TEAM MEMBER Mahmoud mohamed aboelnasr 21100857 (PROJECT MANAGER) HAZEM AHMED ELDUHEMY 21100845 ADEL AHMED ELDUHEMY 21100848 HADY ZAKARIA 21100862

Project Description

RESIDENTIAL

A healthy air and a good temperature in the home are important for us to feel well. Systemair offers complete systems for home ventilation and air conditioning. Our air handling units with balanced ventilation and heat recovery are ideal for homes and small offices. In our air handling units, humidity and temperature control come as a standard.

MARINE, OIL AND GAS

Good ventilation is crucial to both comfort and safety on ships. It could be ventilation and air conditioning on cruise liners, cargo hold ventilation on freighters or exhaust air ventilation from engine rooms.

Quality requirements are high, as conditions are challenging. Our systems meet all requirements and are marine-certified.

INDUSTRIAL PREMISES

Large factory areas need to be heated/cooled and ventilated. Our products evacuate impure air and ensure that working areas are kept at the right temperature. Our solutions help establish a healthy work environment, which in turn creates the conditions for higher productivity.

DATA CENTRES

With ever-increasing storage capacity and more compact equipment, there is a growing need for cooling in data centres. We supply both air handling units and precision cooling units (close control units), to provide energy and cost-efficient cooling in data centres

MULTI-STOREY CAR PARKS

In multi-storey car parks, good ventilation is a safety issue. Our system of smoke extract fans meets strict requirements for carbon dioxide control and the evacuation of dangerous gases in the event of a fire. It can also deliver a reduction of up to 80 percent in energy consumption in day-to-day operation.

OFFICES AND HOTELS

With its wide range of ventilation and air conditioning products, Systemair creates a healthy and comfortable indoor climate. We also offer smoke extract fans and exhaust fans, along with other system solutions to meet specific customer requirements. Our air handling units, chillers and fans are certified by Eurovent.

PUBLIC AREAS AND SCHOOLS

Schools and public buildings require custom ventilation and air conditioning systems. With our extensive product range, we can create an optimal solution that contributes to a healthy indoor climate in public areas and helps to maintain the well-being of children at school all day.

HOSPITALS AND THE PHARMACEUTICAL INDUSTRY

Hospitals are demanding environments in terms of purity and temperature of the air. Right AC and ventilation systems, combined with our products and solutions, create an optimal indoor climate. The purity requirements are satisfied via hygiene-certified units and effective filters.

SWIMMING POOLS

Demands on ventilation in swimming pool halls are high. The indoor climate must be comfortable for guests, while continuous dehumidification will protect the building from moisture damage over time. Our products offer reliable, fully automated ventilation, dehumidification and heating as required – in the most economical way.

TUNNELS

Effective ventilation is a safety issue both during the construction phase of tunnel projects and when tunnels are in operation. Systemair's tunnel fans ensure not only good air quality but also smoke evacuation. Our products meet all fire safety requirements and are simple to maintain.

Paradise has an extensive range of products: air handling units from large central units to small residential units

with energy recovery, air conditioning products from air cooled or water cooled chillers/heat pumps to water

terminal units, fans including smoke extractor, tunnel/car park fans and explosion proof fans, air distribution

products and fire dampers.

These products are installed in a large variety of locations, including offices, shops, industrial buildings, healthcare

premises, tunnels, parking garages, training facilities, sport centres, homes etc.

Air conditioning

Paradise's air conditioning products are suitable for a wide variety of applications such as offices, shopping centers, schools, hotels, public transports, residential buildings, industries and Data centres.

Our extensive range includes everything from air-cooled and water-cooled chillers and heat pumps to rooftop units, water source heat pumps, water terminals, close control units and vertical air conditioners



Fans

Paradise has a wide range of fans that covers all your application areas, from small offices to large industrial applications.

Circular and rectangular duct fars, Roof fans,

High temperature fans, Explosion-proof fans, Plastic fans, Axial fans, Smoke extraction fans & pressure differential systems, Car park jet fans & control systems.



Air handling units

Paradise produces a wide range of air handling large industrial building. The full range has been developed to satisfy strict needs of low energy

Our range of AHUs includes modular and compact air handling units, as well as a range of products



Air distribution products

Paradise develops, produces and delivers air distribution products, diffusers and air flow control units. These components not only comply with the interior design requirements, but also make their own contribution to a pleasant indoor climate.

Diffusers, grilles and air flow control.





Residential ventilation

Paradise's line of heat recovery ventilation units is ideal for homes, small offices and similar premises. They offer a high level of comfort both in terms of heating and clean air supply, along with significant energy savings.

Residential units and kitchen hoods.





Paradise Air Conditioning Laboratories



Initial identified customer requirements

- Selling air condition
- Maintance air condition
- Selling Spare parts
- managing transportation
- managing insurance
- -managing the salaries of all employees
- -Displaying the salaries of all employees
- -Determining workplace of employees
- -managing Maintance request
- -managing lab request
- -Displaying lab reports
- managing product transportation
- managing work teams
- -Displaying Maintance report
- Accessing of camera
- -monitoring work entry and departure time for employees
- -user login
- -Displaying shift time
- -Applying legal actions



Initial identified subsystems and function:

- 1) Security System:
- -monitoring the camera system
- -monitoring work entry and departure times for employees
- 2) Login System:
- show the user the correct interface based on his profession and position
- 3) Maintenance System:
- -monitoring the repairs of machines and tools
- -showing the location of machine that are defective
- -showing the defective machine and their location
- 4) Transporting System:
- -managing the transport of product
- 5) Financial System:
- -managing the employed salaries and bonuses
- -showing the financia ate of the company
- displaying the requ
- -showing the value
- Approving and d
- calculating the
- -Displaying the
- 6) HR Syst managing
- managing
- managir

- ills
 - company stocks in the stock market
 - request regarding purchase
 - ses of the company
 - employees

 - ovees

- -Receive lab reports from technical
- -Displaying lab reports

8)Insurance System:

-Managing insurance by receiving the bills submitted by the employees and showing them to the accountants

