

TechLive Solutions

DOCUMENTATION



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INTRODUCTION

TechLive Solutions is an emerging ICT company making a significant impact in the field of computerization. Led by Yeray Escabias, Iker Palomares, and Oier Letamendia, the company is headquartered at C/Legarre 13 in Eibar. Their upcoming major project involves computerising the new Eibar Neurodegenerative Disease Association. To achieve this, they plan to create the following components:

- Database
- Web Page
- Python Application
- Informatics Structure

With these applications, they intend to simplify the storage of data for volunteers and patients, facilitate information visualization, and establish a brand identity. The Python application will be user-friendly with an intuitive menu for managing information, while the informatics structure will provide internet connectivity and support various devices such as PCs and servers.

DATABASE

Design

We added a new table in our database called ROOMS. This table allows us to manage what room is used for consultations or lectures.... This way we have 5 tables in our database:

Patients: Contains information about individual patients, such as their ID, name, contact details and includes familiars too as patients.

Staff: Stores details about staff members, including their ID, name, and role (psychologist, doctor, social worker).

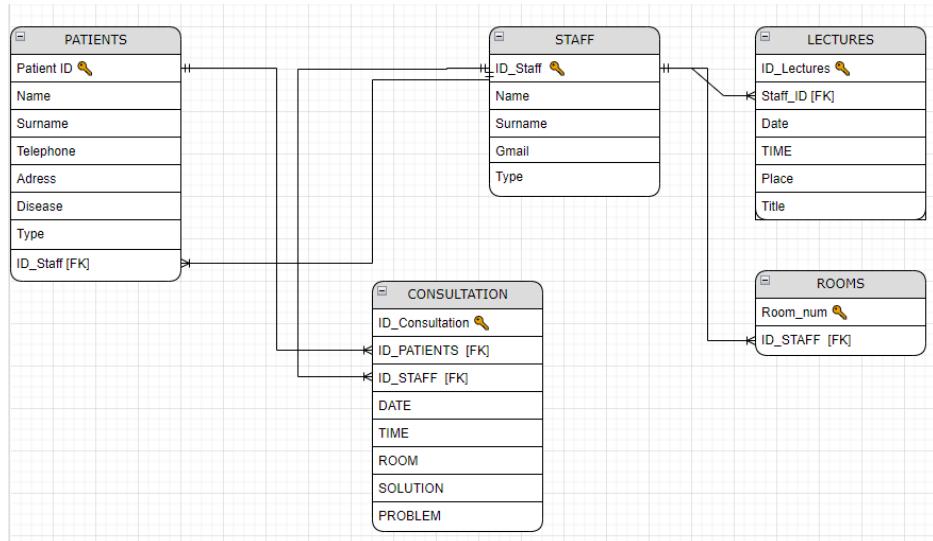
Consultations: Records information about appointments between patients and staff, like the date, time, and notes from the consultation.

Lectures: Holds data about events, specifically lectures, including the title, date, time, and locutor.

Rooms: Manages which room is used by the staff personal.

Relations

We only added one change in our first proposal. We add a new table called ROOMS to know which one is for which staff member.



PATIENTS is related with CONSULTATION and STAFF

CONSULTATION is related with PATIENTS and STAFF

STAFF is related with ALL the tables

LECTURES is related with STAFF

ROOMS is related with STAFF either

Microsoft Access

We use Microsoft Access to visualize the database clearer and in a dynamic form. This way everyone can access the data easily and edit or modify our tables.

There are 5 different tables: Consultations, Lectures, Patients, Rooms and Staff. We have duplicated the tables to be aware of how changes we are doing and be safer. About queries, we have 3 types of them. Classic ones to visualize some specific information, Update queries to modify lectures and consultations and Delete queries to remove information left over.

