other financial reports.	Financial reports generated by the Administrator will also be presented in the BOD view.			
BR_14	Administrator should be able to add/remove suppliers.	They have the right to make this change.			
BR_15	Administrator should get the data from the Specialist and make some forecasting reports that will later be saved in a specific table on the database.	The specialist will provide some useful information to the admin and he will process it.			
BR_16	Administrator can access personal files regarding the employees of the company.	Admin should access these files in order to have better knowledge.			
BR_17	Databased will be created for raw ingredients, employee data, seasonal employees. Financial data etc.	The databases will help the company better organize their vineyard, manage their employees and overall increase the efficiency of the company.			

WineSight Requirements Specification

Req#	Requirement	Comments	Priority	Date Rvwd	SME Reviewed / Approved
BR_18	Accountant of the company will have their own view, to add/remove financial data.	The accountant is responsible for financial information such as revenue, expenses, different costs and other data regarding this field.			
BR_19	The accountant should make weekly reports and send them to the Administrator.	The acc. gathers raw information, process it and then make useful data to be send to the admin.			
BR_20	Sales director of the company will have their own view to access their rights.	They will have limited rights according to their area.			
BR_21	Sales director can manage the distribution process.	They have the right to add/remove data regarding the 3 main areas of distribution in Albania.			
BR_22	Sales director also concerns with the sales of the company in other small shops or individuals.	Gather info about sales in all the areas that the company functions.			
BR_23	Sales director is responsible with the distribution process, inventory and the databases associated with them.	They have the right and responsibility to enter useful data regarding their area that later will be sent to the admin of the company.			
BR_24	HR manager will have their own unique view.	HR manager will have their specific rights in their page.			
BR_25	The HR manager can add/delete/update employee accounts.	The can add new employees or delete them.			

WineSight Requirements Specification

Req#	Requirement	Comments	Priority	Date Rvwd	SME Reviewed / Approved
BR_26	HR manager can determine an employee's salary.	Multiple factors will be taken into consideration when determining the salary every employee.			
BR_27	A specific database with an innovational feature regarding the seasonal employees will be controlled by the HR manager.	Seasonal employee's part was one of the problems that the company faces. Our way of accessing them will try to bring a solution to this particular problem.			
BR_28	The database of the seasonal employees will contain information about the previous contacted workers and also their abilities in harvesting and other processes.	Top harvesters, meaning the most working employees will be contacted first through notifications in their phones, and if an agreement is made a bonus will be given to them if they continue with the same progress as in previous years. This will also be a motivation for others.			
BR_29	The database will include their unique id, name, surname, phone number and the records of previous working years.	To make the approach of these employees more efficient and less time consuming we use this database.			
BR_30	HR manager should make reports and send them to the Administrator.	Reports of this kind of information should be sent to the Admin of the company by the HR manager.			
BR_31	The Specialist will have an unique view of the software.	His rights and obligations are connected mostly with the vineyard.			

WineSight Requirements Specification

Req#	Requirement	Comments	Priority	Date Rvwd	SME Reviewed / Approved
BR_32	The specialist will get the reports of the hand held machine (used to measure % of different factors)	He will be in charge of this records and supervise the progress with the help of a database.			
BR_33	Another innovational feature that helps increase the efficiency of the company, is to offer check-ups via drone.	The drone can cover the whole area of the vineyard consisting of 42 Ha within minutes. The specialist is in charge of analyzing the content of the videos and keeping clear records about the results.			
BR_34	The specialist will send the weekly or monthly reports to the Administrator.	Every other user besides the BOD members will send their reports to the admin.			

3.2 Non-Functional Requirements

3.2.1 User Interface Requirements

The user interface of the web-based application will be executable to browsers like Chrome Mozilla or Internet Explorer. Before entering the system each of our users: BOD members, Administrator, HR manager, Sales director, Accountant or the Specialist will face each a login interface where they must provide their personal username and password.