9)Legal affairs:

-Applying legal action

10)Request:

- -managing employee request
- -managing hiring request
- -managing lab request
- -managing tool request by Eng
- -managing maintenance request



| 1 | Security System | -monitoring the camera system -monitoring work entry and departure times for employees | -public void Set monitoring camera system(String camera) -public monitoring work entry (String work entry) -public void set departure time (Int time) |
|---|--------------------|---|---|
| 2 | Login System | - show the user the correct interface based on his profession and position | -public void set profession(String profession) -public void set Position(String position) |
| 3 | Maintenance System | -monitoring the repairs of machines and tools -showing the location of machine that are defective -showing the defective machine and their location | -public void set Repairs machine(String repair machine) -public void set tools (String tools) -public void set location machine defective (String machine defective) -Public void set |
| | | | |

O'RO

| 4 | Transporting System: | -managing the transport of product | -public void show employee Transportation details(int transportation) | |
|---|-------------------------|--|--|--|
| 5 | Financial System | -managing the employee salaries and bonuses -showing the financial state of the | -Public void set Employee salary (int employee) -public void set Employee bonuses(int employee) | |
| | | company - displaying the required bills -showing the value of the company stocks in the stock market Approving and declining | -public int add bill(bill) -public void display bills(int bills) -Public void calculate profit() -public void display employee salary (int employee) | |
| | | the request regarding purchase - calculating the profit and loses of the company -Displaying the salaries of all employees | -Public void calculate loss() | |
| | | | | |

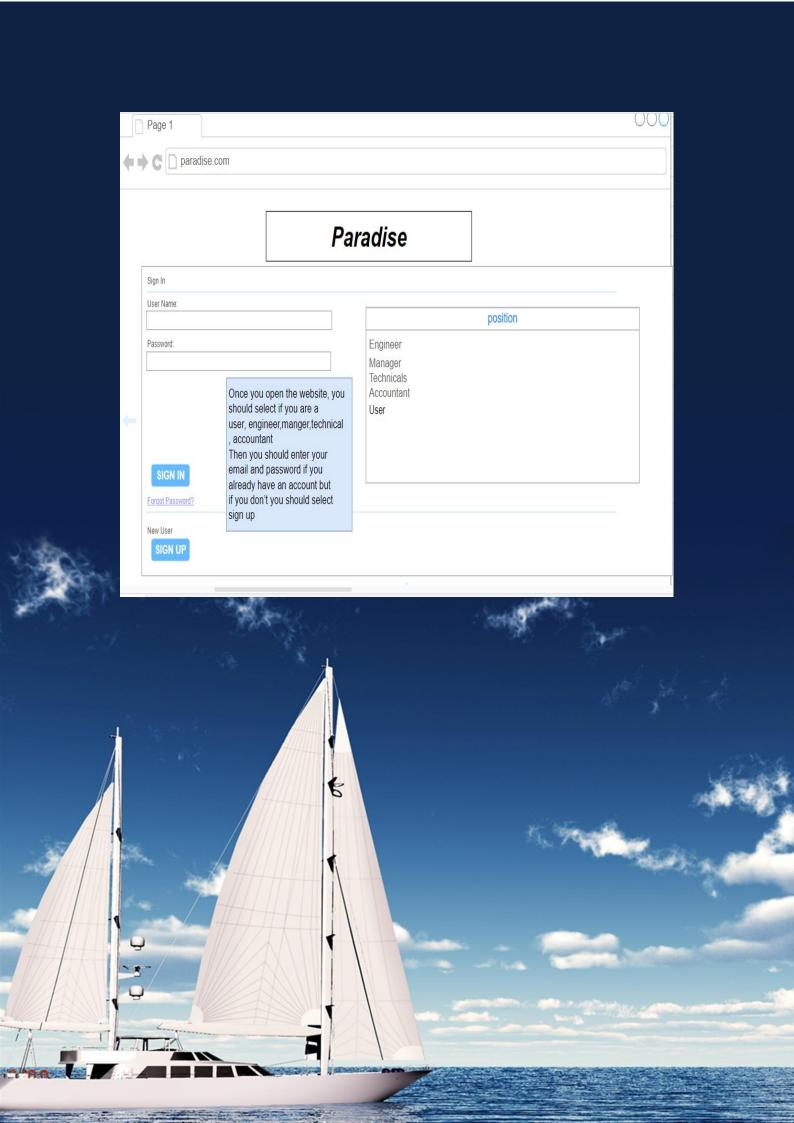
| 6 | HR System | -managing employee promotion -managing hiring and firing employees - managing work teams - monitoring work entry and departure times for employees | -Public void set fire Employee (String name String why fired) -public int add work team(String team name String team task) -public void add employee to team () Public void delete from to team() |
|-----|------------------|--|---|
| 7 | Lab System | -Recieve lab reports from technical -Displaying lab reports | -public int submit lab reports(Report) -public void display lab report |
| 8 | Insurance System | -Managing insurance by receiving the bills submitted by the employees and showing them to the accountants | -public int add bills() -public void view Bill(int bill) -public void bill action (bill) |
| 9 9 | | -Applying legal action | -pulic void set legal action(String |

