

# AN-NAJAH NATIONAL UNIVERSITY

FACULTY OF ENGINEERING AND INFORMATION

TECHNOLOGY

Computer Engineering Department



Software Graduation Project

## **Palestinian-Archive**

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# 1. Abstract

Capturing the complex story of Palestine's long history, the Palestine Archive is a beacon of knowledge and memory. This digital platform unites cutting-edge technology with a strong commitment to preserving cultural heritage to provide a wide range of interactive features and resources. emphasizing how it can help people gain a better understanding of Palestinian history and culture.

## **2. Introduction**

With the goal of protecting and promoting Palestine's rich historical and cultural legacy, The Palestine Archive is an extensive digital platform. A number of the archive's features are examined in this report, such as the AI-Powered Chatbot, Videos and Documented Events, Prisoners' Chronicle, Martyrs Memorial Page, and Press Releases Archive. Users get a rich and interactive experience as each section offers distinctive insights into the Palestinian story. Making sure that the tales of tenacity, sacrifice, and legacy are available to everyone, the archive plays a crucial role in supporting education, research, and commemoration. In order to preserve legacies for future generations, the Palestine Archive employs an inventive approach to bridge the past and present.

### **2.1. Constraints**

There are a small set of limitations that the system can face, including:

Privacy and Data Security ensuring the safe storage and prevention of unwanted access to sensitive data, especially those pertaining to prisoners and martyrs. adherence to laws and guidelines on data protection.

One of the main restrictions is making sure the data is correct. In order to prevent false information from spreading, the historical data that is provided must be correct. To maintain the legitimacy of the archive, strong procedures for confirming and validating information prior to publishing must be put in place.

Multilingual Assistance

supporting a wide range of languages in order to serve a varied user base.

ensuring content localization and translation are done correctly.

### **2.2. Earlier course work**

One of the most fascinating parts of the endeavor is its preparation. We look for innovative frameworks that will enable us to accomplish the objectives of our project. This stage offered us a solid understanding of the available frameworks and technologies utilized in the creation of our website and our mobile applications, saving us time studying these frameworks.

### **3. Literature Review**

Digital archiving platforms, also known as digital repositories or cultural heritage management systems, play a central role in preserving historical and cultural narratives. These platforms use advanced technologies to record, store, and disseminate cultural heritage and make it available to a global audience. In this chapter, we will review several digital archiving systems that have similarities to our project. Each system has its strengths and weaknesses, and while some systems include additional or unrelated features, all focus on the preservation and dissemination of cultural heritage.

#### **3.1. Europeana**

Europeana is a digital platform that provides access to millions of digitized items from European museums, galleries, libraries, and archives. Its mission is to transform the world with culture by making European cultural heritage available to all. Europeana offers an extensive collection of books, music, artworks, and more, enabling users to explore Europe's cultural heritage through a user-friendly interface. As a comprehensive digital archive, Europeana supports education, research, and cultural engagement, although it primarily focuses on European content.

#### **3.2. DPLA (Digital Public Library of America)**

The Digital Public Library of America is dedicated to bringing together the rich treasures of American libraries, archives, and museums and making them freely available to the world. DPLA provides a central access point to millions of photographs, manuscripts, books, and more from institutions across the United States. The platform is designed to be accessible and useful to researchers, educators, and the public. Although DPLA offers a wealth of fantastic American historical content, its scope is limited to American cultural heritage.

#### **3.3. What features does "Palestinian Archive" offer?**

Our platform offers a comprehensive and interactive exploration of Palestine's history and heritage.

Key features include:

Martyrs Memorial Page:

Pays tribute to those who have given their lives for the Palestinian cause, providing detailed profiles, anecdotes, and historical context.

Prisoner Chronicles: Documents the stories of Palestinian prisoners, highlighting their resilience and ongoing efforts for justice.

Videos and Documented Events: A curated collection of videos and documented events that provide a visual journey through Palestine's past and present.

Atlas of Displaced Villages and Cities: An interactive atlas that maps the geographic footprint of displaced villages and cities, enriched with historical context and personal testimonies.

AI-Powered Chatbot:

An intelligent chatbot that provides guided answers to questions on historical and contemporary topics.

Press Release Archive: A central hub for the latest developments and announcements related to Palestine.

## **4. Methodology**

This section aims to delve deeper into the research methodology employed in this study and achieve the objectives outlined in the previous chapter. The focus will be on examining research design, approaches to sampling, and methods used for data collection.

### **4.1. Architecture & Technologies Utilized**

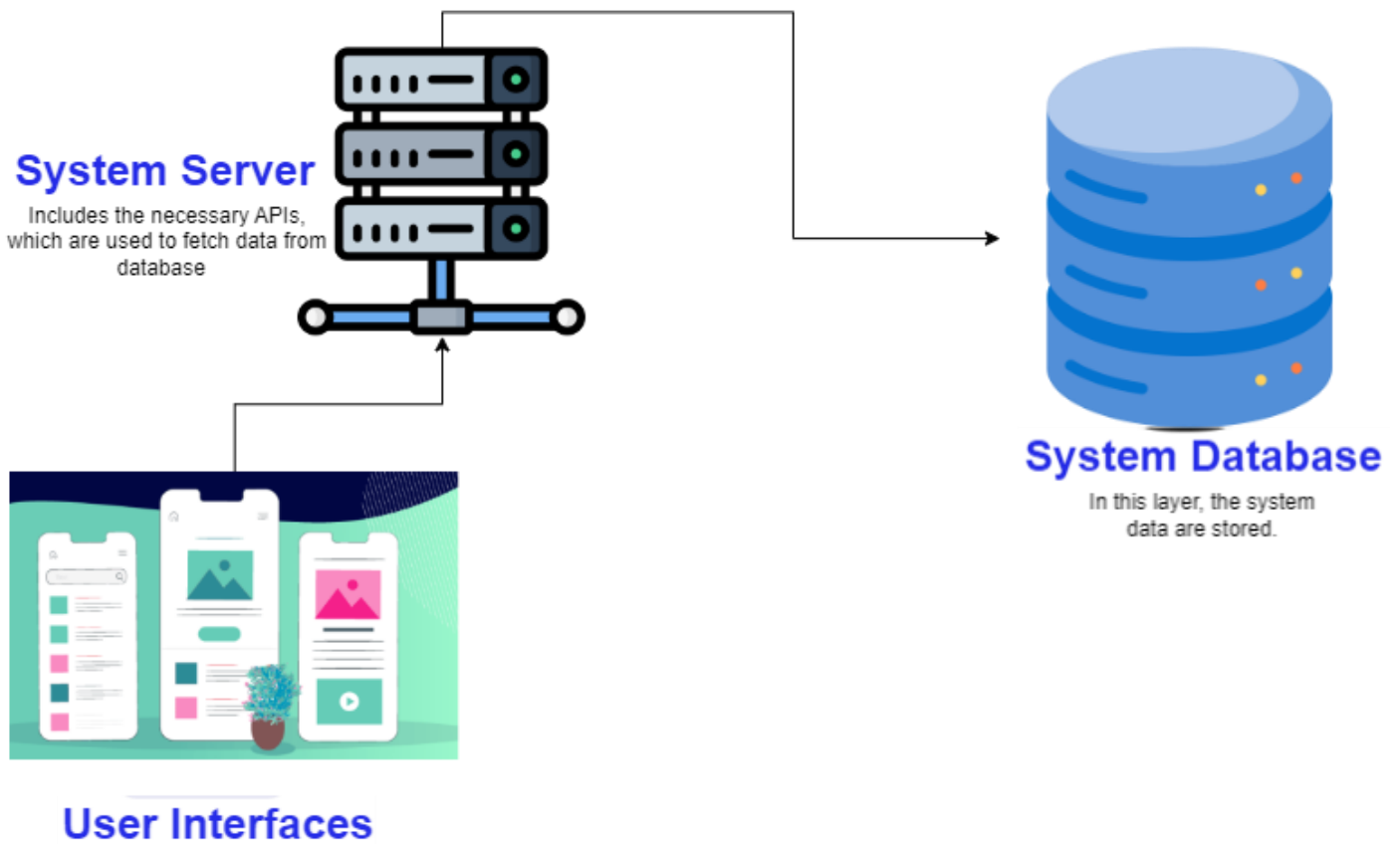
This chapter will present various structures essential for constructing and organizing our system.

These structures consist of software components, their interconnections, and the characteristics of both these components and their connections.