After this step each user, will be sent to his/hers own appropriate view.

- BOD members will have the complete view of the software, data regarding the admin actions and some rights they have over the administrator.
- Admin will also have the complete view of the software. They will have editing rights in some areas.
- HR manager will have their own unique view where they can perform their actions.
- Sales director will have their own page where buttons graphs and many other options will be present.

WineSight Requirements Specification

- Accountant/ Financier will have their own unique view where they can perform the financial actions of the company.
- The Specialist will have their own view and will be provided many graph options and other extras in order to facilitate their duties.
- The “**Log out**” will terminate sessions and will resent the user to the main page.

3.2.2 Usability

- The software is user-friendly which makes it easy to work with.
- Each operation will be fast and in real time.
- If an error occurs it can be edited and corrected immediately.
- The software shall be easy to update in order to accommodate new requirements.
- The software is secure.

3.2.3 Performance

3.2.3.1 Capacity

- It can support multiple users.
- The software will be based on web and has to be run from a web server.
- Time of loading depends on different hardware an internet connection.

3.2.3.2 Availability

- The software will be active and utilized 24 hours on every day of the week.
- Since the project is built up on a specific winery, the geographic coverage area of the software will be inside the winery.
- The system is not available on customers.
- The system will be reliable.
- Scheduled maintenance on the system shall not affect its functionality. In case of any problem unscheduled maintenance of the application shall not allow the system to be down for more than 1 hour.
- It will be available in English and in Albanian.

3.2.3.3 Latency

The project is based on internet connection so the most common problem that would cause delays will be the internet latency.

3.2.4 **Manageability/Maintainability**

3.2.4.1 Monitoring

The system will be built to be secure and reliable but there can be unexpected cases when the application malfunctions.

In order to correct the errors, the administrator shall be able to follow specific procedures with many prompts and validations.

3.2.4.2 Maintenance

- We will provide Preventive or scheduled maintenance, where equipment or facilities are inspected, maintained and protected before break down or other problems occur.
- Or Corrective maintenance if the damage is already done.

3.2.4.3 Operations

Some of the operations required by the users are:

- The users shall be able to log in and to access their information anytime.
- The information entered to the system shall be secure.
- The information entered to the system shall be accessed only by the people who really need access.
- Add/ remove/ update data.
- Create periodic reports.
- Can log out.
- (Many other operations have already been mentioned above.)

(this part is not done)

3.2.5 System Interface/Integration

Specify the use of other required products (e.g., a database or operating system), and interfaces with other systems (e.g., UWHires package interfaces with PubCookie and ODS, HEPPS system interfaces with Budget system). For each interface, define the interface in terms of message format and content. For well-documented interfaces, simply provide a reference to the documentation.

Outline each interface between the product and the hardware or network components of the system. This includes configuration characteristics (e.g., number of ports, instruction sets), what devices are to be supported, and protocols (e.g., signal handshake protocols).

3.2.5.1 Network and Hardware Interfaces

Specify the logical characteristics of each interface between the product and the hardware or network components of the system. This includes configuration characteristics (e.g., number of ports, instruction sets), what devices are to be supported, and protocols (e.g., signal handshake protocols).

3.2.5.2 Systems Interfaces

Example systems interface requirements:

A. System1-to-System2 Interface

The <external party> will create and send a fixed length text file as an email attachment to System2mail@u.washington.edu to be imported into the System2 system for payroll calculation. This file must be received on EDIT day by 4:00 PM in order to be processed in the EDIT night run. The requirements below document the file specifications, data transfer process, and specific schedule. This file is referred to as "FileName" in this document.

File Structure and Format

- A1. The FileName file is a fixed length text file.
- A2. The FileName file is an unformatted ASCII file (text-only).
- A3. The FileName file contains a batch totals record and several detail records.