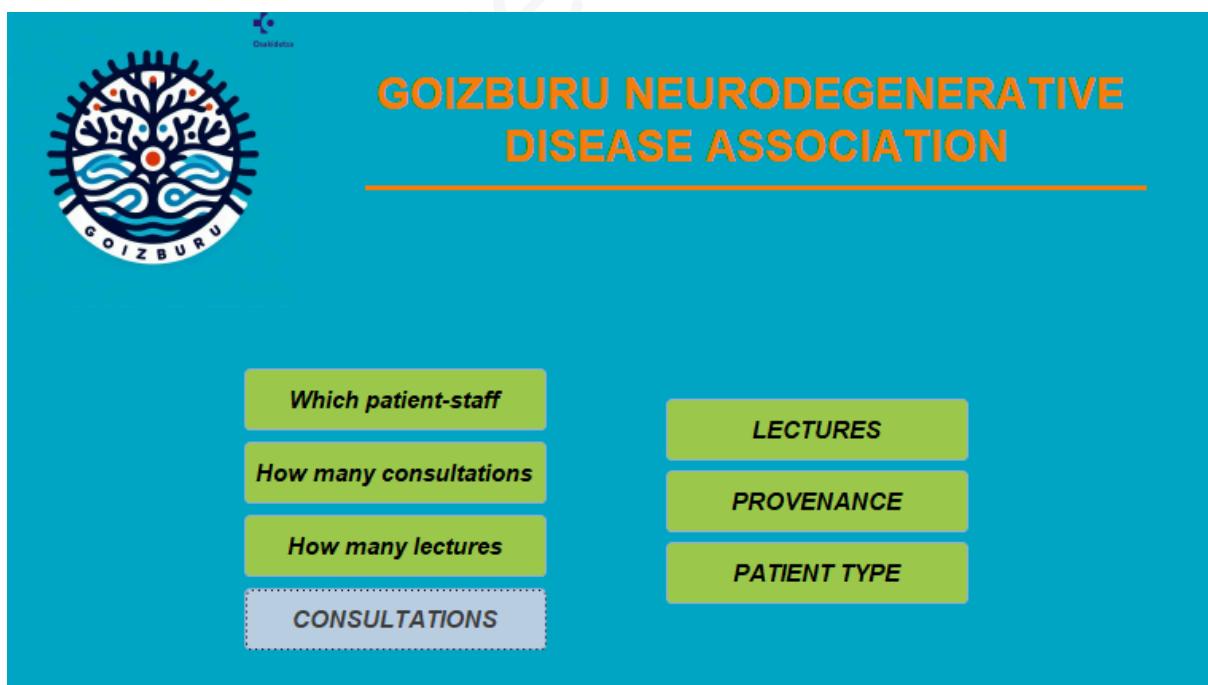
Tablas

-  Consultation
-  Consultation2
-  Lectures
-  Lectures2
-  Patients
-  Patients2
-  ROOMS
-  STAFF
-  STAFF2

Consultas

-  UPDATE_Consultations
-  UPDATE_Lectures
-  DELETE_Consultation
-  DELETE_Fired_Staff
-  DELETE_Lectures
-  DELETE_Unlinked_Patients
-  Count Consultations
-  Count Lectures
-  GROUP BY Date, Consult
-  GROUP BY Date, Lectures
-  INNER JOIN Staff-Patient
-  Lectures Bilboard
-  ORDER BY Provenance
-  ORDER BY Type

To show all of this information we make some reports inside a formulary with linked buttons and texts. This way you can navigate between the database parts effortlessly.



GROUP BY Date, Consult



| Id_Consultation | | Date | Time | Id_Patients | Id_Staff | Problem |
|-----------------|--|------------|----------|-------------|-------------|---------------------------------|
| 1000 | | 03/03/2024 | 9:30:00 | 12121212P | 4196753183T | Mentally disorder |
| 1001 | | 03/03/2024 | 11:30:00 | 74785865M | 4196753183T | Ansiety attacks |
| 1002 | | 04/03/2024 | 9:30:00 | 54615135F | 4567890123I | Articular Pain |
| 1003 | | 04/03/2024 | 10:00:00 | 54631465O | 7890123456M | Depresion |
| 1004 | | 04/03/2024 | 11:00:00 | 89469422V | 7890123456M | Emotional disorder |
| 1005 | | 04/03/2024 | 11:30:00 | 78654185W | 8465849452P | Migraines |
| 1006 | | 05/03/2024 | 9:30:00 | 23456789B | 7890156789L | Bad temper in the consultations |
| 1007 | | 05/03/2024 | 10:30:00 | 48654856C | 1234567890A | Uncontrolable emotions |
| 1008 | | 05/03/2024 | 11:30:00 | 54631465O | 7890123456M | Depresion |
| 1009 | | 06/03/2024 | 9:30:00 | 56789123E | 8465849452P | Difficulty to eat |
| 1010 | | 06/03/2024 | 10:30:00 | 46853856T | 1234567890A | Anxiety and depresion |
| 1011 | | 06/03/2024 | 11:00:00 | 78654185W | 8465849452P | Vertigo by anxiety |

Oracle

We use Oracle to enhance the functionality of our Access database. This integration consists of two components: the code or script and the user-friendly visual interface. Explore the data through five distinct tables presented in an alternative format for improved accessibility.