#### **4.1.1. System Design**

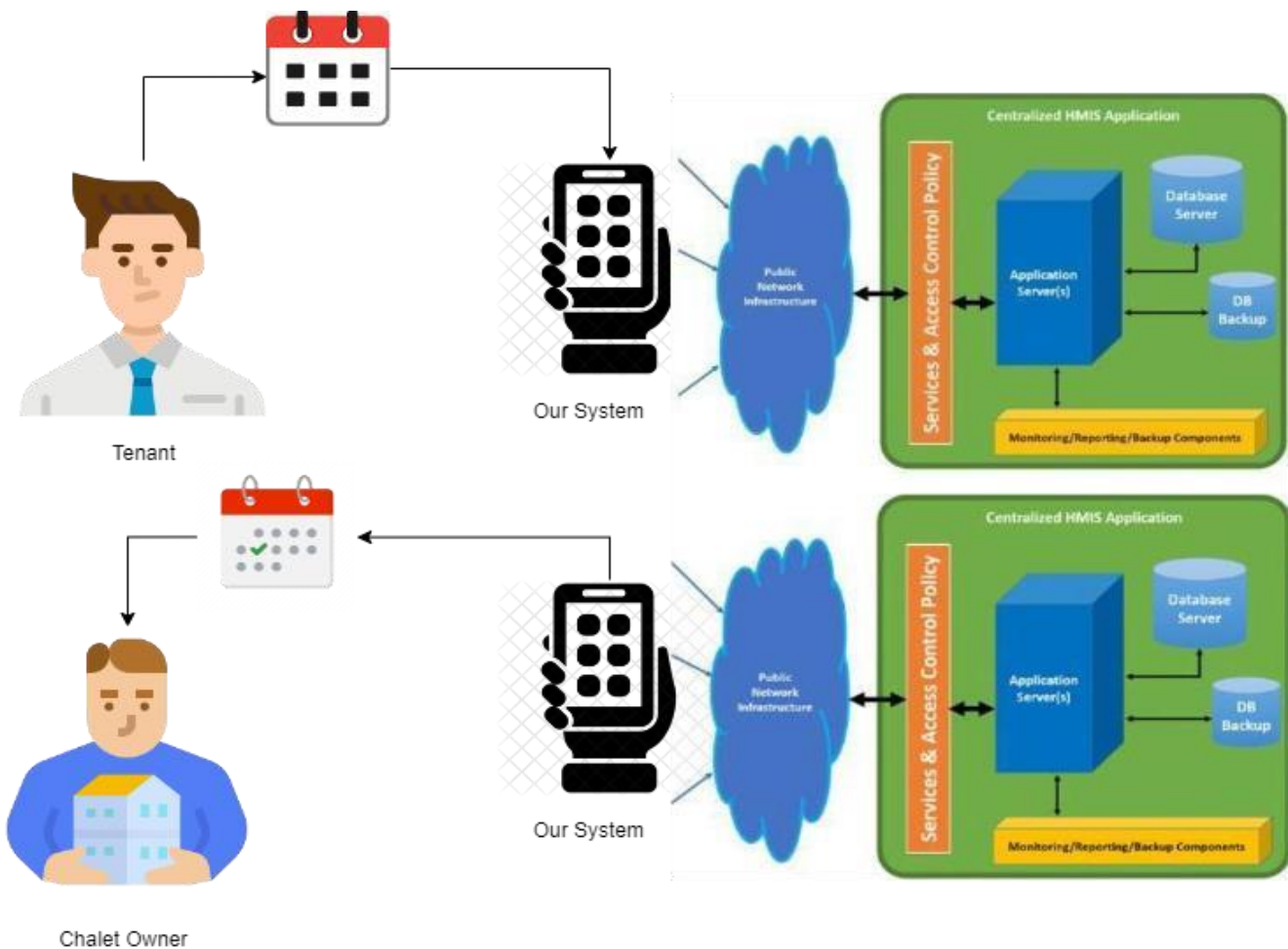
In this section, we explore the technical architecture of our system. By examining the system level design, understanding the data flow throughout the entire system becomes more straightforward.

This component, which can be considered the core framework of our system, provides the essential elements our system encompasses, as depicted in the image below.



#### 4.1.2. System Architecture

1. Users are required to enter their personal data as required.
2. This information is transferred to the server for analysis before being systematically organized within the database.
3. The server manages the data collected from the application, saves it in the database, processes queries from the system application and individual users, and then retrieves the data from the database.
4. The user will reach the main/main interface that contains the services provided by the system.
5. The user adds new posts and adds all the required data.
6. The admin approves or rejects the post, and an email is sent to the user about that.
7. Publications and all information are saved in the system database.



#### 4.1.3. Technologies Utilized

A web application consists of three layers at the very least: client-side (frontend), server-side (backend), and database (persistence layer), in this section we will show you the technologies used in building all of the above towards the following:

#### 4.1.4. Node.js with Express for Back-end:

Node.js, in tandem with Express, forms a powerful combination for backend development and building robust APIs. Node.js, known for its event-driven architecture and

asynchronous I/O, provides a scalable and efficient runtime for server-side applications. Express, a minimal and flexible Node.js web application framework, simplifies the process of creating APIs and handling HTTP requests. Together, they enable developers to craft performant backend systems, allowing for the seamless integration of database operations, business logic, and the creation of dynamic APIs that can be easily consumed by frontend applications. The Node.js-Express duo has become a popular choice among developers seeking a fast and scalable solution for server-side development.



#### 4.1.5. Flutter for mobile app:

As stated on the Flutter website, it's unnecessary to maintain distinct code bases for iOS and Android platforms. Flutter enables the creation of a unified codebase that can be deployed across multiple platforms, including web, desktop, and mobile. This approach leads to faster application deployment and is more economical.



#### **4.1.6. MySQL for Data Base:**

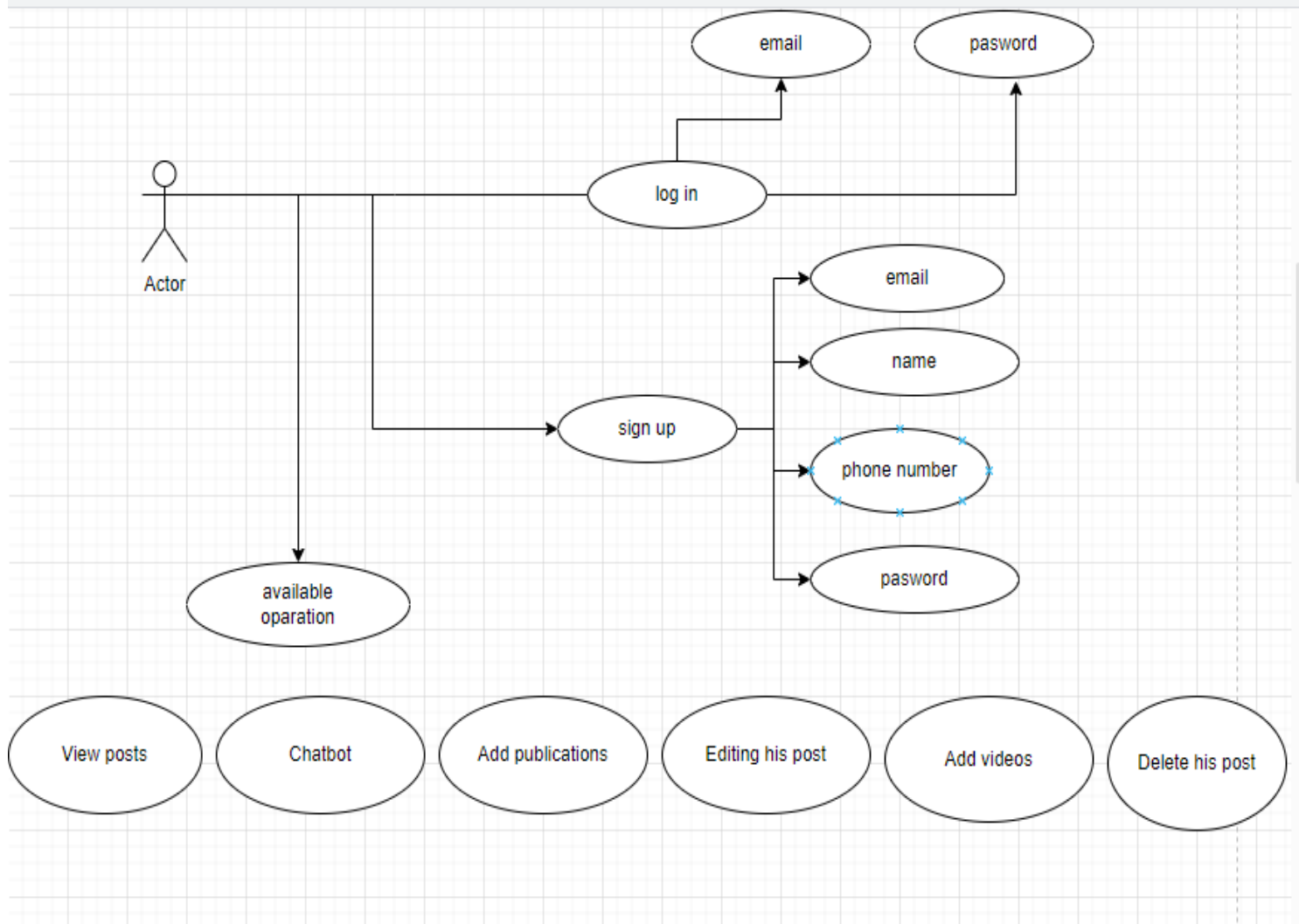
The MySQL website indicates that MySQL is the leading Open Source SQL database management system. It is created, distributed, and backed by Oracle Corporation. This database system is designed as a client/server model featuring a multithreaded SQL server compatible with various back ends. It includes a suite of client programs and libraries, tools for administration, and an extensive selection of application programming interfaces (APIs).