File Description: Batch Totals Record

- A4. The batch totals record can be placed at the beginning, in the middle, or at the end of the file.
- A5. The batch totals record contains the following:

- Record Type (value: XA)

WineSight Requirements Specification

- Process Type (value: A)
- Batch Number (3 digit number assigned by Payroll Dept)
- Origin Code (AIG)
- Total number of detail records
- Total deduction amount

File Description: Detail Records

A6. The FileName file contains a row for each record meeting xxx criteria.

A7. Each row in the FileName file contains the following fields, comma-delimited and encased in double-quotes where the data includes commas or spaces:

- Employee Id
- Record Type
- Process Date (MMDDYY)
- XYG Number
- Element Code
- Amount
- Amount Sign
- Year Flag
- Total Amount
- Total Amt Sign

=====

3.2.6 Security

3.2.6.1 Protection

To protect the system from malicious or accidental access, modification, disclosure, destruction, or misuse the software will:

- Encrypt the most sensitive information using hashing methods in order to protect privacy.
- We will keep track of the activity of each user, such that in case of error the user will be held responsible.
- The methods that will be used to insert and store data in the database, will assure stability, check data integrity and prevent injections from inside or outside of the system.

3.2.6.2 Authorization and Authentication

Some tools like PubCookie will be used in order to make this process more reliable.

3.2.7 Data Management

Specify the requirements for any information that is to be placed into a database, including

- types of information used by various functions
- frequency of use
- data access rules
- data entities and relationships
- integrity constraints
- data retention
- valid range, accuracy, and/or tolerance
- units of measure
- data formats
- default or initial values

3.2.8 Standards Compliance

Specify the requirements derived from existing standards, policies, regulations, or laws (e.g., report format, data naming, accounting procedures, audit tracing). For example, this could specify the requirement for software to trace processing activity. Such traces are needed for some applications to meet minimum regulatory or financial standards. An audit trace requirement may, for example, state that all changes to a payroll database must be recorded in a trace file with before and after values.

3.2.9 Portability

If portability is a requirement, specify attributes of the system that relate to the ease of porting the system to other host machines and/or operating systems. For example,

- Percentage of components with host-dependent code;
- Percentage of code that is host dependent;
- Use of a proven portable language;
- Use of a particular compiler or language subset;
- Use of a particular operating system;

WineSight Requirements Specification

- The need for environment-independence - the product must operate the same regardless of operating systems, networks, development or production environments.

3.2.10 Other Non-Functional Requirements

3.3 Domain Requirements

Everything related to the domain that might be needed in the project shall be mentioned in here. Sometimes the domain Requirements might be thought as part of either functional or non-functional requirements.

4. User Scenarios/Use Cases

Provide a summary of the major functions that the product will perform. Organize the functions to be understandable to the customer or a first time reader. Include use cases and business scenarios, or provide a link to a separate document (or documents). A business scenario:

- Describes a significant business need
- Identifies, documents, and ranks the problem that is driving the scenario
- Describes the business and technical environment that will resolve the problem
- States the desired objectives
- Shows the “Actors” and where they fit in the business model
- Is specific, and measurable, and uses clear metrics for success

APPENDIX

The appendixes are not always considered part of the actual Requirements Specification and are not always necessary. They may include

- Sample input/output formats, descriptions of cost analysis studies, or results of user surveys;
- Supporting or background information that can help the readers of the Requirements Specification;
- A description of the problems to be solved by the system;
- Special packaging instructions for the code and the media to meet security, export, initial loading, or other requirements.

WineSight Requirements Specification

When appendixes are included, the Requirements Specification should explicitly state whether or not the appendixes are to be considered part of the requirements.

Appendix A. Definitions, Acronyms, and Abbreviations

Define all terms, acronyms, and abbreviations used in this document.

Appendix B. References

List all the documents and other materials referenced in this document.

Appendix C. Requirements Traceability Matrix

The following trace matrix examples show one possible use of naming standards for deliverables (FunctionalArea-DocType-NN). The number has no other meaning than to keep the documents unique. For example, the Bargaining Unit Assignment Process Flow would be BUA-PF-01.