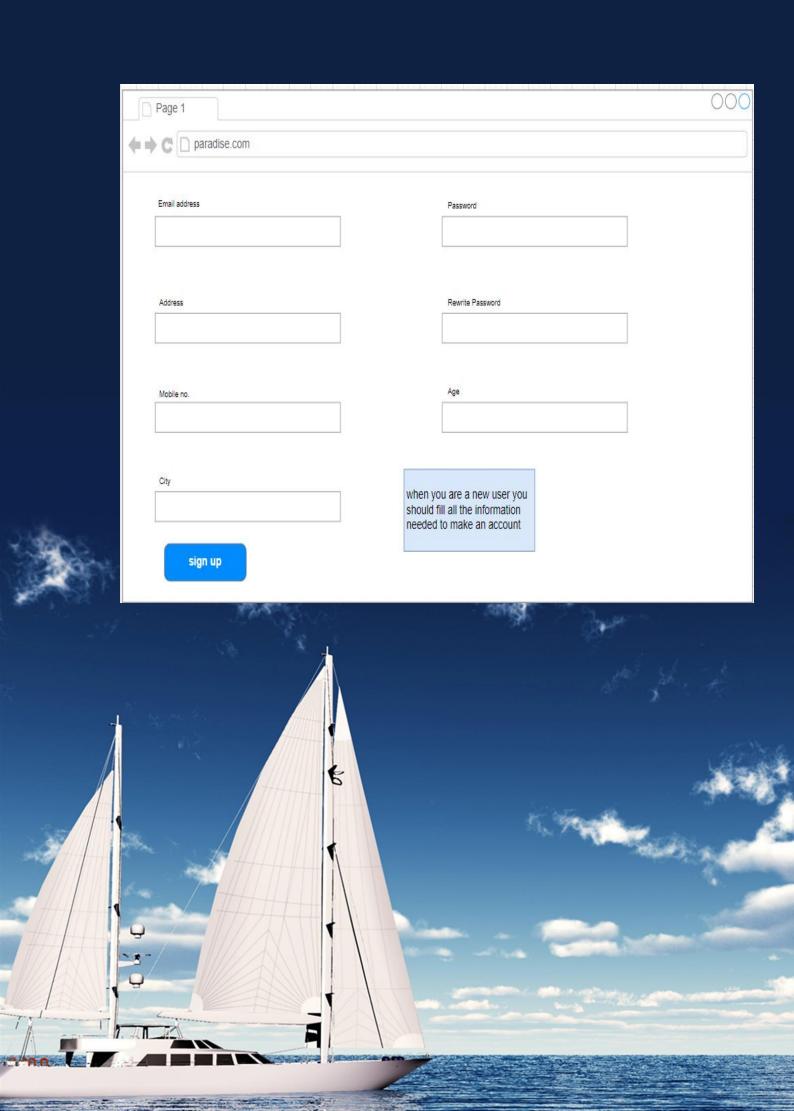
| | | | legal action) |
|----|---------|---|--|
| 10 | Request | -managing employee request -managing hiring request -managing lab request -managing tool request by Eng -managing maintenance request | -public void set maintenance request (String type maintenance request) -public void set Tool request(String tool request) -public void |