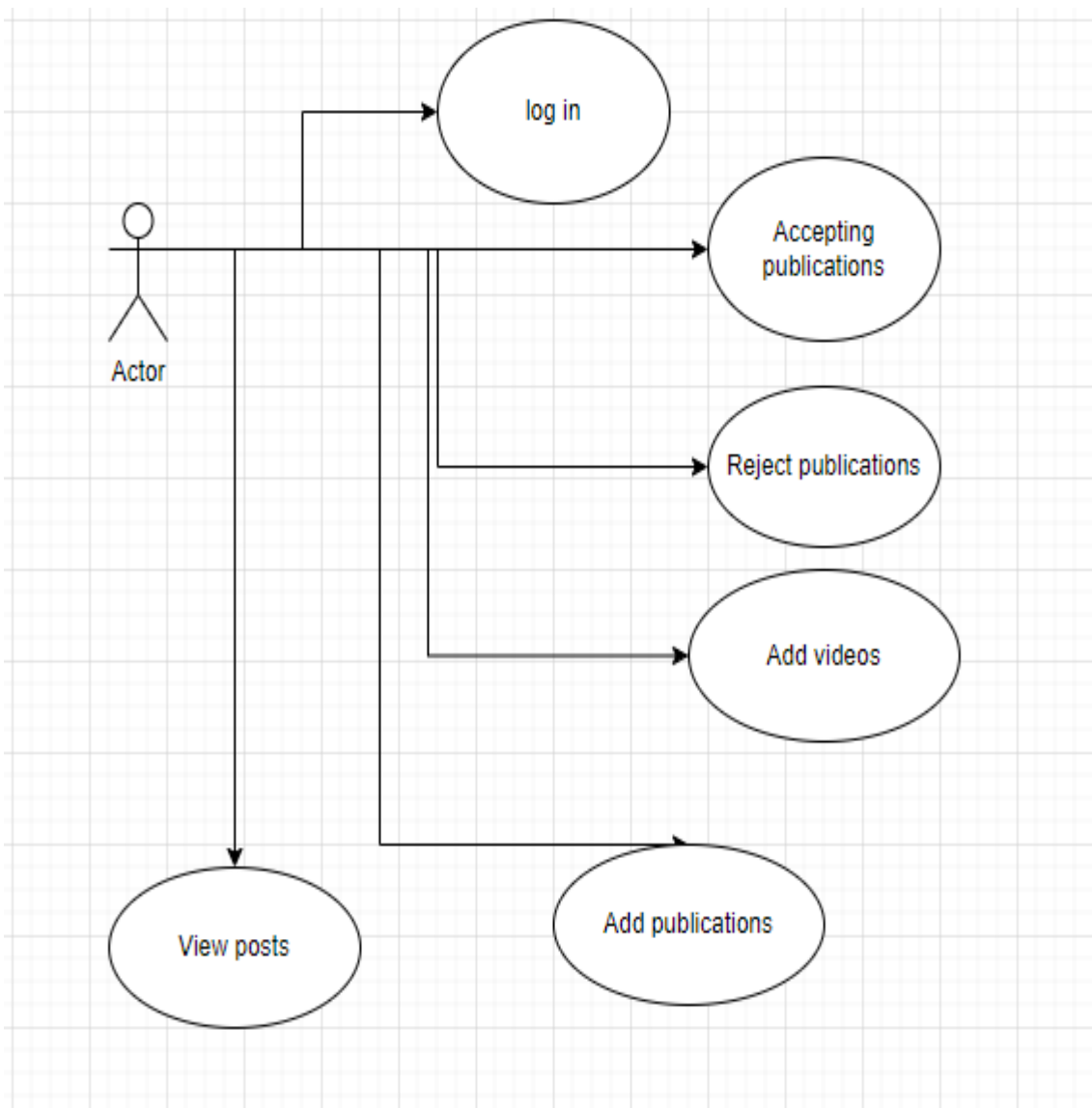
## **4.2. Use Case Diagrams**

The use case diagram is the most important parts of the UML that illustrate the actors of our system and the relationships between the use cases.

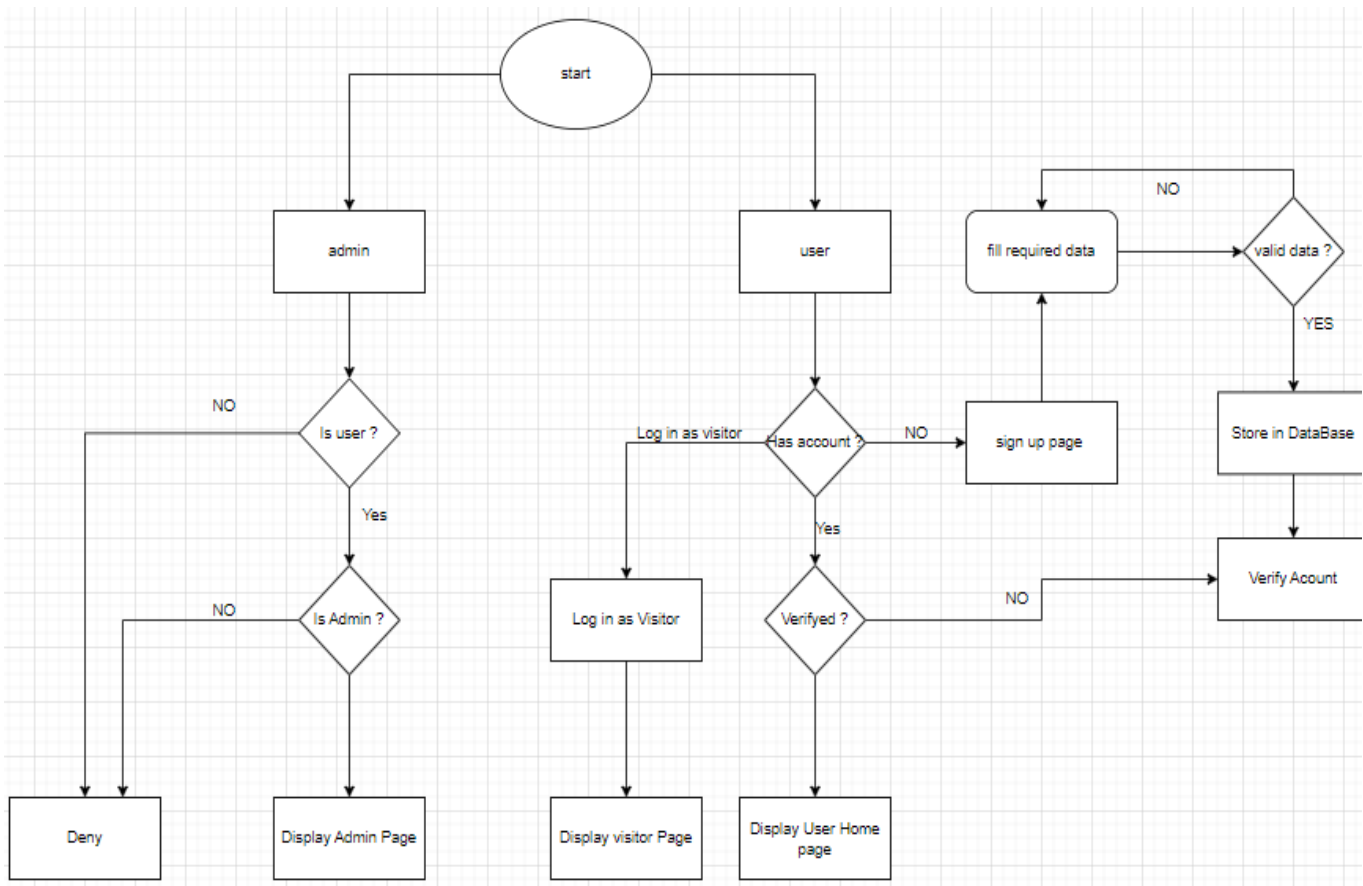
### **4.2.1. User- Use Case Diagram:**



#### 4.2.2. Admin – Use Case Diagram



### 4.2.3. Activity Diagram:



### 4.3. Functional Requirements

Developers need to execute product functionalities or features to enable users to fulfill their tasks. It is essential for both the development team and stakeholders to have clarity on these elements. Functional requirements typically detail the actions of a system when faced with specific conditions.

**1. The system must provide a login interface for each user.**

1.1 The system must have a login interface for the admin.

**2. The system must provide a registered interface for each user.**

2.1 The system must provide a signup form for the Users.

**3. The system must store the data for each registered user.**

3.1 The system must store the admin's personal information.

**4. The system provides the service of viewing posts and videos for the user and the admin.**

**5. The system provides a service for adding publications and videos for the user and the admin**

**6. The system provides the user with the service of deleting the post or modifying the post that he published.**

### 4.4. Nonfunctional Requirements

These are criteria designed to improve a system's performance, detailing its capabilities and limitations in practice. Essentially, they are the specifications that outline the system's performance characteristics, reliability, security, and more.