| LECTURES | | | | | | | Create ▾ | | | |
|-------------------|-------------|-------------|----------|---------------------------------|----------|--|-------------|----------|--------------|-----|
| Table | Data | Indexes | Model | Constraints | Grants | Statistics | UI Defaults | Triggers | Dependencies | SQL |
| Query | Count Rows | Insert Row | | | | | | | | |
| EDIT | ID_LECTURES | STAFF_ID | LEC_DATE | LEC_TIME | LEC_ROOM | TITLE | | | | |
| | 113B | 1234567890A | 03/02/24 | 01-FEB-24 04.30.00.000000 PM | 220 | Coping Strategies for Patients and Families | | | | |
| | 114C | 2345678901F | 03/03/24 | 01-FEB-24 10.00.00.000000 AM | 230 | Cognitive-Behavioral Therapy in Neurodegenerative Diseases | | | | |
| | 115D | 1234567890A | 03/03/24 | 01-FEB-24 10.00.00.000000 AM | 100 | Psychological Support Programs for Patients and Families | | | | |
| row(s) 1 - 3 of 3 | | | | | | | | | | |

| CONSULTATION | | | | | | | | | Create ▾ | |
|-------------------|-----------------|------------|-------------|-------------|---------------------------------|-------------------|---|----------|--------------|-----|
| Table | Data | Indexes | Model | Constraints | Grants | Statistics | UI Defaults | Triggers | Dependencies | SQL |
| Query | Count Rows | Insert Row | | | | | | | | |
| EDIT | ID_CONSULTATION | PATIENT_ID | ID_STAFF | CON_DATE | CON_TIME | CON_SOLUTION | CON_PROBLEM | | | |
| | 1000 | 12121212P | 1234567890A | 01/03/24 | 01-FEB-24 09.30.00.000000 AM | Mentally disorder | Exercise to practise and front facing these issue | | | |
| | 1002 | 12345678A | 2345678901F | 01/03/24 | 01-FEB-24 01.00.00.000000 PM | Depresion | Amoxapina | | | |
| | 1003 | 13548445P | 3210987654D | 01/03/24 | 01-FEB-24 03.00.00.000000 PM | Depresion | Desipramina | | | |
| row(s) 1 - 3 of 3 | | | | | | | | | | |

Our scripts are segmented into two key aspects:

Table Creation:

Initiate with database deletion in the initial lines, followed by sequential table creation. This function is designed for one-time execution.

```
1 --CREATE DATABASE GOIZBURU_ASSOCIATION;-
2 -- STAFF TABLE --
3 DROP TABLE STAFF CASCADE CONSTRAINTS;
4 -- PATIENT TABLE --
5 DROP TABLE PATIENTS CASCADE CONSTRAINTS;
6 -- CONSULTATION TABLE --
7 DROP TABLE CONSULTATION CASCADE CONSTRAINTS;
8 -- lectures TABLE --
9 DROP TABLE LECTURES CASCADE CONSTRAINTS;
0 -- ROOMS TABLE --
1 DROP TABLE ROOMS CASCADE CONSTRAINTS;
2 -- Creating the STAFF table --
3 CREATE TABLE STAFF(
4     ID_STAFF VARCHAR2(50) PRIMARY KEY,
5     ST_NAME VARCHAR2(100) NOT NULL,
6     ST_SURNAME VARCHAR2(100) NOT NULL,
7     ST_GMAIL VARCHAR2(100) NOT NULL,
8     ST_TYPE VARCHAR2(50) NOT NULL
9 );
10
11 -- Inserting data into the STAFF table --
12 INSERT INTO STAFF VALUES('1234567890A', 'María', 'García', 'marigar@gmail.com', 'Psychologist');
13 INSERT INTO STAFF VALUES('1369674136B', 'Mauricio', 'Temur', 'maurictt@gmail.com', 'Social Care');
14 INSERT INTO STAFF VALUES('2345678901F', 'Carlos', 'Rodríguez', 'car1145@gmail.com', 'Administrative');
15 INSERT INTO STAFF VALUES('3210987654D', 'Laura', 'Martínez', 'lamiñez@gmail.com', 'Others');
16 COMMIT;
17
18 -- Creating the PATIENTS table --
19 CREATE TABLE PATIENTS(
20     PATIENT_ID VARCHAR2(235) PRIMARY KEY,
21     PA_NAME VARCHAR2(235) NOT NULL,
22     PA_SURNAME VARCHAR2(235) NOT NULL,
23     PA_TELEPHONE NUMBER(30) NOT NULL,
24     PA_ADDRESS VARCHAR2(235) NOT NULL,
25     PA_DISEASE VARCHAR2(235) NOT NULL,
26     PA_TYPE VARCHAR2(235) NOT NULL,
27     ID_STAFF VARCHAR2(50) NOT NULL,
28     FOREIGN KEY (ID_STAFF) REFERENCES STAFF(ID_STAFF)
29 );
30
31 -- Inserting data into the PATIENTS table --
32 INSERT INTO PATIENTS VALUES('12121212P', 'Iker', 'Etxebarria', 689746513, 'Abadío', 'Amyotrophic Lateral Sclerosis', 'Patient', '1369674136B');
33 INSERT INTO PATIENTS VALUES('12121214L', 'Ainhoa', 'Iturrilla', 625148746, 'Zornotza', 'Healthy', 'Familiar', '1234567890A');
34 INSERT INTO PATIENTS VALUES('12345678A', 'Mikel', 'González', 610230265, 'Zornotza', 'Alzheimer', 'Patient', '2345678901F');
35 INSERT INTO PATIENTS VALUES('13548445P', 'Maite', 'Zubizarreta', 613548656, 'Atxondo', 'Healthy', 'Familiar', '3210987654D');
36 COMMIT;
```