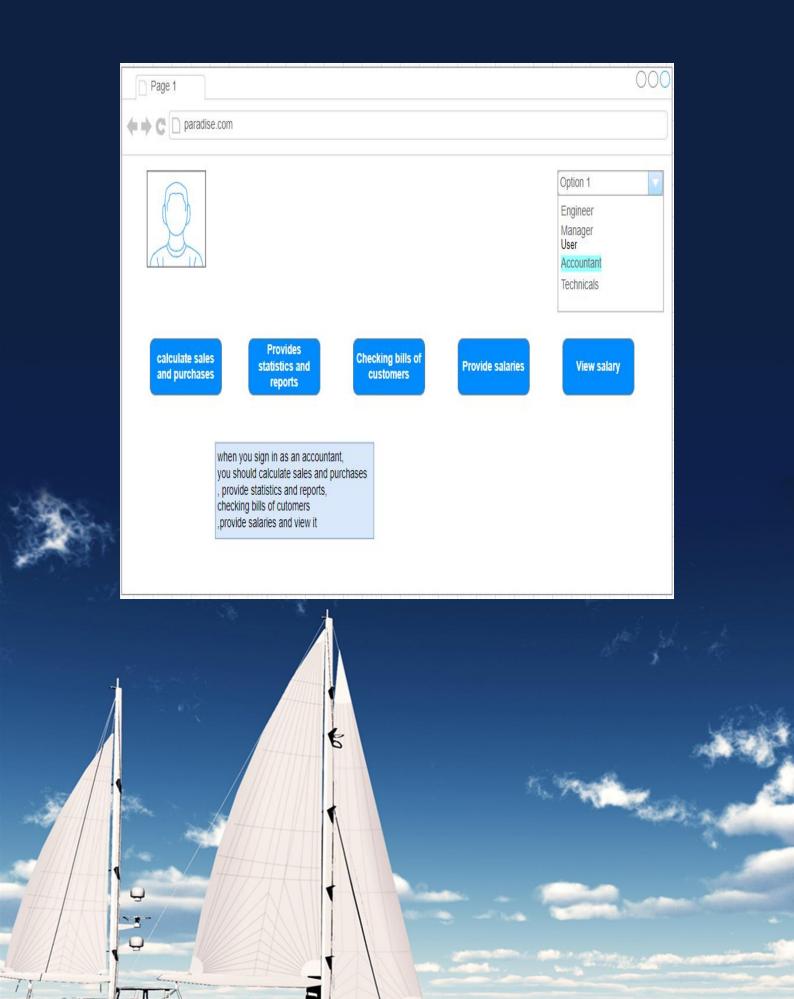


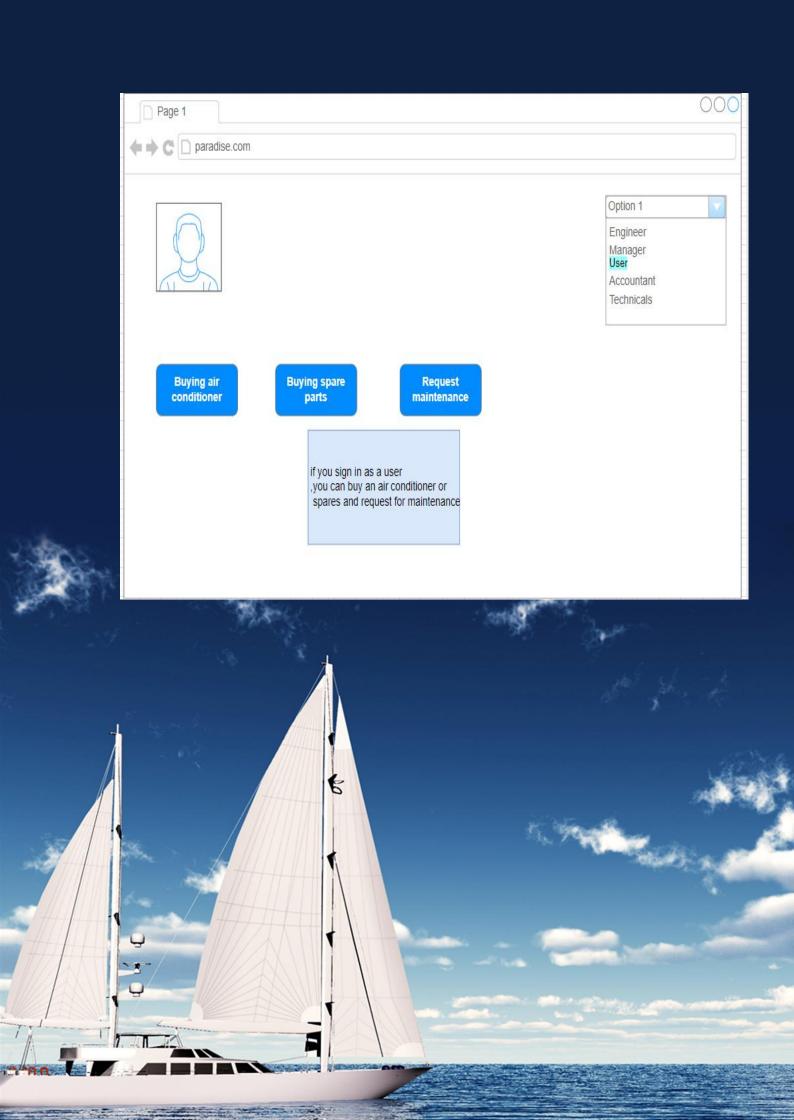
List of user requirement of function and non function

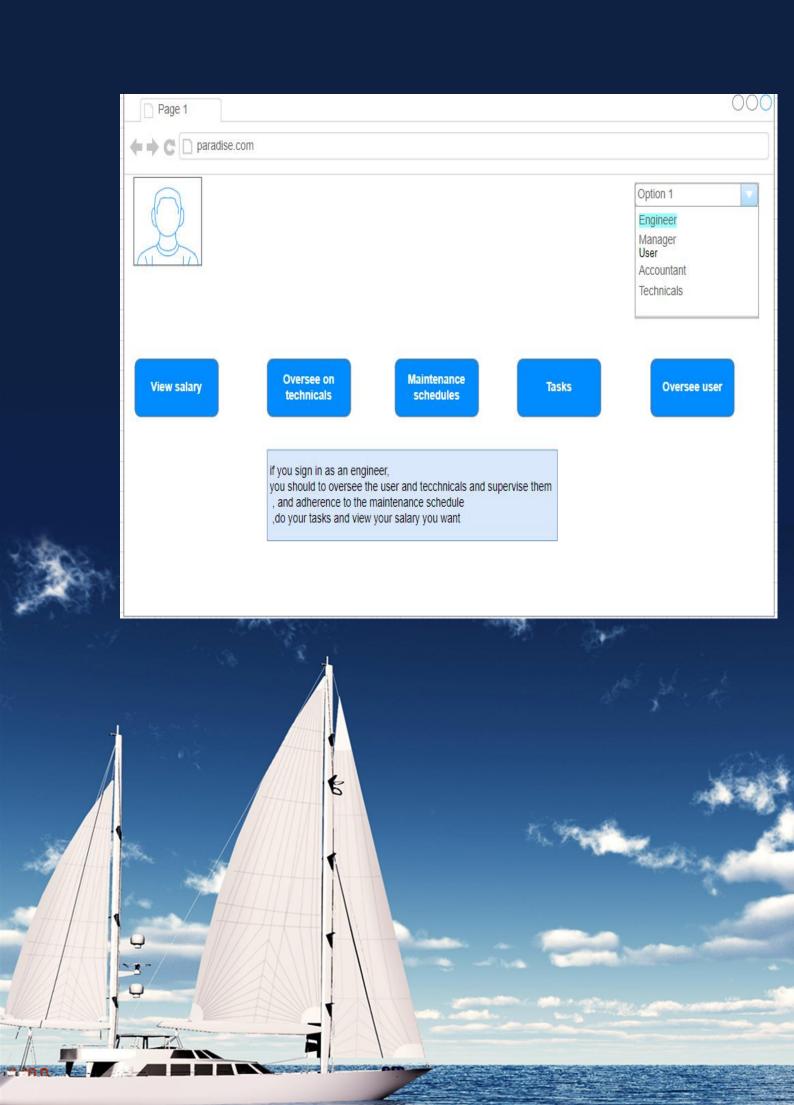
| | Function | Non Function | |
|------------|--|--|-----------|
| | Selling Air Condition | Accessing of camera | |
| | Maintance Air condition | | |
| | Selling Spare parts | | |
| | Managing transport | | |
| | Managing insurance | | |
| | Managing the salaries of all employees | | |
| | Determining workplace of | | |
| | employees | | |
| | Managing Maintance request | | |
| | Displaying the salaries of all | | |
| | employees | | |
| | Managing lap request | | |
| 200 | Displaying lap report | | |
| | Managing product | | |
| March Lore | transportation | | |
| | Managing work teams | 200 | |
| | Displaying Maintance report | | |
| | User Login | Att. | |
| | Displaying shift time | | |
| | Applying legal action | | |
| | Managing tool request by eng | | |
| | Monitoring work entry and | | Section 1 |
| | departure time for employees | The same | 4 |
| 200 | | | 1 |
| | | | No. |
| | | | |
| | 9 | The same of the same of | |
| MAN | | The second second | |
| | 9 | and the same of th | 1 |
| | | | |
| | | | |
| Ang. | | | |
| | | | |