✚ **Reliability:** System failure is unacceptable, and once data reaches the system it must be stored.

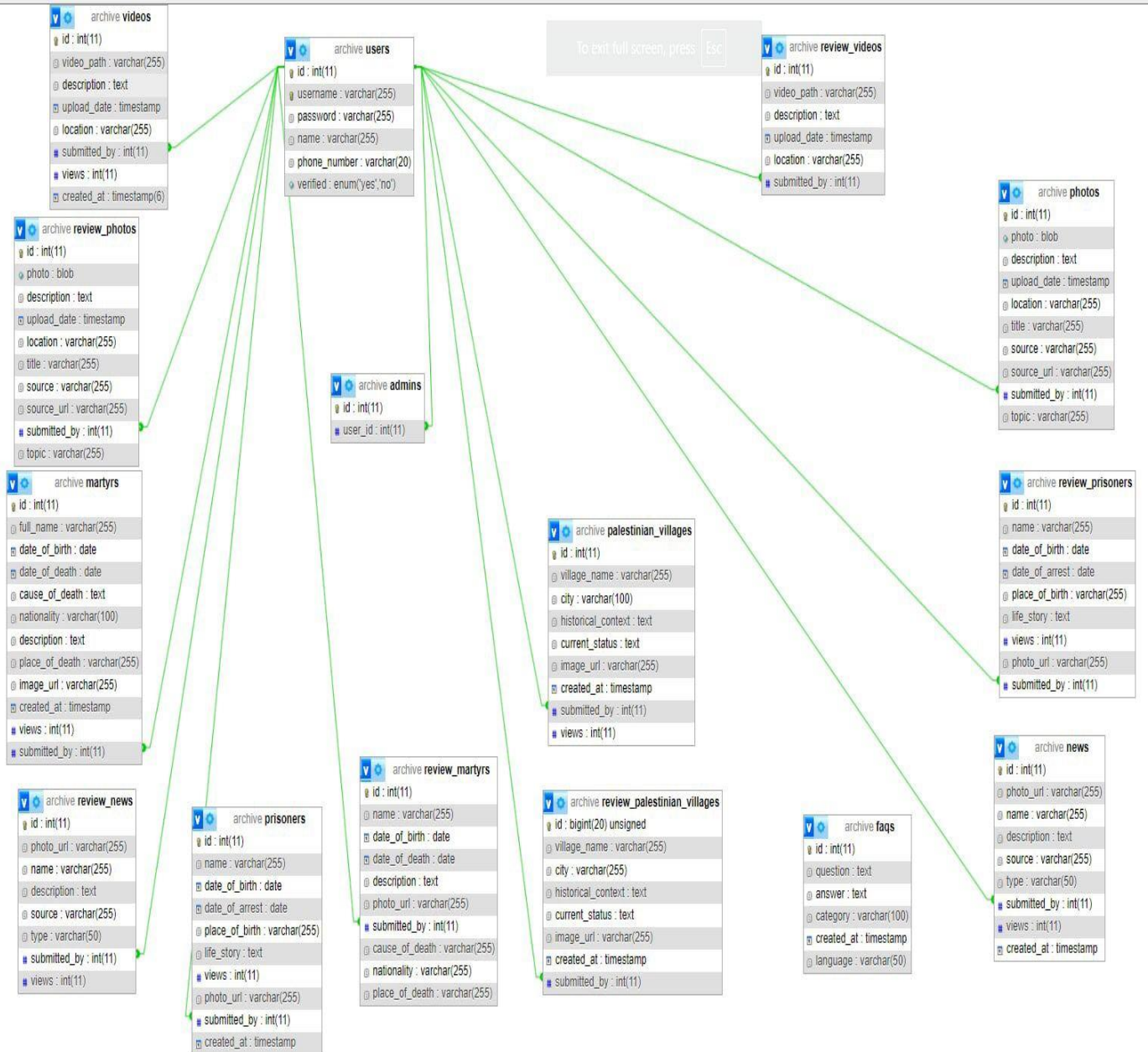
✚ **Ease of use:** The system will be understandable interfaces, so it is easy to use.

✚ **Security:** Only authorized users can access their data.

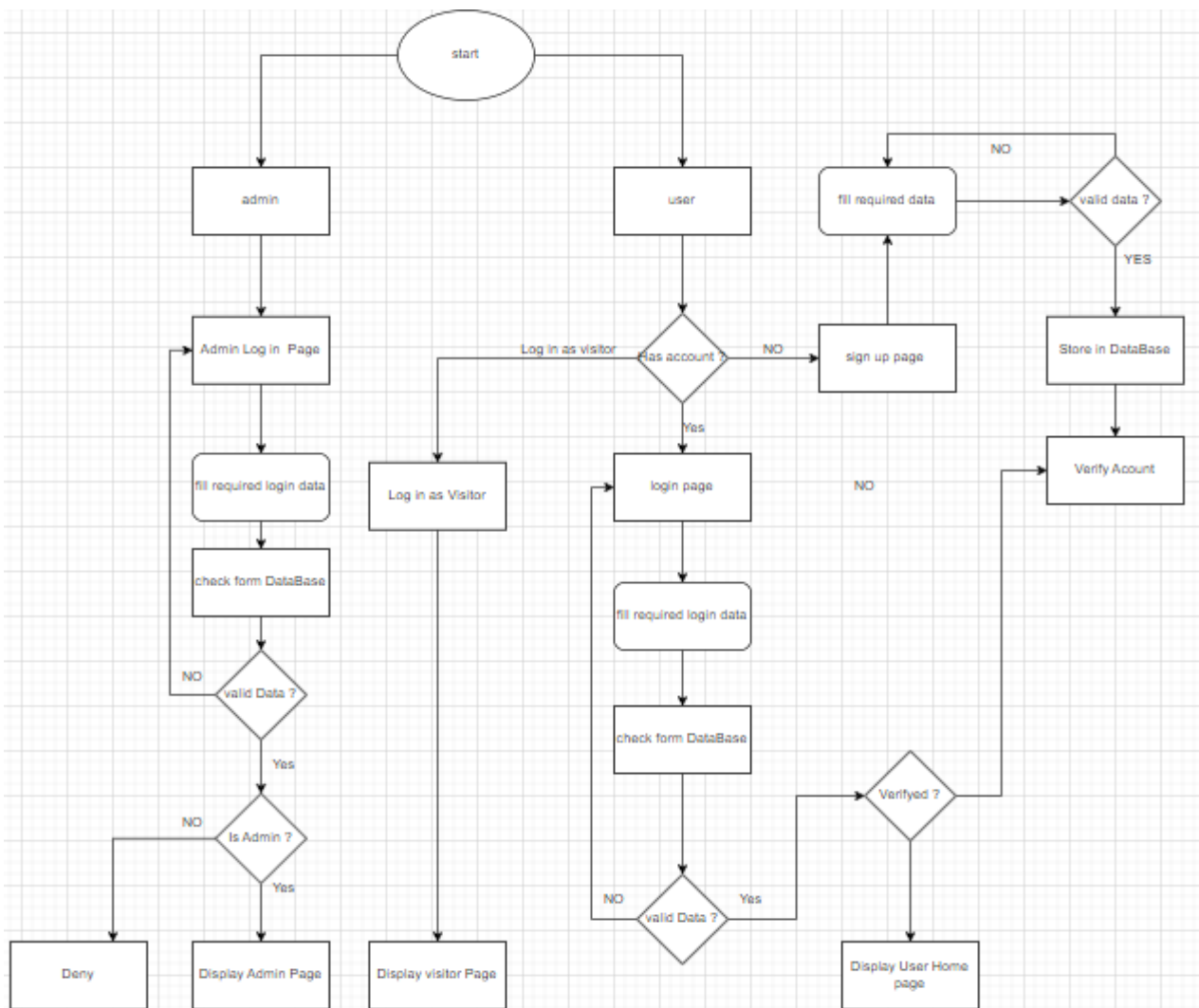
✚ **Performance:** the system must respond in real time.