Query Execution:

The second file, dedicated to queries, directly translates Access queries into SQL code with minor format adjustments, such as date and time, optimizing compatibility.

```
1 -- COUNT CONSULTATIONS
2 SELECT Consultation.Id_Staff, COUNT(*) AS ConsultationCount
3 FROM Consultation
4 GROUP BY Consultation.Id_Staff;
5
6 -- COUNT LECTURES
7 SELECT Lectures.Id_Staff, Count(*) AS Lecture_Count
8 FROM Lectures
9 GROUP BY Lectures.Id_Staff;
10
11 -- VISUALIZE CONSULTATIONS
12 SELECT Consultation.Id_Consultation, Consultation.Date, Consultation.Time, Consultation.Id_Patients, Consultation.Id_Staff, Consultation.Problem
13 FROM Consultation;
14
15 -- VISUALIZE LECTURES
16 SELECT ID_Lectures, Date, Time, Title, Place
17 FROM Lectures;
18
19 -- INNER JOIN STAFF-PATIENTS
20 SELECT Patients.*, STAFF.Staff_Name, STAFF.Surname, STAFF.Gmail, STAFF.Type
21 FROM STAFF INNER JOIN Patients ON STAFF.Staff_Id = Patients.Id_Staff;
22
23 -- LECTURES BILLBOARD
24 SELECT Staff.Name, Surname, Date, Time, Place, Title
25 FROM Lectures INNER JOIN STAFF ON Lectures.ID_Staff = STAFF.Staff_Id;
26
27 -- ORDER BY PROVENANCE
28 SELECT Provenance, COUNT(Id) AS TotalCount
29 FROM Patients
30 GROUP BY Provenance
31 ORDER BY COUNT(Id);
32
33 -- GROUP BY TYPE
34 SELECT Patients.Type, Count(Patients.Id) AS [Count]
35 FROM Patients
36 GROUP BY Patients.Type
37 ORDER BY Count(Patients.Id);
38
39 -- UPDATE CONSULTATIONS
40 UPDATE Consultation
41 SET [Date] = #02/03/2024#, [Time] = #10:30:00#
42 WHERE Id_Consultation='1001';
43
44 -- UPDATE LECTURES
45 UPDATE Lectures2 SET [Date] = #02/03/2024#, [Time] = #16:30:00#
46 WHERE Id_Lectures= '123L';
```

Web Page

Design

We use all of the parts that we present in the first proposal and we upgrade it. Using the functionalities of bootstrap and css we program the best web page.

HTML

Using HTML, CSS, and Bootstrap attributes, we have designed our website to ensure optimal performance on various platforms. All our pages are crafted with responsiveness in mind.

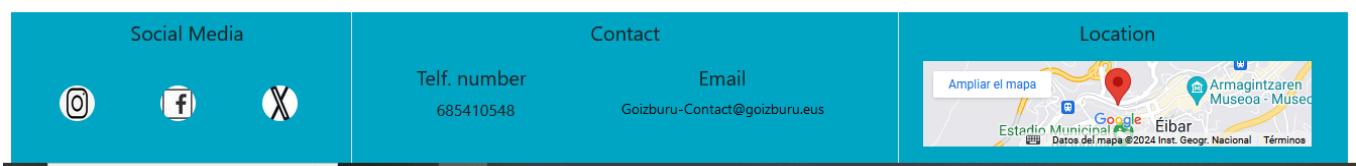
Navigation Bar: Our dynamic navigation bar facilitates easy navigation across the website, providing a consistent and user-friendly experience. The navigation bar includes links to key sections:

- Home Page: Explore our main landing page.
- News: Stay updated with the latest news.
- Employment Exchange: Discover employment opportunities.
- Services: Dive into our services, including detailed information on facilities and staff.
- Contact Us: Reach out to us easily.
- Login: Access your account.

On the top of the navigation bar we have the option to change the language between Spanish, English and Euskera. If we use this option, all the pages will change the texts to the language that you select.



Footer: This is the best way to contact us. The footer is divided into three sections: The Social Media, Our Contact and Our Location.



Services(Facilities): This is the best way to contact us. The footer is divided into three sections: The Social Media, Our Contact and Our Location.

SERVICE



Medical

Our general medicine department focuses on comprehensive health care, providing accurate diagnoses, effective treatments and follow-up care for chronic and acute illnesses.

Social Care

In our association, we understand the unique challenges faced by individuals affected by neurodegenerative diseases and their families. Our Social Assistance team is dedicated to providing comprehensive and compassionate support to help them navigate these challenges as effectively as possible.