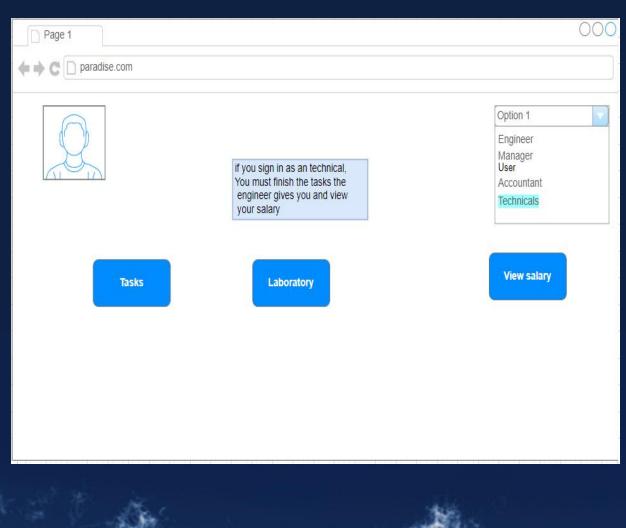




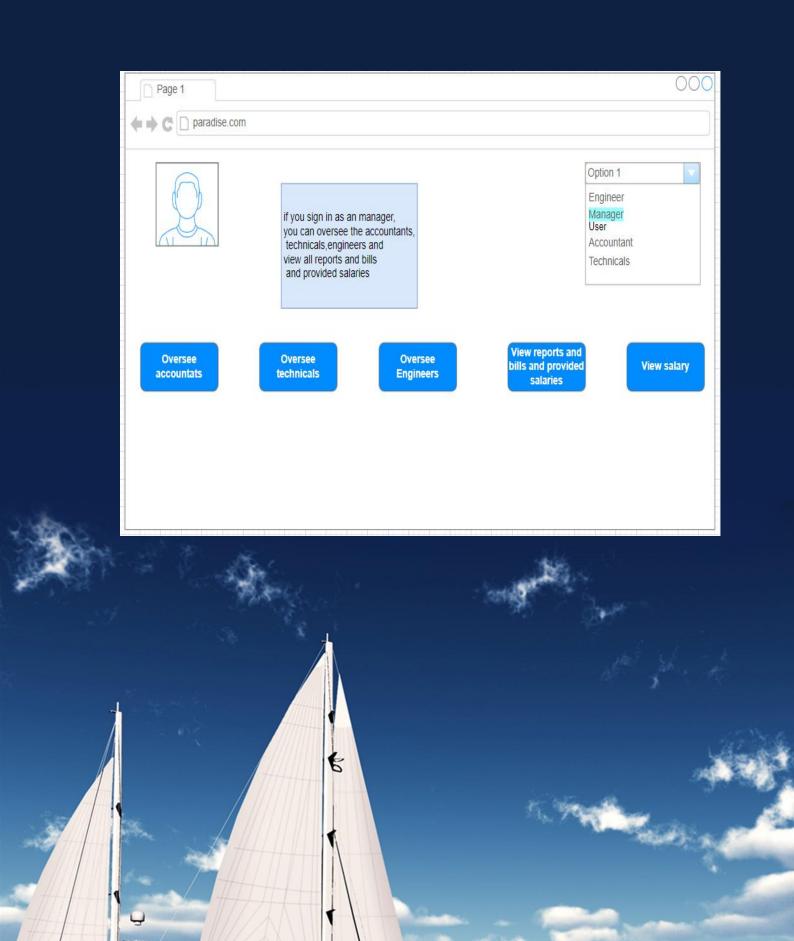


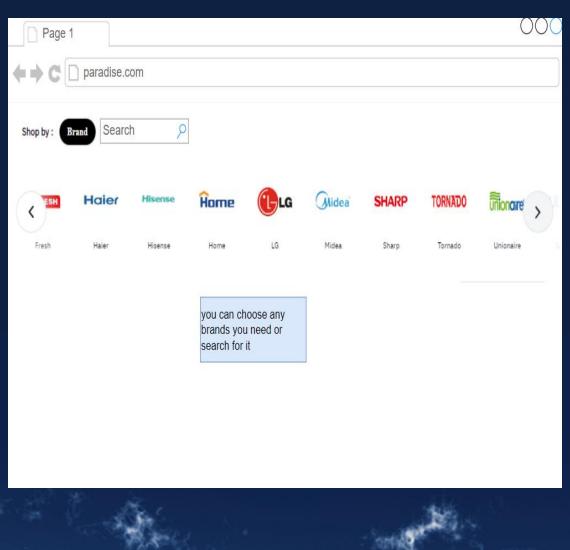




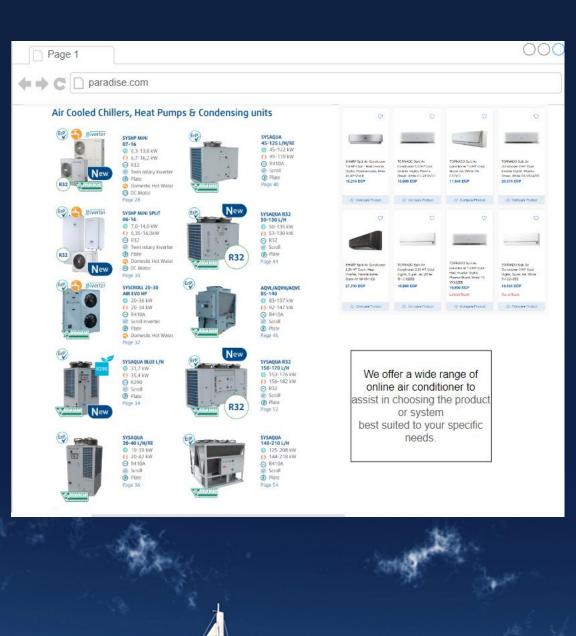




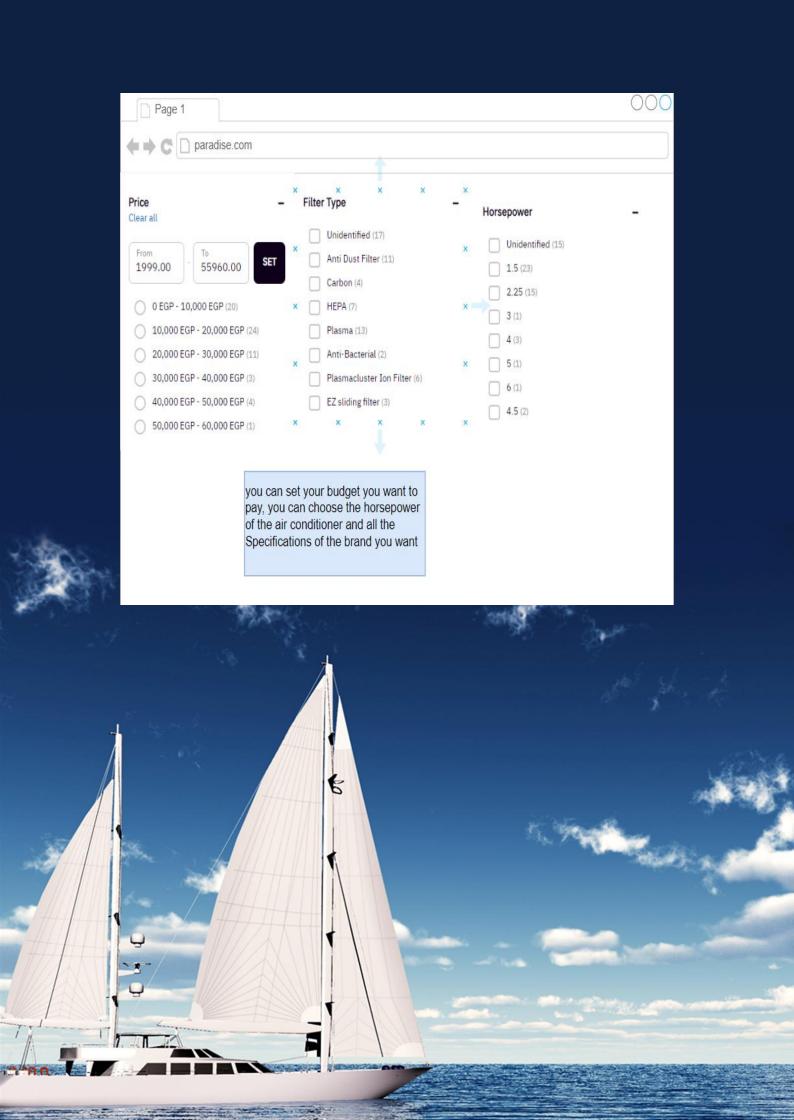


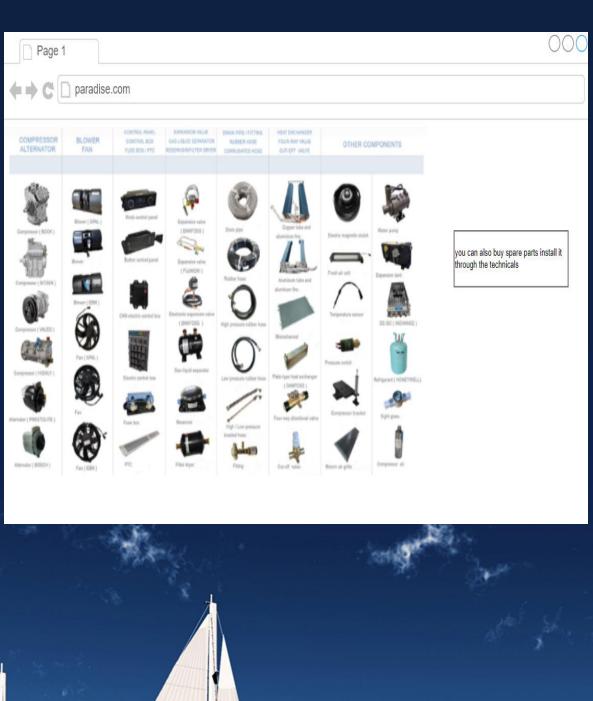




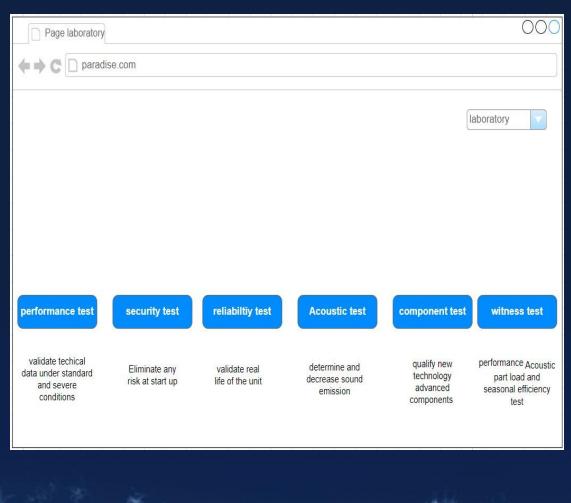




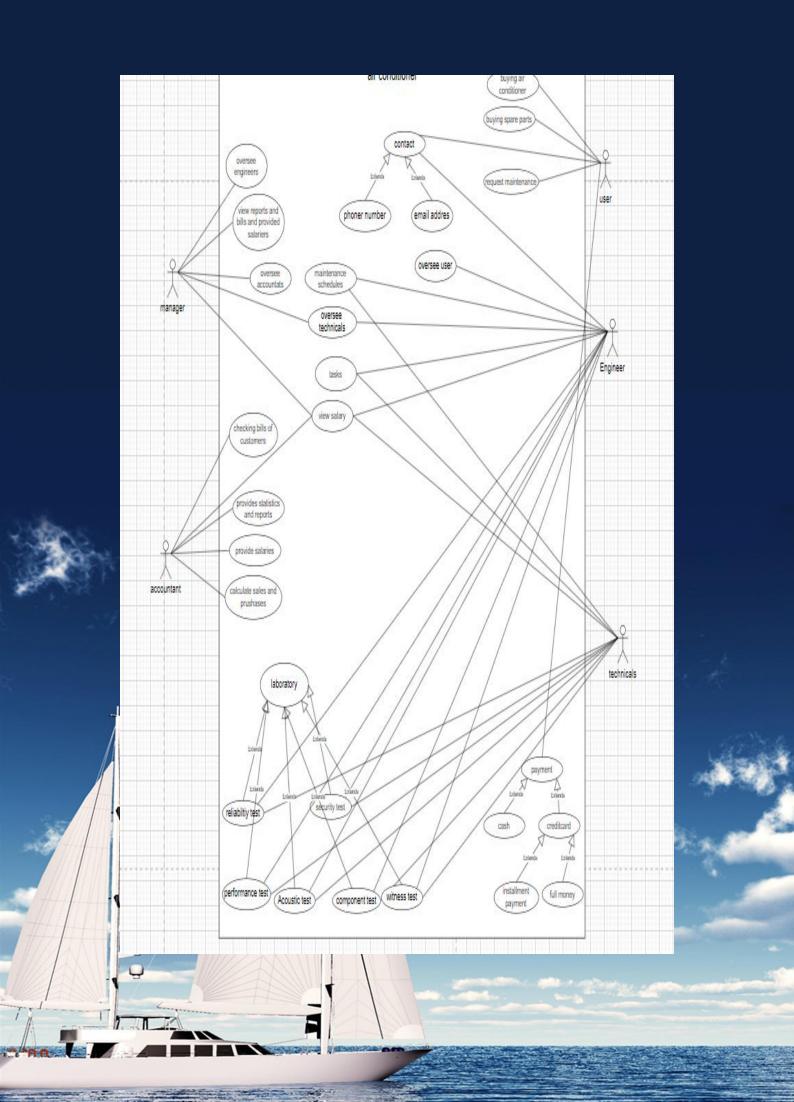




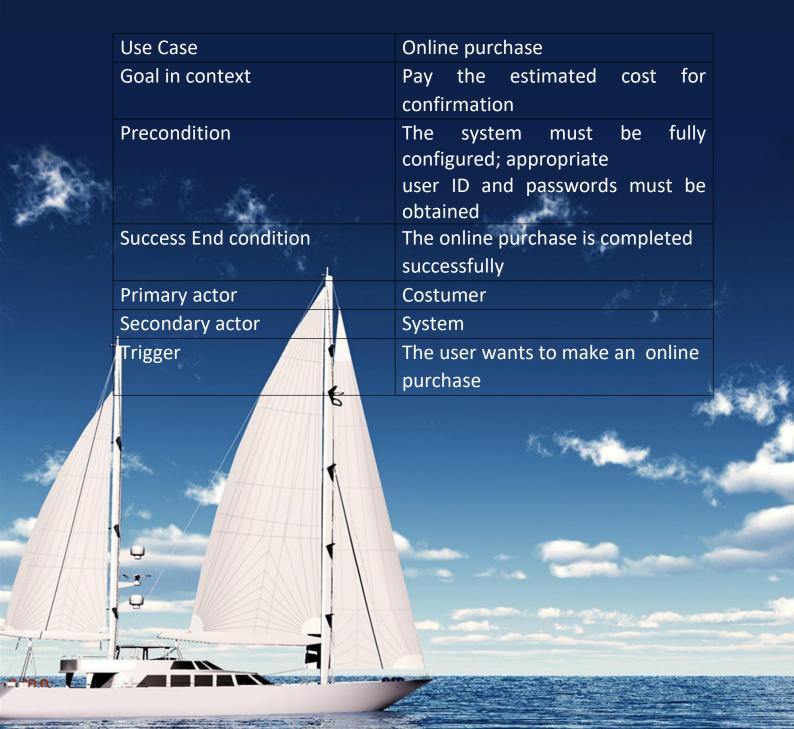