## 4.5. Class Diagram and Data Base

### 4.5.1. Class Diagram



## 4.5.2. Database Design

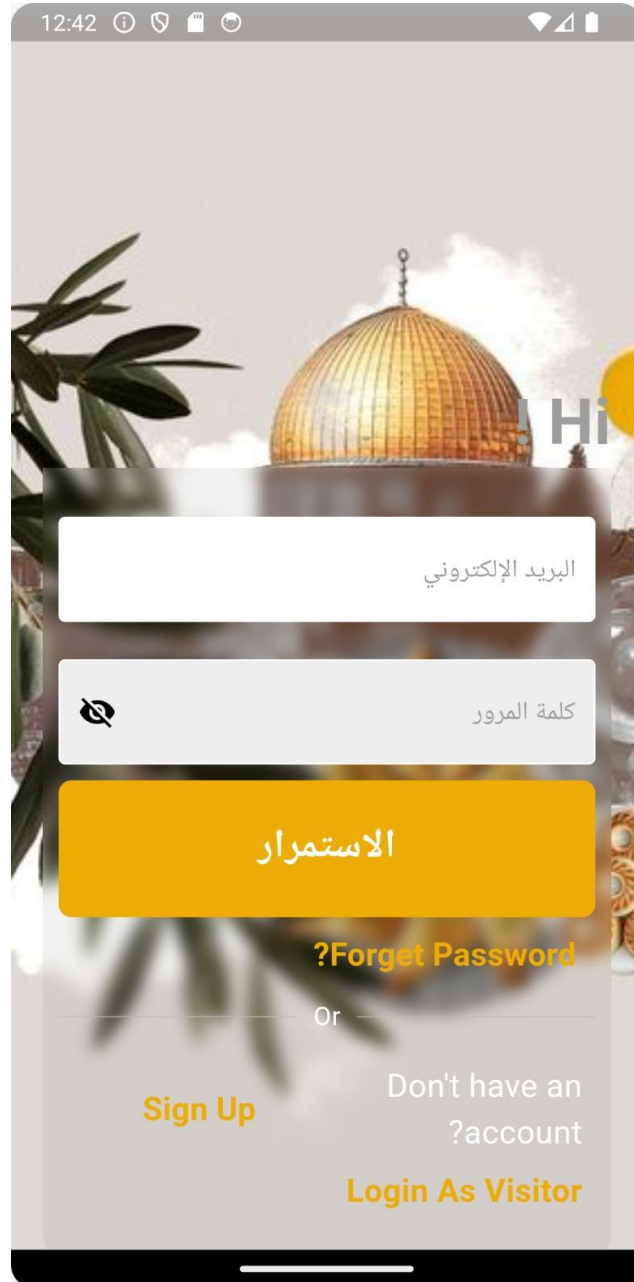


## 5. Results and Discussion

This section is dedicated to presenting and analyzing the final outcomes of our project. The chapter is organized into various segments, with each one focusing on discussing one or several functionalities provided by your application.

## 5.1. Log in :

It is the first interface that the user sees when opening the application. Here the user can login in the system by entering his username and password in correct form, if the user don't have account, he will click on the "Register Now" button :



## 5.2. Sign up Page

If the user clicks on Sign Up, a new account creation page will appear asking him to enter all his personal information. If he already has an account, he can click on log in below. It will take him to the login page.

12:43

تسجيل الاشتراك

Look like you don't have an account.  
Let's create a new account

البريد الإلكتروني

الاسم الكامل

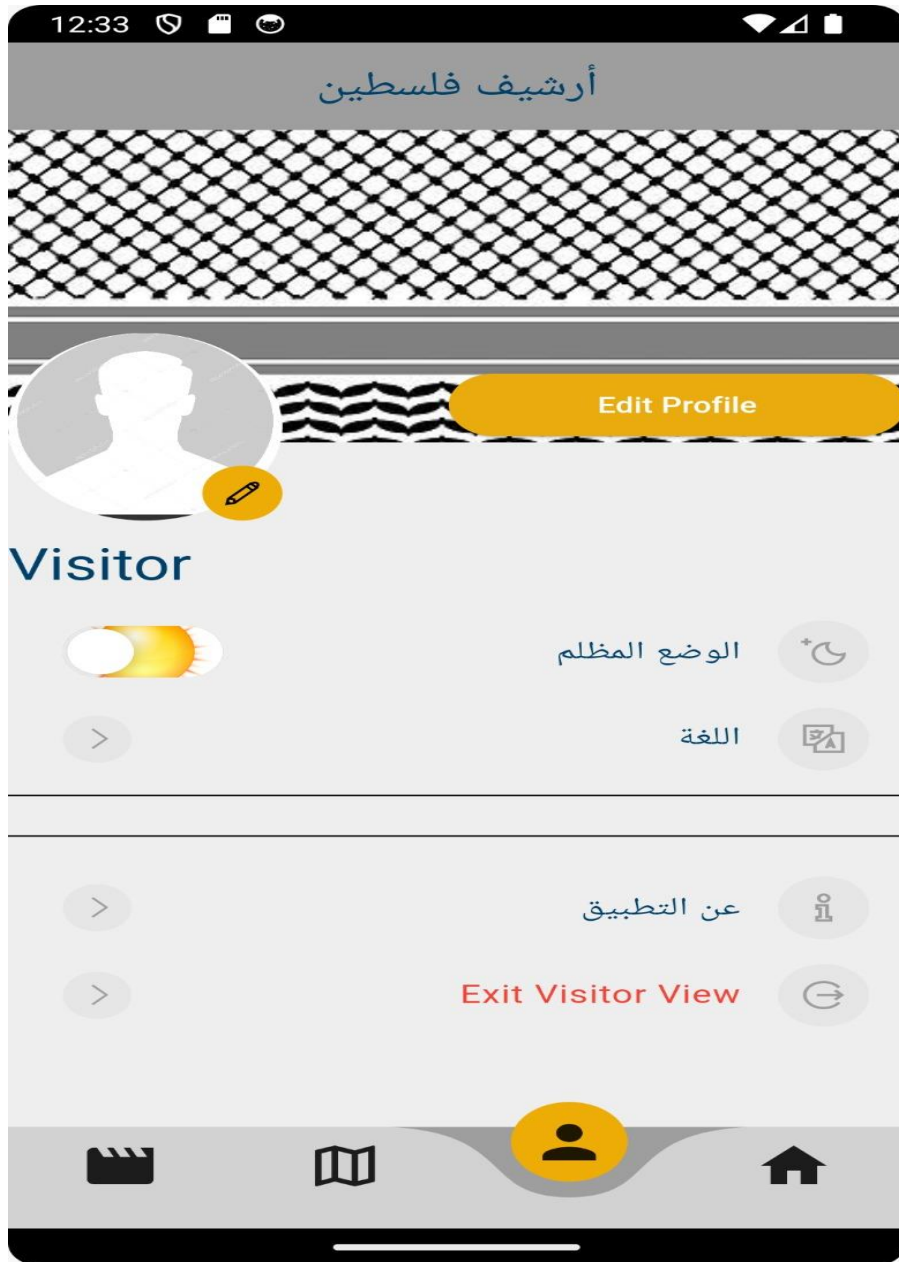
رقم الهاتف

كلمة المرور

الاستمرار

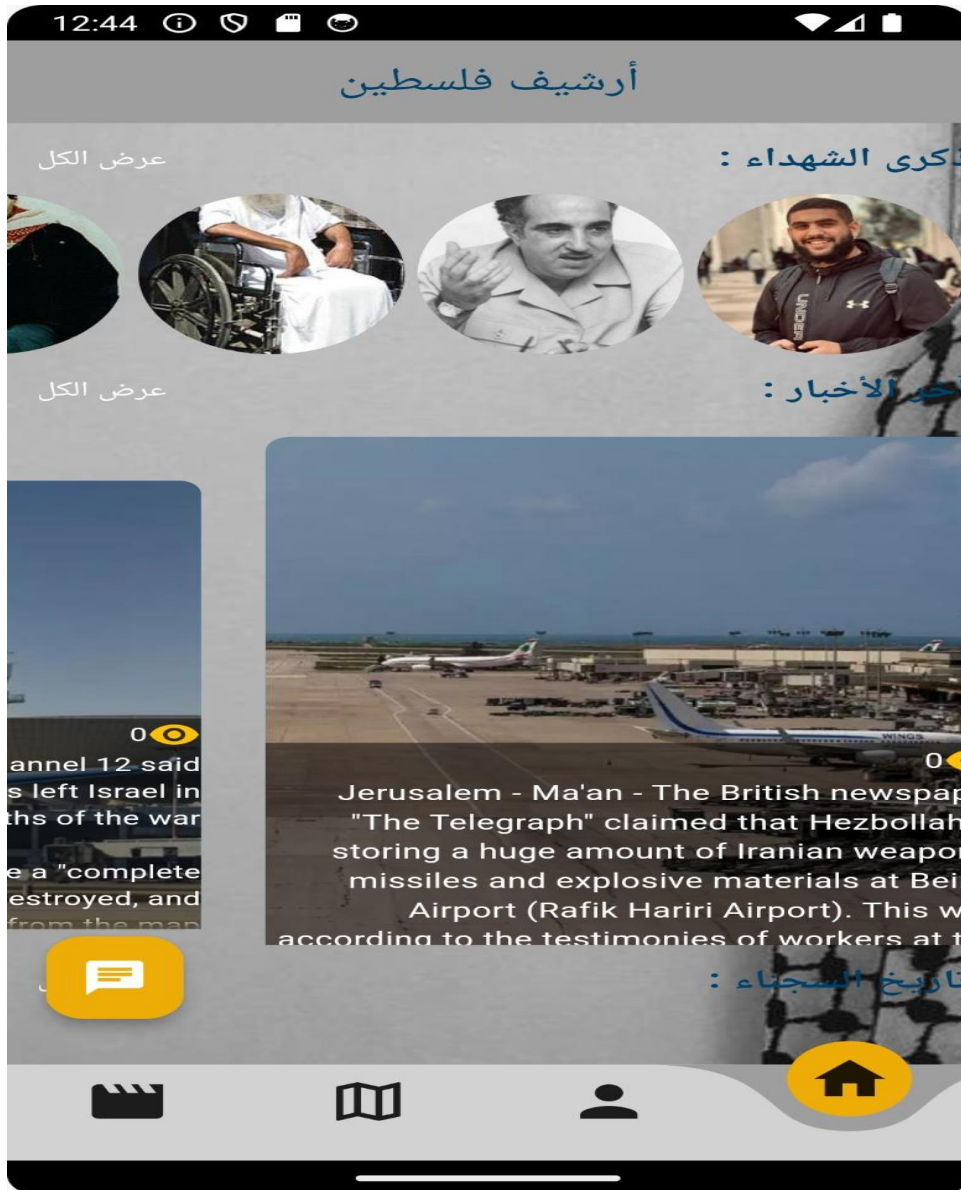
### 5.3. Login as visitor

You can log in as a visitor to view posts on the site, but the visitor cannot add a new post.