Psychology

Our psychological services are designed to address a variety of emotional, social, and cognitive needs that may arise in the context of neurodegenerative diseases. We work closely with patients, caregivers, and families to provide a comprehensive approach to care.

FACILITIES



Social Care

Our social workers provide emotional support, connect clients with resources, advocate for their rights, and empower individuals and families affected by neurodegenerative diseases.

Medical

Our association offers specialized medical facilities for neurological disorders, providing diagnostics, treatments, and personalized care from multidisciplinary teams. We prioritize staying at the forefront of neurology advancements through collaboration with research institutions.

Psychology

Psychologists in neurodegenerative association facilities provide tailored support for patients and families, addressing cognitive, emotional, and behavioral challenges to enhance overall well-being alongside medical care.

Contact Us: In this page you can contact us filling the fields of the formulary. You can see the opinions of some people about us also. The opinions of the community are in a carousel that is changing between the different pictures. There is a linked image to meet our team that shows you the “Staff” page.



Natalia Díaz

"Seeing my loved one battle with a neurodegenerative condition has been tough, but this association's guidance has been a beacon of hope. Their care workshops and emotional support have been a great help for both of us."

CONTACT US

Fill in these fields to get in touch with us, and we'll address your questions.

Full name:

Email:

Subject:

Message:

Meet our team!



Employment Exchange: In this page you can contact us filling the fields of the formulary. You can see the opinions of some people about us also. The opinions of the community are in a carousel that is changing between the different pictures. There is a linked image to meet our team that shows you the “Staff” page.

JOB APPLICATION

Fill in these fields with your imformation.

Full name:

Surname:

Especialization:

DNI:

Experience:

Send
Clear/Erase

Thank you!



Login: The Login page is dedicated to the users that want to make a reservation for a consultation with any of the professionals of our staff. Like Psychologists, Social Workers, Doctors... .



XML and XSL

We use XML and XSL to visualize in the web page different parts of the database's data.

News: In this section you can find the news related to the association and the lectures that we offer.