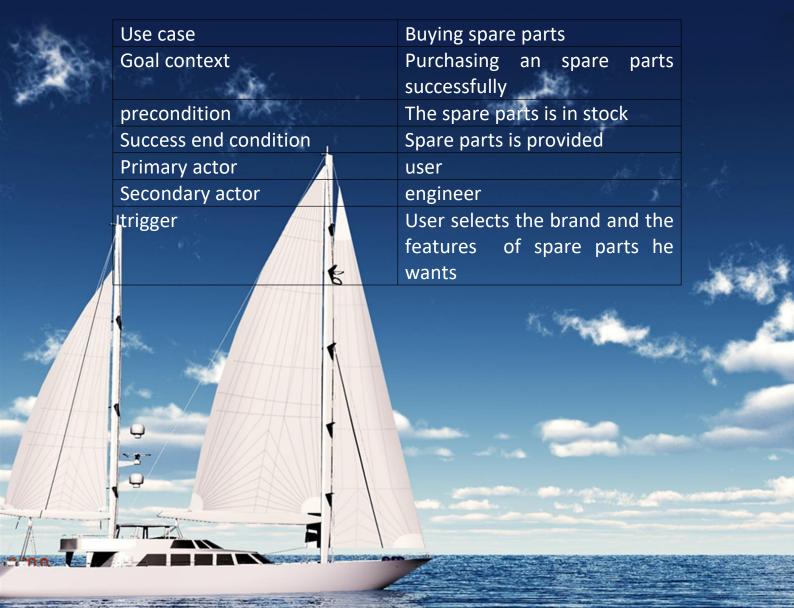




| Use case | Buying air conditioner |
|-----------------------|---|
| Goal context | Purchasing an air conditioner successfully |
| precondition | The air conditioner is in stock |
| Success end condition | Air condition is provided |
| Primary actor | user |
| Secondary actor | engineer |
| trigger | User selects the brand and the features of air conditioner he wants |



| Use case | Maintenance Air condition |
|-----------------------|--|
| Goal and context | Maintenance the air condition for the user |
| Precondition | The User must have Air condition and technical can repairs |
| Success end condition | The technical repairs it |
| Primary actor | User |
| Secondary actor | Technical and engineer |
| Trigger | The customer request Maintance for his air condition |