## 5.4. Home

This page contains the main components of the project, where publications related to martyrs and prisoners and the latest news appear in addition to the chatbot.



# أرشفيف فلسطين



Jerusalem - Ma'an - The British newspaper "The Telegraph" claimed that Hezbollah is storing a huge amount of Iranian weapons, missiles and explosive materials at Beirut Airport (Rafik Hariri Airport). This was according to the testimonies of workers at the airport

عرض الكل

تاريخ السجناء :



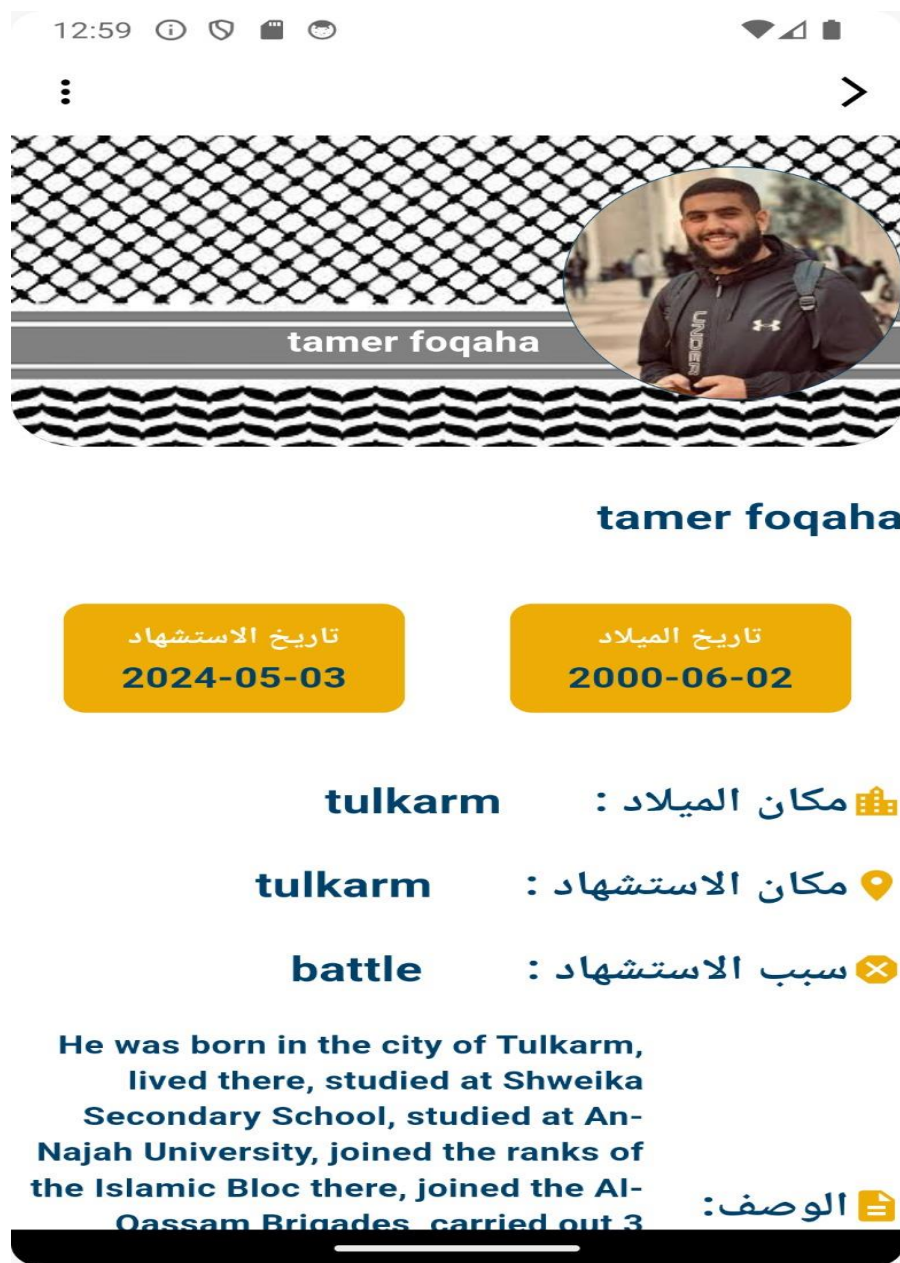
Marwan Barghouti

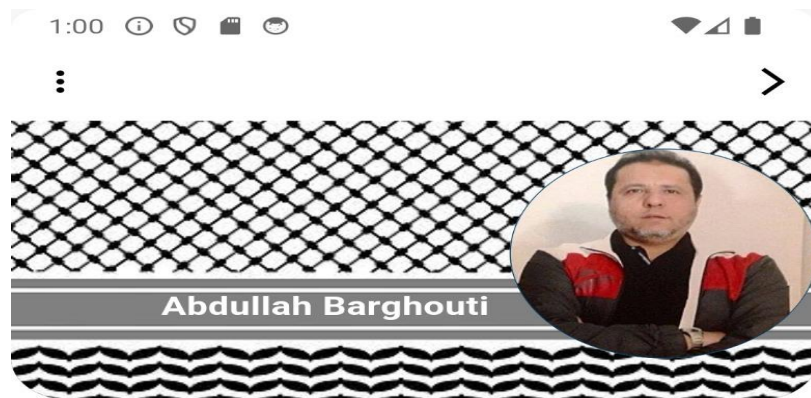


Abdullah Barghouti



When the user enters the page of one of the martyrs or prisoners, this is what appears to him:





## Abdullah Barghouti

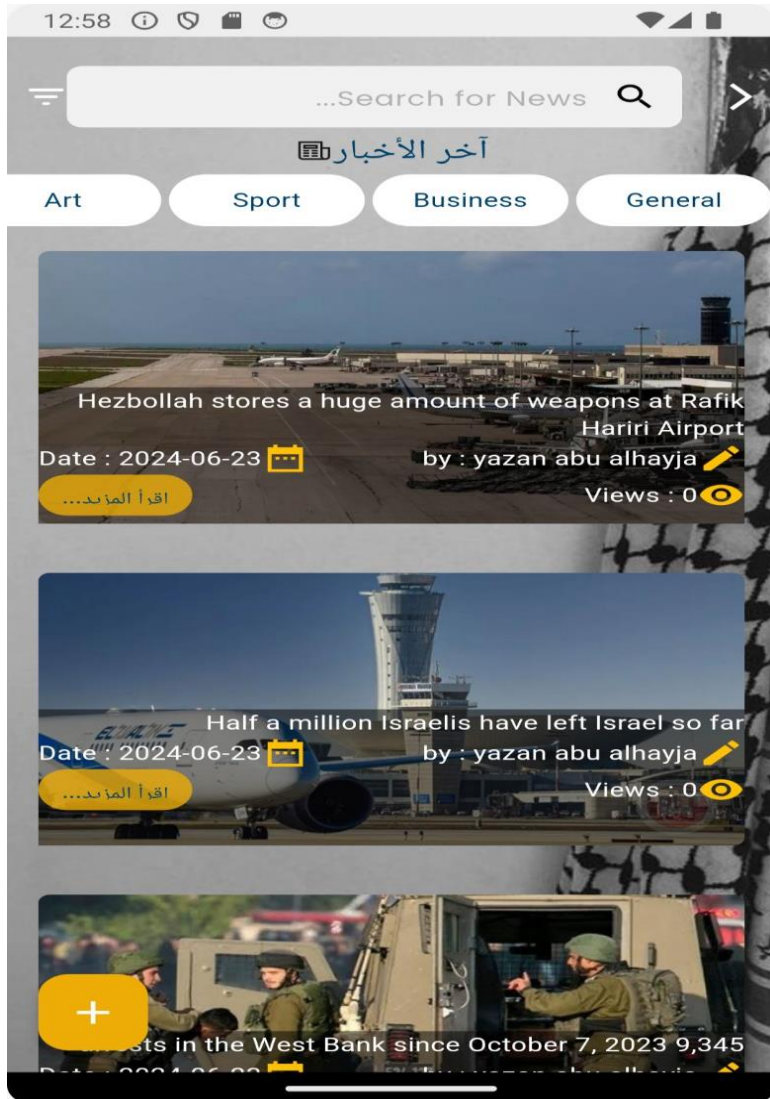
تاريخ الأسر  
2003-03-04

تاريخ الميلاد  
1971-12-31

**Kuwait** : مكان الميلاد 🏠

**Abdullah Ghalib Abdullah Al-Barghouti (Abu Osama); (Born in 1972 AD, Kuwait) is a Palestinian resistance fighter. He is an engineer and former commander of the Izz al-Din al-Qassam Brigades in the West Bank. He is a prisoner in Israeli prisons. He is currently serving one of the greatest**