For example (1):

Business Requirement	Area	Deliverables	Status
BR_LR_01 The system should validate the relationship between Bargaining Unit/Location and Job Class.---Comments: Business Process = "Assigning a Bargaining Unit to an Appointment" (Priority 1)	BUA	BUA-CD-01 Assign BU Conceptual Design	Accepted
		BUA-PF-01 Derive Bargaining Unit-Process Flow Diagram	Accepted
		BUA-PF-01 Derive Bargaining Unit-Process Flow Diagram	Accepted
BR_LR_09 The system should provide the capability for the Labor Relations Office to maintain the job class/union relationship.---Comments: Business Process = "Maintenance" (Priority 1)	BUA	BUA-CD-01 Assign BU Conceptual Design	Accepted
		BUA-PF-02 BU Assignment Rules Maint Process Flow Diagram	ReadyForReview

For example (2):

BizReqID	Pri	Major Area	DevTstItems DelivID	Deliv Name	Status
BR_LR_01	1	BUA	BUA-CD-01	Assign BU Conceptual Design	Accepted

WineSight Requirements Specification

BizReqID	Pri	Major Area	DevTstItems DelivID	Deliv Name	Status
BR_LR_01	1	BUA	BUA-DS-02	Bargaining Unit Assignment DB Modification Description	Accepted
BR_LR_01	1	BUA	BUA-PF-01	Derive Bargaining Unit-Process Flow Diagram	Accepted
BR_LR_01	1	BUA	BUA-UCD-01	BU Assign LR UseCase Diagram	ReadyForReview
BR_LR_01	1	BUA	BUA-UCT-001	BU Assignment by PC UseCase - Add Appointment and Derive UBU	Reviewed
BR_LR_01	1	BUA	BUA-UCT-002	BU Assignment by PC UseCase - Add Appointment (UBU Not Found)	Reviewed
BR_LR_01	1	BUA	BUA-UCT-006	BU Assignment by PC UseCase - Modify Appointment (Removed UBU)	Reviewed
BR_LR_09	1	BUA	BUA-CD-01	Assign BU Conceptual Design	Accepted
BR_LR_09	1	BUA	BUA-DS-02	Bargaining Unit Assignment DB Modification Description	Accepted
BR_LR_09	1	BUA	BUA-PF-02	BU Assignment Rules Maint Process Flow Diagram	Accepted
BR_LR_09	1	BUA	BUA-UCD-03	BU Assign Rules Maint UseCase Diagram	Reviewed
BR_LR_09	1	BUA	BUA-UCT-045	BU Assignment Rules Maint: Successfully Add New Assignment Rule	Reviewed
BR_LR_09	1	BUA	BUA-UCT-051	BU Assignment Rules MaintUseCase: Modify Rule	Reviewed
BR_LR_09	1	BUA	BUA-UCT-053	BU Assignment Rules MaintUseCase - Review Assignment Rules	Reviewed
BR_LR_09	1	BUA	BUA-UCT-057	BU Assignment Rules MaintUseCase: Inactivate Last Rule for a BU	Reviewed
BR_LR_09	1	BUA	BUA-UI-02	BU AssignRules Maint UI Mockups	ReadyForReview
BR_LR_09	1	BUA	BUA-TC-021	BU Assignment Rules Maint TestCase: Add New Rule (Associated Job Class Does Not Exist) - Success	ReadyForReview
BR_LR_09	1	BUA	BUA-TC-027	BU Assignment Rules Maint TestCase: Modify Rule - Success	ReadyForReview
BR_LR_09	1	BUA	BUA-TC-035	BU Assignment Rules Maint TestCase: Add New Rule	ReadyForReview