Use case: buying air conditioner

Actor actions

1.user indicates that he wants to search for specific air conditioner

2.user selects the product category and optionally the desired brand and model

4.user selects a specific air conditioner and then specifies the desired quantity

6.user selects the method of payment an enters the corresponding account information

system reactions

3.system displays search results that match the user supplied criteria

5.system confirms availability of the product

7.system interacts with the payment authorization system to carry out the payment

8.system informs that the order has been confirmed



Use case: buying spare parts

Actor actions

- 1.user indicates that he wants to search for specific spare parts
- 2.user search the spare parts that suit for his air condition
- 4.user selects a specific spare parts
- 6.user selects the method of payment an enters the corresponding account information

system reactions

- 3.system displays search results that match the user supplied criteria
- 5.system confirms availability of the product

Customer actions

- 1-The customer must use his credit card for payment
- 2-Customer check if the money received to the system or not
- System actions
- 3-If the money received to system, the system sends an email to the customer by that
- 4- If the customer participates in an installment system, the system checks if the customer pays the monthly installment or not

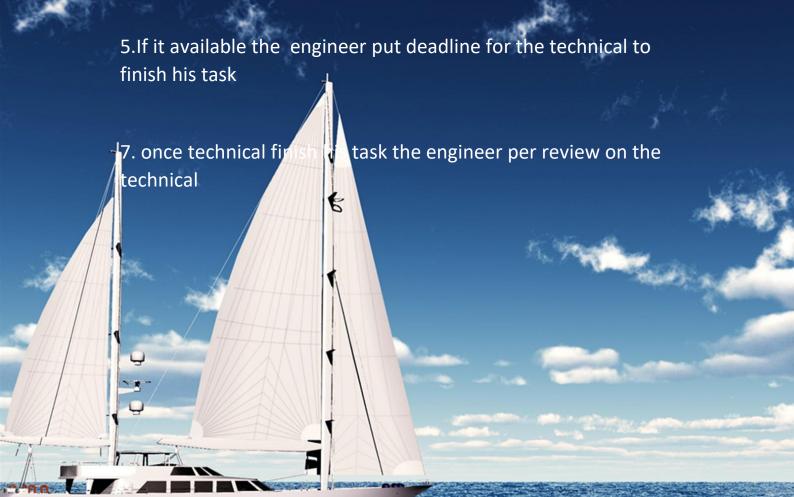
5-if the customer is late to paying, the system adds a tax on him and if it is repeated against the system cancels his membership

Actor actions

- 1 .user indicate that he want Maintance his air condition
- 2. user contact with the engineer
- 6. User select the method of payment

System reaction

- 3.the engineer take look with technical on the air condition and see where are the problem
- 4.If the technical can repairs it the technical see in the stock if spare part for this model available or not



| S.S | S.A.C | M.A.C | S.S.S | M.T | M. I | M.S.A | D. S.A | D.W.E | M.M.R | M.L.R | D.L.R | M.P.T | M.W.T | D.M.R | A.C | U.L | D.T | A.L | M.1 |
|---------|-------|-------|-------|-----|------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| L.S | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| M.S | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| T.S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F.S | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| HR | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| Lab | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| I.S | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Legal.A | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| request | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |



Use case :buying spare parts

Test Requirement:

1 user try to buy spare part that he want it

2 the system must check if the spare part are available or not

3 the system must check if the spare part fit to the air condition or not

4 the system confirm on the user request

5 the system check if the confirmation sent to the user or not

Use case :buying air condition

1 user see the available air condition and choose it

2 the user must check that is request sent or not

3 the system put deadline for the user to deliver the air

condition

4 the system must check if user available for this time or not and see the deadline.

5 then user select the method of payment

6 user must check that payment sent to the system

Use case:online purchase

1 the customer must use his credit card for payment

2 customer must check if the money sent to the system or not

3 if the money received to the system the system sent validation email to the customer

4 if the customer participate in an installment system, the system check if the customer pay the monthly installment or not

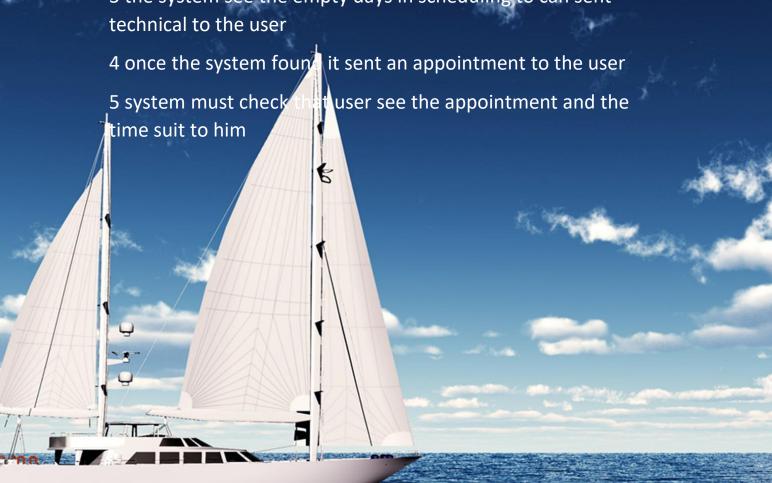
5 if the customer is late in paying, the system adds a tax on him and if its is repeated again, the system cancels his membership

Use case: request Maintance

1 the user sent request to the system that he want Maintance

2 the user must check that the request sent to the system

3 the system see the empty days in scheduling to can sent



System Rules

1 the user must have an password and user name and it must be correct

2 the password must contain alphabetical letter in the first and the seven number

3 if the customer want installment he must have membership

4 if the customer is late in paying more than 5 days we sent him warning and he is late more than 15 days we put on him tax's

and if it repeat the membership is canceled

5 once the user buy the air condition or spare part he have guarantee 5 years

6 if the air condition have a problem and the user repairs it out of official authorization automatically the guarantee falls

7 if the guarantee finished and the customer repairs the air condition out of the official authorization he can repairs it again in the official authorization