This is what appears to the user when he opens the news page:



This is what appears to the user when he selects one of the news posts:



**Title : 9,345 arrests in the West Bank since October 7, 2023**

Author : yazan abu alhayja

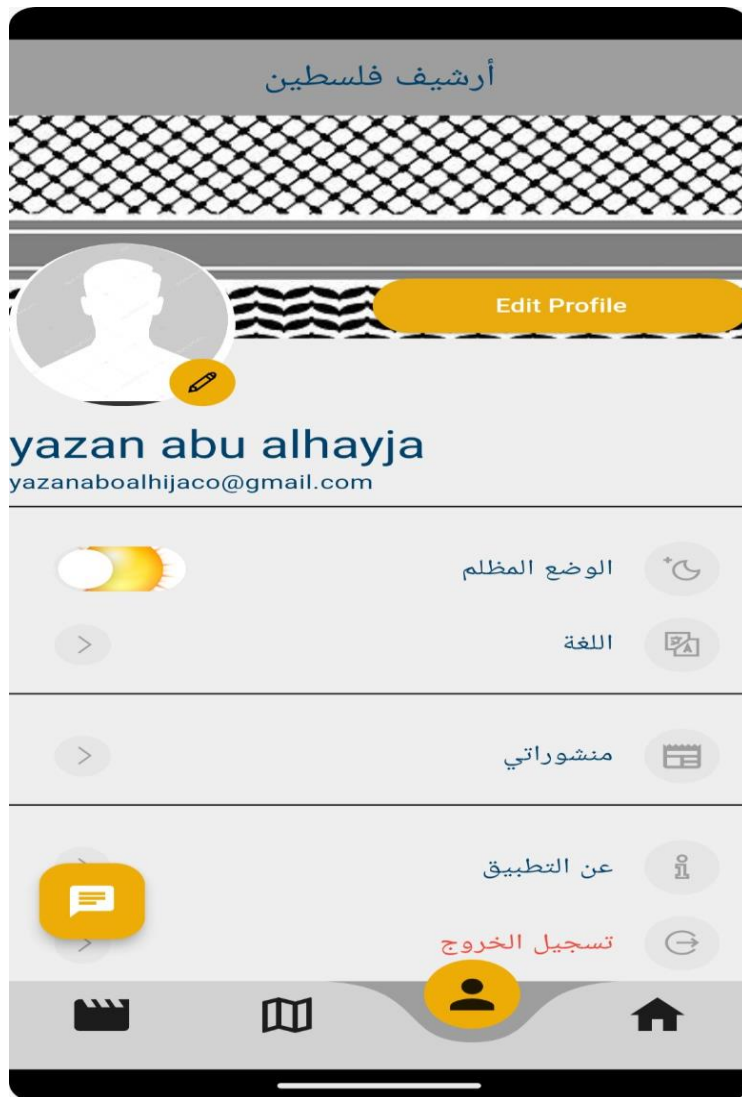
Source: shehabnews

date: 2024-06-23 18:26:22

**The Prisoners' and Ex-Prisoners' Affairs Authority and the Prisoners' Club announced today, Sunday, that the number of arrests by the Israeli occupation forces after October 7, 2023 has increased to about 9,345 citizens from the West Bank and occupied Jerusalem. The two bodies**

## 5.5. Profile page

Through this page, the user can change the language, view all his posts, and log out:

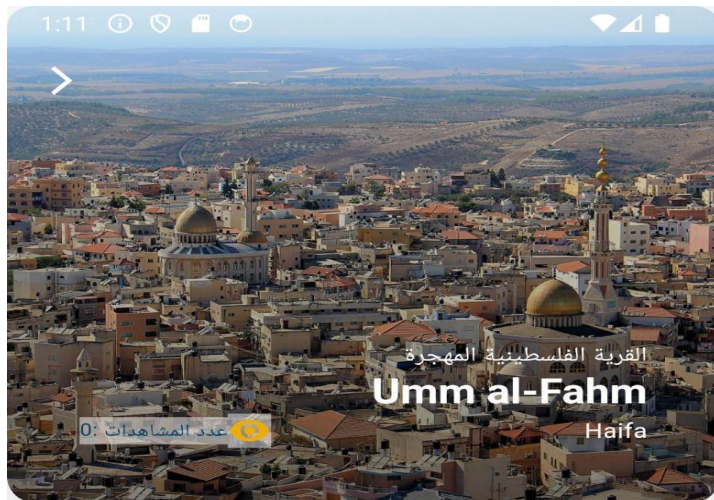


## 5.6. The Atlas of Palestine page

On this page, publications are displayed about Palestinian villages and cities displaced in the year of the Nakba:



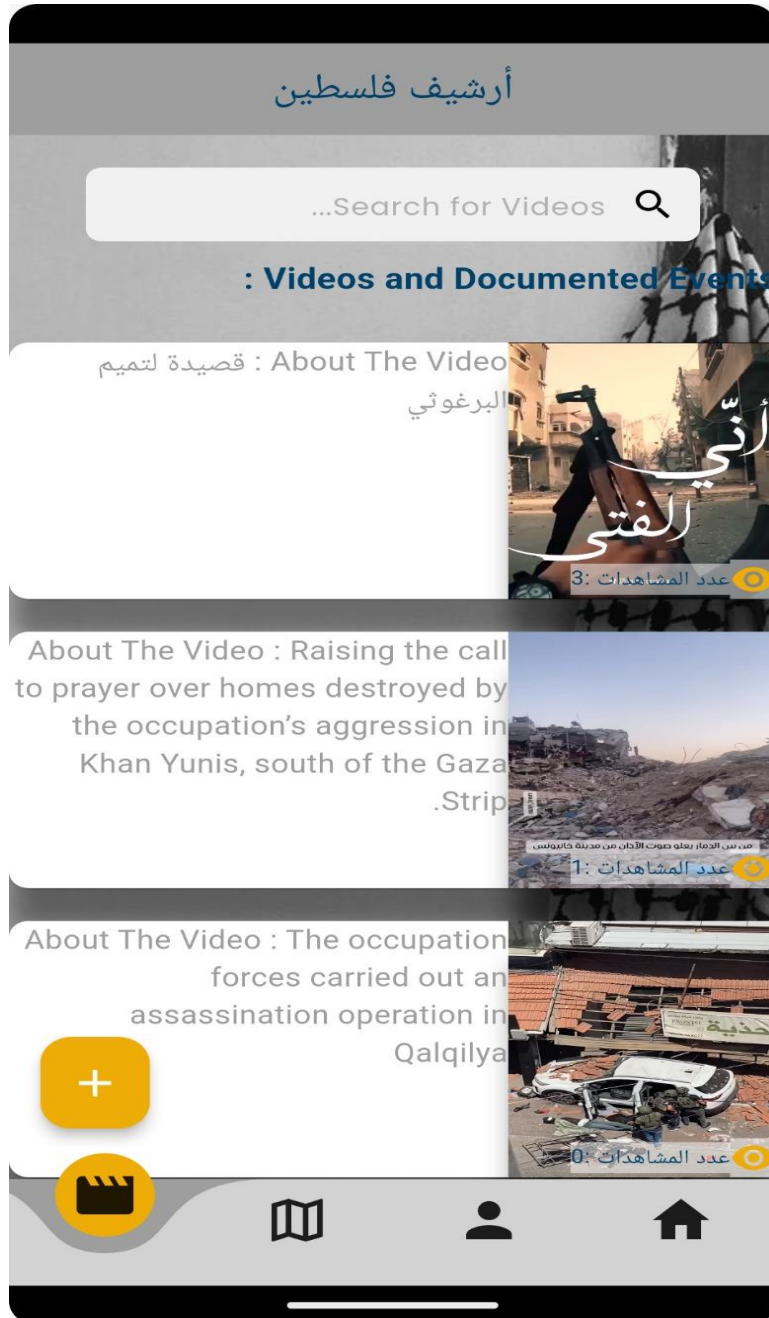
This is what appears to the user when he opens one of the publications of displaced villages and cities:



Its people also call it “Mother of Light.” It is an Arab city located in the north of historic Palestine in the Triangle area, specifically the north of it, within the Haifa area. It is about 120 km north of Jerusalem. It was handed over to Israel in 1949 under the Armistice Agreement with Jordan, or what is known as the “Rhodos Agreement.” It was entered into by Israeli forces on May 20, 1949. Its people remained there and did not abandon it. Today, it is considered the third largest Arab city within the Green Line after the cities of Nazareth and Rahat in terms of .population

## 5.7. Videos page

On this page, videos that document Palestinian history are added.