NEWS

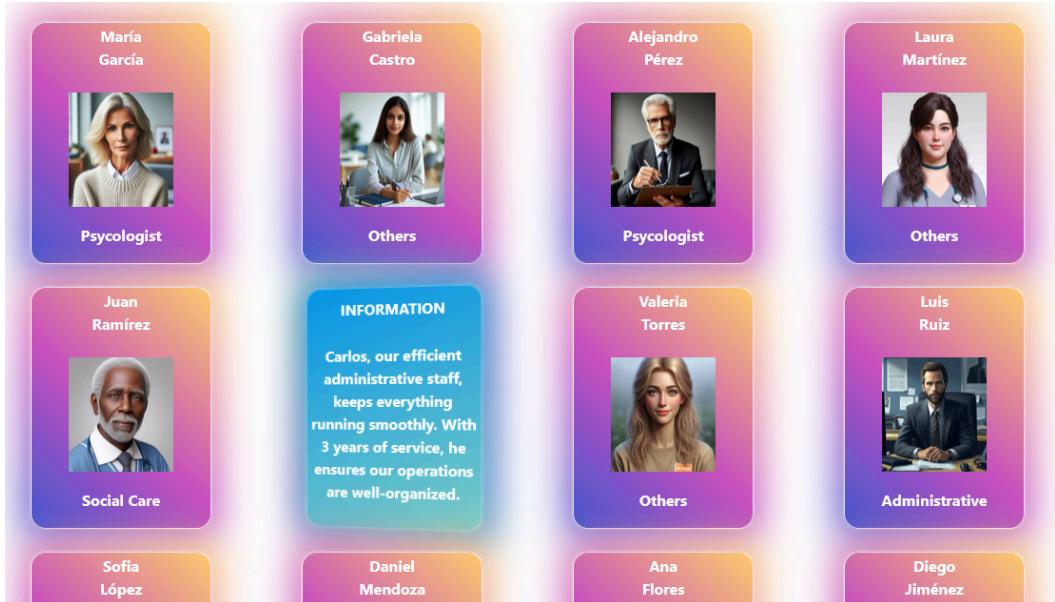
DEADLINES REOPENED FOR VOLUNTEERING ENROLLMENT AT GOIZBURU

February 26 - 05 March

LECTURES

| Title | Date | Time | Room | Locutor |
|--|------------|----------|------|----------------|
| Psychosocial Impact of Neurodegenerative Diseases | 2024-03-01 | 12:00:00 | 002 | Mauricio Temur |
| Coping Strategies for Patients and Families | 2024-03-01 | 17:00:00 | 002 | Lucía Pérez |
| Cognitive-Behavioral Therapy in Neurodegenerative Diseases | 2024-03-03 | 10:00:00 | 002 | Ricardo Milos |
| Psychological Support Programs for Patients and Families | 2024-03-03 | 10:00:00 | 005 | María García |
| Improving Quality of Life in Advanced Stages | 2024-03-06 | 10:00:00 | 002 | Juan Ramírez |
| Early Diagnosis in Neurodegenerative Diseases | 2024-03-06 | 12:30:00 | 005 | Diego Jiménez |
| Comprehensive Care Approach in Neurodegenerative Diseases | 2024-03-06 | 16:00:00 | 004 | Rick Sanchez |
| Effective Communication with Patients | 2024-03-10 | 18:00:00 | 002 | Diego Jiménez |
| Social Support for Patients and Caregivers | 2024-03-12 | 16:30:00 | 002 | María García |
| Behavioral Changes in Neurodegenerative Diseases | 2024-03-15 | 17:00:00 | 002 | Ricardo Milos |
| Technology and Quality of Life in Neurodegenerative Diseases | 2024-03-15 | 19:30:00 | 005 | Rick Sanchez |

Staff: The Staff page is to meet our volunteers. All of them have experiences in their fields and there is a little information about them in the cards. Each card has a CSS format to rotate and show the information that is saved on a XML file.

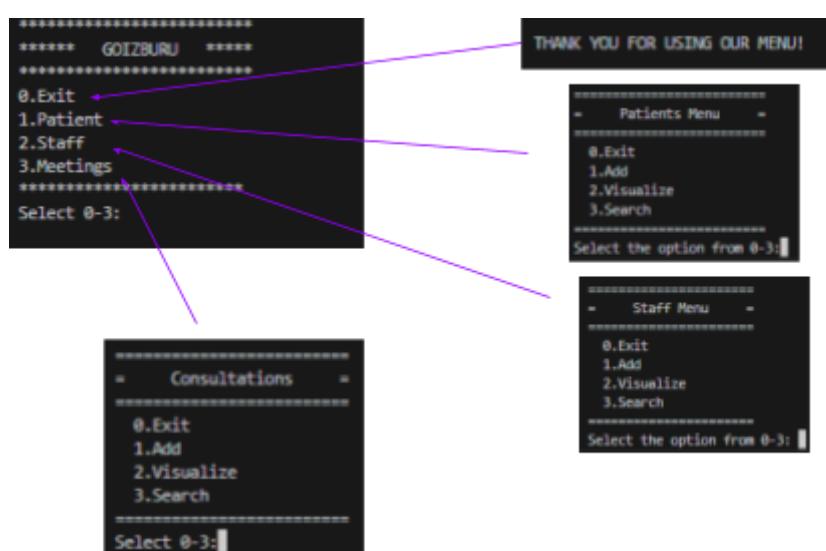


Python Application

In this part we have been using CSV files achieved from the database and we made a simple menu for 1. add new data 2. Visualize the data 3. Search certain data:

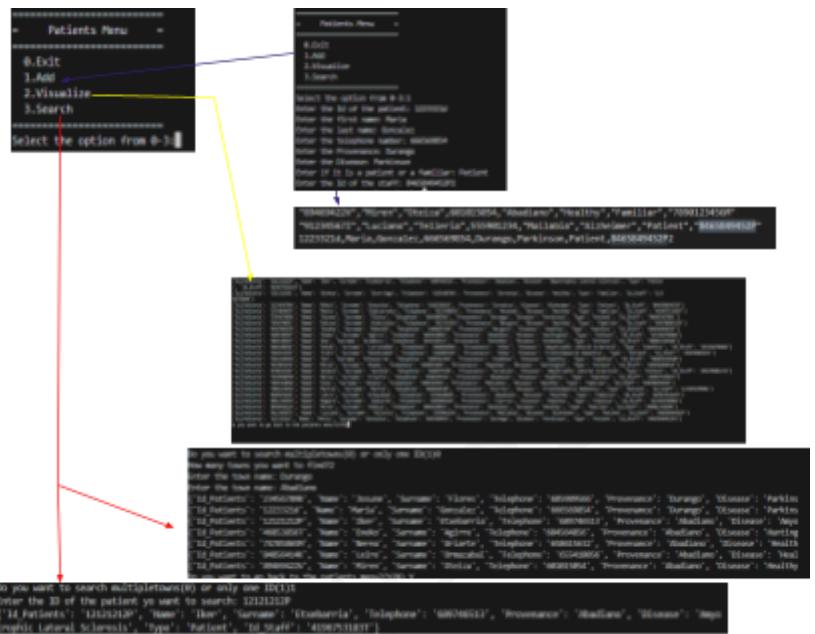
Main Menu

Firstly we have the main menu, which includes the other menus and you can select from ,0 the exit one , to 3. If you select 1,2 or 3 is going to open their respective submenus.