WineSight Requirements Specification

BizReqID	Pri	Major Area	DevTstItems DelivID	Deliv Name	Status
				(Associated Job Class Does Not Exist) - Error Condition	
BR_LR_09	1	BUA	BUA-TC-049	BU Assignment Rules Maint TestCase: Modify Rule - Error Condition	ReadyForReview

For example (3):

BizReqID	CD01	CD02	CD03	CD04	UI01	UI02	UCT01	UCT02	UCT03	TC01	TC02	TC03	TC04
BR_LR_01			X		X		X			X		X	
BR_LR_09	X			X		X			X		X		X
BR_LR_10	X			X					X		X		
BR_LR_11		X											

Organizing the Requirements

This section is for information only as an aid in preparing the requirements document.

Detailed requirements tend to be extensive. Give careful consideration to your organization scheme. Some examples of organization schemes are described below:

By System Mode

Some systems behave quite differently depending on the mode of operation. For example, a control system may have different sets of functions depending on its mode: training, normal, or emergency.

By User Class

Some systems provide different sets of functions to different classes of users. For example, an elevator control system presents different capabilities to passengers, maintenance workers, and fire fighters.

By Objects

Objects are real-world entities that have a counterpart within the system. For example, in a patient monitoring system, objects include patients, sensors, nurses, rooms, physicians, medicines, etc. Associated with each object is a set of attributes (of that object) and functions (performed by that object). These functions are also called services, methods, or processes. Note that sets of objects may share attributes and services. These are grouped together as classes.

By Feature

WineSight Requirements Specification

A feature is an externally desired service by the system that may require a sequence of inputs to affect the desired result. For example, in a telephone system, features include local call, call forwarding, and conference call. Each feature is generally described in a sequence of stimulus-response pairs, and may include validity checks on inputs, exact sequencing of operations, responses to abnormal situations, including error handling and recovery, effects of parameters, relationships of inputs to outputs, including input/output sequences and formulas for input to output.

By Stimulus

Some systems can be best organized by describing their functions in terms of stimuli. For example, the functions of an automatic aircraft landing system may be organized into sections for loss of power, wind shear, sudden change in roll, vertical velocity excessive, etc.

By Response

Some systems can be best organized by describing all the functions in support of the generation of a response. For example, the functions of a personnel system may be organized into sections corresponding to all functions associated with generating paychecks, all functions associated with generating a current list of employees, etc.

By Functional Hierarchy

When none of the above organizational schemes prove helpful, the overall functionality can be organized into a hierarchy of functions organized by common inputs, common outputs, or common internal data access. Data flow diagrams and data dictionaries can be used to show the relationships between and among the functions and data.

Additional Comments

Whenever a new Requirements Specification is contemplated, more than one of the organizational techniques given above may be appropriate. In such cases, organize the specific requirements for multiple hierarchies tailored to the specific needs of the system under specification.

There are many notations, methods, and automated support tools available to aid in the documentation of requirements. For the most part, their usefulness is a function of organization. For example, when organizing by mode, finite state machines or state charts may prove helpful; when organizing by object, object-oriented analysis may prove helpful; when organizing by feature, stimulus-response sequences may prove helpful; and when organizing by functional hierarchy, data flow diagrams and data dictionaries may prove helpful.

=====

Sketches

1

Initial Page

A rectangular box representing the initial page. Inside, there is a smaller box representing the login form. The login form has two input fields: the top one is labeled '... Username' and the bottom one is labeled '... Password'.

→ Some background image

→ it is the login form.

Users will enter their username & psw and if the information is correct they will be logged into the correspond pages.

2. If the User is → BOD members

A rectangular box representing the user interface for BOD members. At the top, there is a horizontal navigation bar with several tabs: 'Main Page', 'Admin', 'Finance', 'Sales/Marketing', 'HR...', and 'Vineyard'. Below the navigation bar, the main content area is divided into two sections. The left section contains a large box labeled 'Logo img'. The right section contains a 'Welcome' message and a 'Reports' section with three horizontal lines representing a list. At the bottom right of the main content area, there is a small box labeled 'Logout'.