Patients Menu

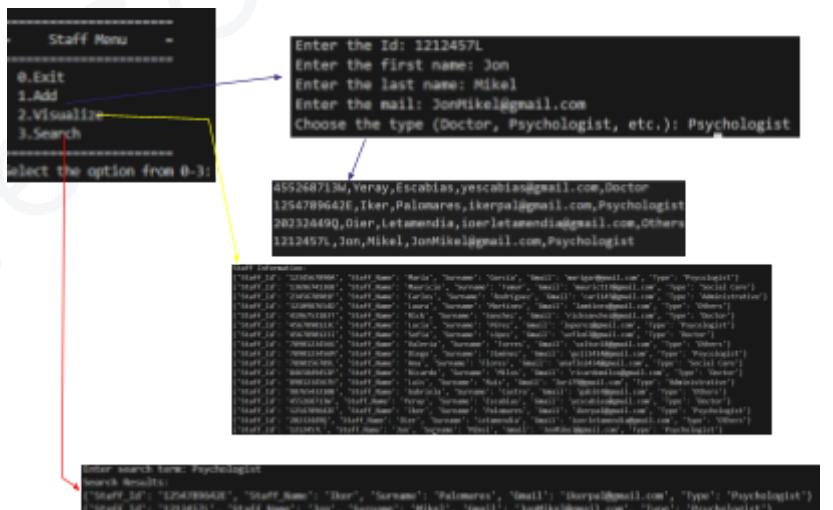
When you press the first option you will be able to answer some questions and with those you will create a new patient. The second one will show you a list of patients. The last one will ask you if you want to search by a list of towns or by an unique id.



You can zoom it for a better view

Staff Menu

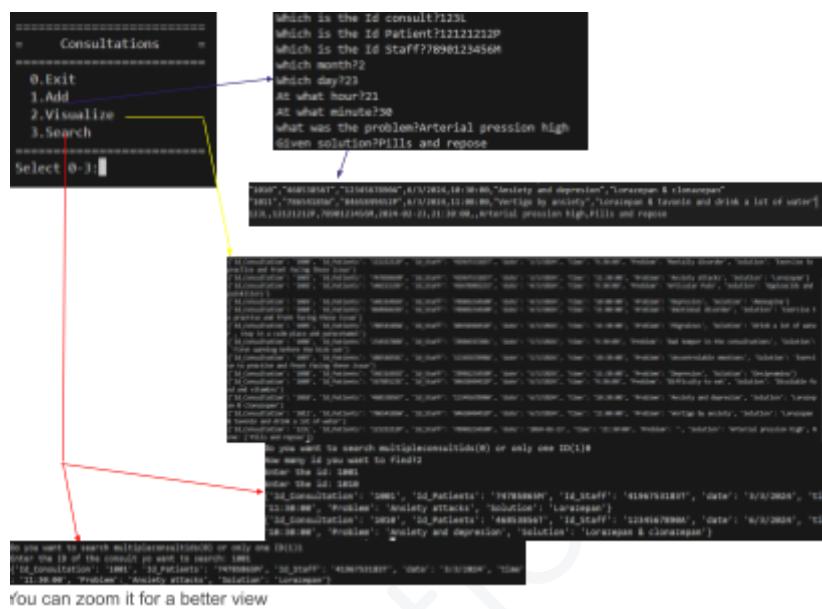
In this menu the only option which changes is the search. In this case, the third option is going to ask for any parameter you want to search and it will show you .



You can zoom it for a better view

Consultations Menu

This menu as the first one has a multiple search of patient ids to show the consults they have and also the consult id so you can search specific consults, the rest it is the same as Patient Menu.



Informatic Systems

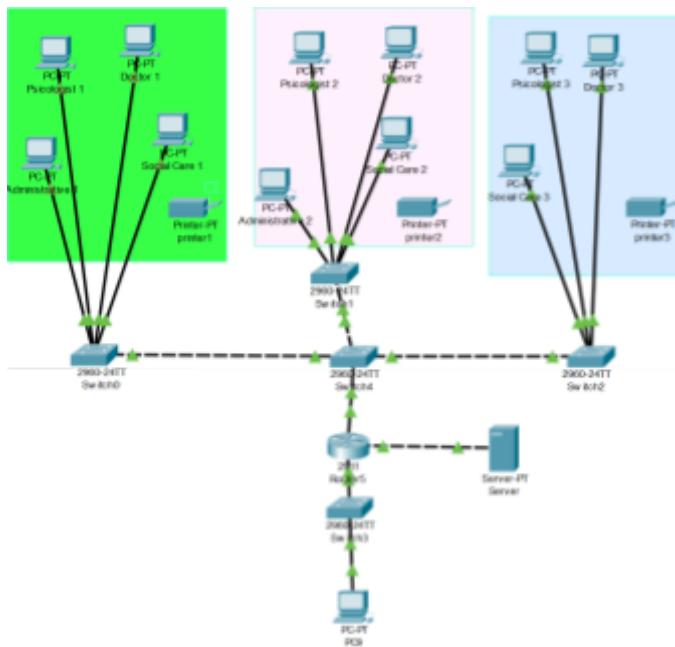
For the structure planification of the association we use packet tracer application. In this application we can simulate the connection between computers which helps us to make the computer structure.