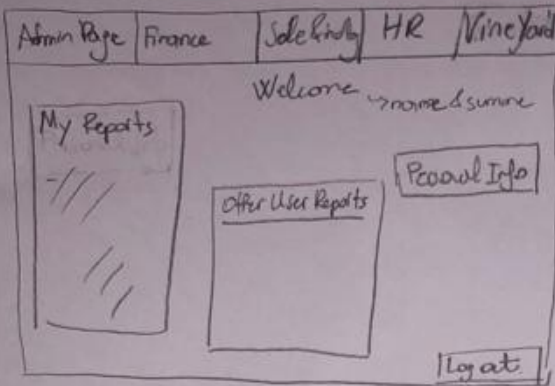
* user logged in
→ nav bar

→ BOD member can view the whole software but have limited rights.

↳ regarding admin

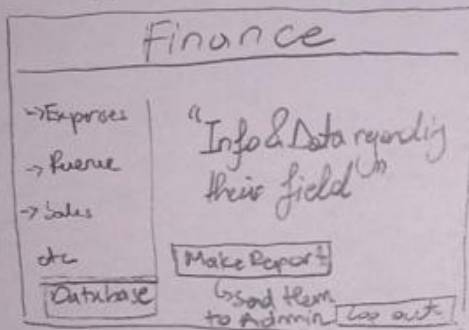
A rectangular box representing the 'Admin Actions' section. It has a title 'Admin Actions' at the top. Below the title, there is a list of actions: '-login', '-logout', and 'etc'. To the right of the list, there is a vertical line and the text '1 time'.

user Logged in as Admin



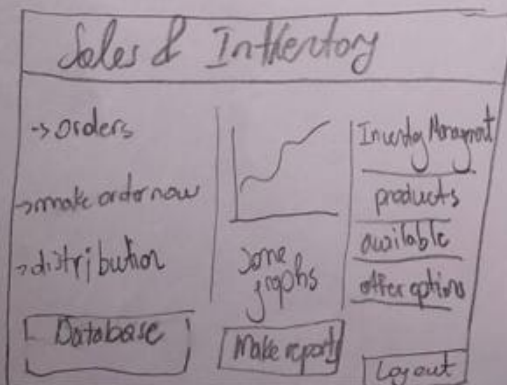
- almost the same view as BOD
- Admin has some editing rights
- can view the whole software.
- tables & Database controll
- make reports and send them to BOD members

user logged in as the Financier/Accountant



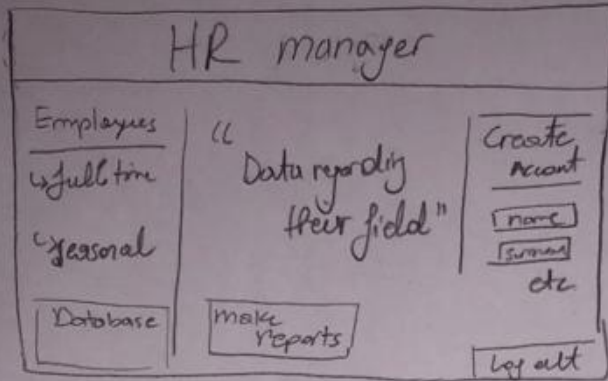
- Overall Data regarding their field
- Have tables & Database controll
- make reports & send them to Admin

user logged in as the Sales & Inventory Director



- Sales Director
can controll orders
make new orders
- Tables & Database controll
- make reports and send them to Admin

When logged in as the HR manager



- HR manager can create accounts for employees
- can have access to the Database, tables
- make reports and send them to admin.

When logged in as the Specialist



Clickable

When clicked will direct to graphs and tables for Ex

- Area of the Vineyard types of raw ingredients (HR Ho)
- the specialist will get the raw data of the 2 devices (Chard fold device, drone)
- analyze them and make useful information, (graphs, database)
- forecasting