Packet Tracer

First of all we had calculated the IP's each equipment will have. We will have three computer for each doctor, psychologist and social worker, administrative as they are going to be two each one will have a computer and the last one for the server. The printer will be via DCHP reserving 3 different IP for each one.

| NETs | PCs | IP |
|--------------|-------------------|--------------|
| 192.168.4.0 | Server | 192.168.4.1 |
| 192.168.4.16 | Administrative 01 | 192.168.4.2 |
| | Administrative 02 | 192.168.4.3 |
| 192.168.4.32 | Doc 01 | 192.168.4.33 |
| | Doc 02 | 192.168.4.34 |
| | Doc 03 | 192.168.4.35 |
| 192.168.4.48 | Psycho 01 | 192.168.4.49 |
| | Psycho 02 | 192.168.4.50 |
| | Psycho 03 | 192.168.4.51 |
| 192.168.4.64 | S.Care 01 | 192.168.4.65 |
| | S.Care 02 | 192.168.4.66 |
| | S.Care 03 | 192.168.4.67 |

The subnet mask we use is the 255.255.255.240 because in a near future we might have more employees. Also the switches they have their own V-Lan from 10 to 50 in each tens we have declared the groups. The last two things are the server which is connected to the router which has internet connection with the ip 8.8.8.1 and implemented the V-LANs.



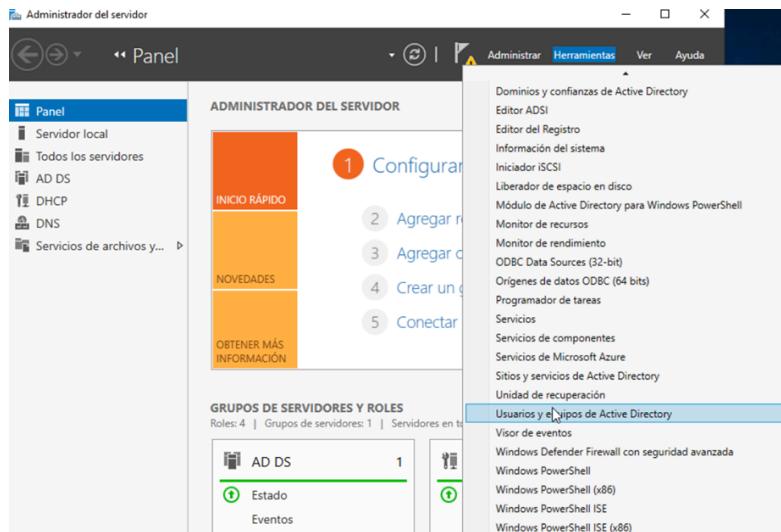
So this would be the packet Tracer view, three floors(1.Green,2.Pink,3.Blue). In each floor it will be the same number of employees and printers, besides the last one it isn't an administrative computer. The whole structure is completely functional, all the computers do ping with the complement. For Example, the first floor psychologist does ping with the second floor psychologist.

Windows Server

To make a functional server for the association we use Windows Server 2019 where we are able to create a domain, organization units, users and groups , GPOs etc. In this situation we use to made the forest of Goizburu, so we can add all this things:

-Domain

We made a domain with the name Goizburu and we put all the computers inside the domain for this presentation. We just made 3 clients 2 for the users and one for the backups.



-GPO

We have made groups for the users one of each speciality and GPOs for everyone. We use the GPO to block the CMD and change the wallpaper of the computers. We made shared folders for each speciality, all the volunteers can access them but only the selected group can edit the information.

| FOLDERS | Psychologists | Doctors | Social Workers |
|----------------|----------------|----------------|----------------|
| Administrative | Read and Write | Read and Write | Read and Write |
| Psychologys | Read and Write | Only Read | Only Read |
| Doctors | Only Read | Read and Write | Only Read |
| Social Workers | Only Read | Only Read | Read and Write |

-Passwords

We made OUs for the groups and a password policy for every user. The default password is the `speciality+pa$$w0rd` and the official password is `T4taldea`.

| USERS | PREMADE PASSWORDS | DEFINITIVE PASSWORD |
|------------------|-------------------|---------------------|
| Administrative_1 | adminpa\$\$w0rd | T4taldea |
| Administrative_2 | | |
| Pyschologist_1 | | |
| Pyschologist_2 | pyschopa\$\$w0rd | T4taldea |
| Pyschologist_3 | | |
| Doctor_1 | | |
| Doctor_2 | doctpa~~w0rd | T4taldeaa |
| Doctor_3 | | |
| Social_Worker_1 | | |
| Social_Worker_2 | sowopa\$\$w0rd | T4taldea |
| Social_Worker_3 | | |

-Backups

We limit the time the volunteers can be logged in the computers. We made backups of the shared folders with the data and the user folder in another pc so the server data can be safely stored.

-Printers