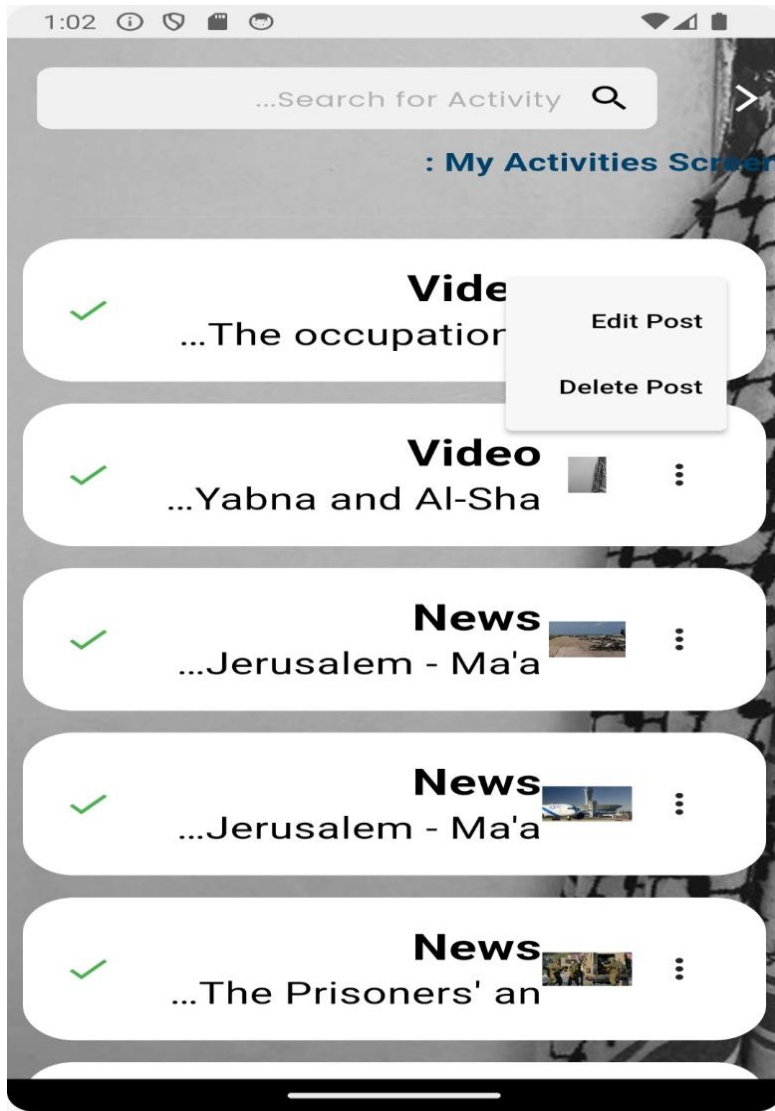


This is what appears to the user when selecting a video to watch:



## 5.8. User Posts Page:

On this page, the user can view all his posts and can edit or delete them.



## 5.9. Chatbot page.

An interactive page between the user and the program, where the user asks questions and they are answered in an intelligent way, In addition, it supports two languages, Arabic and English, and depends on the data base that we added:



### 5.10. Pages for adding publications:


Through these pages that I will present, subscribers can add Publications about prisoners, martyrs, displaced villages and cities, adding new news and adding videos:






3:32 ⓘ 🔒 📶 🔋

< Add New Martyrs Memorial +



Martyr Name



Date of birth

Nationality

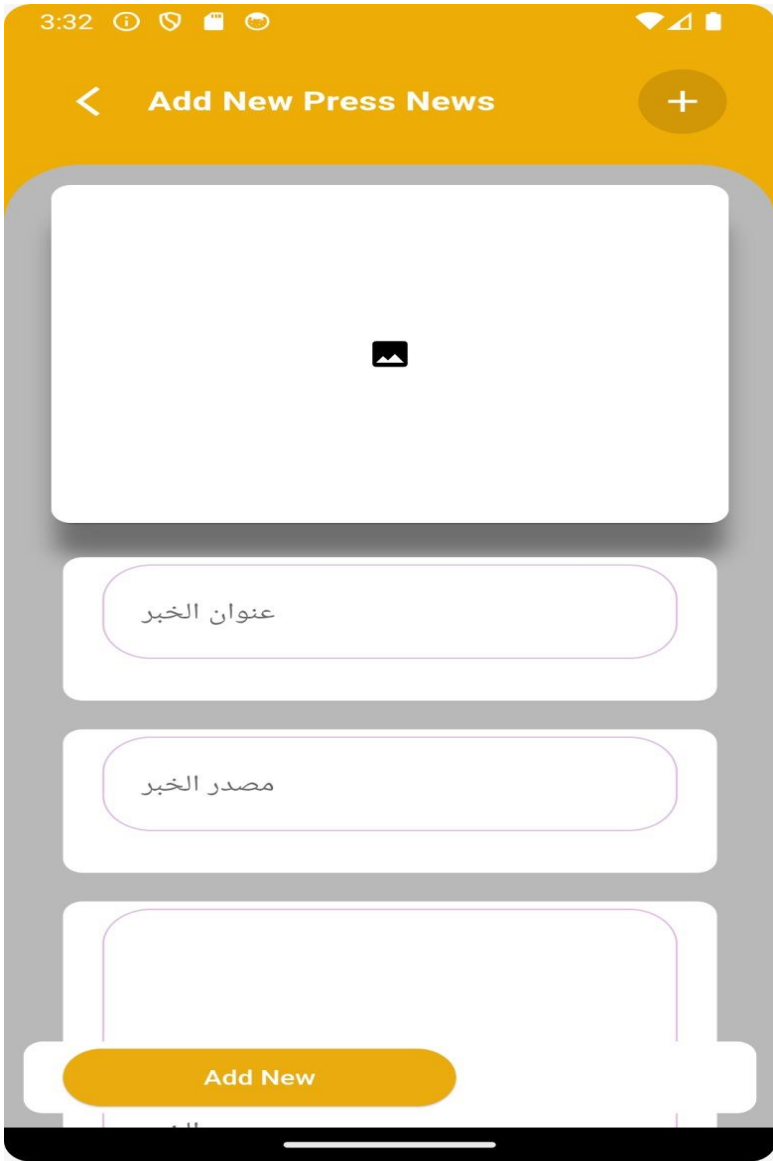
Add New

3:32 ⓘ 📶 🔋




[←](#) **Add New Martyrs Memorial** [+](#)






[Add New](#)






3:33   

 **Add New Prisoner Story** 

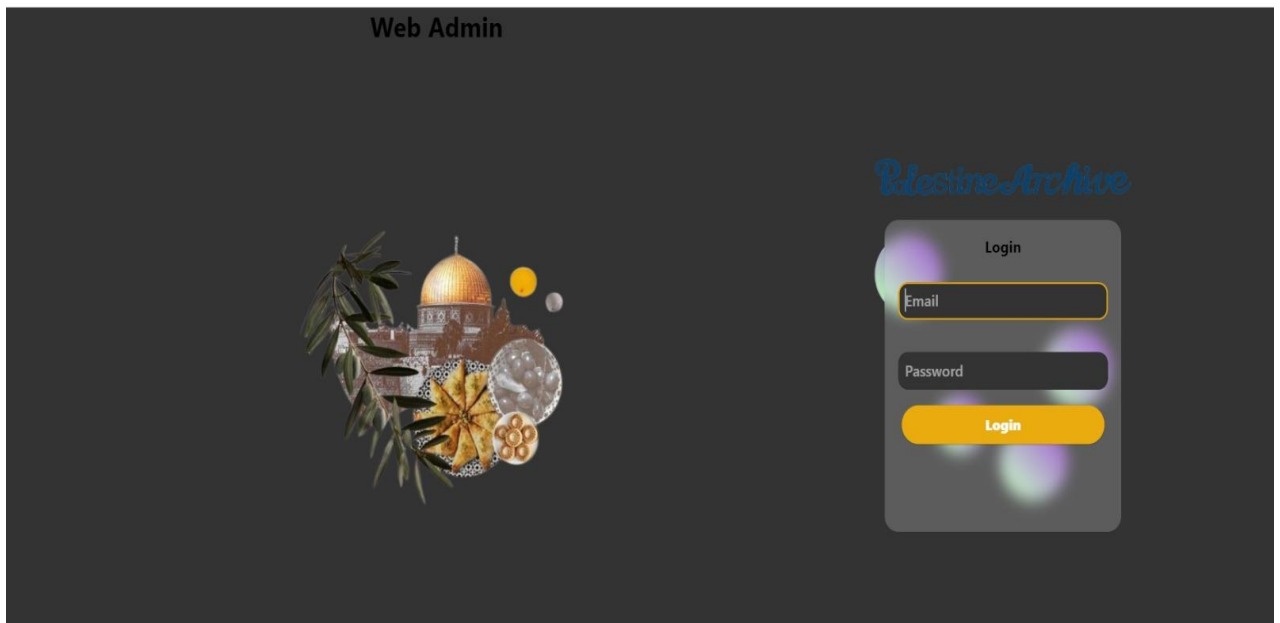






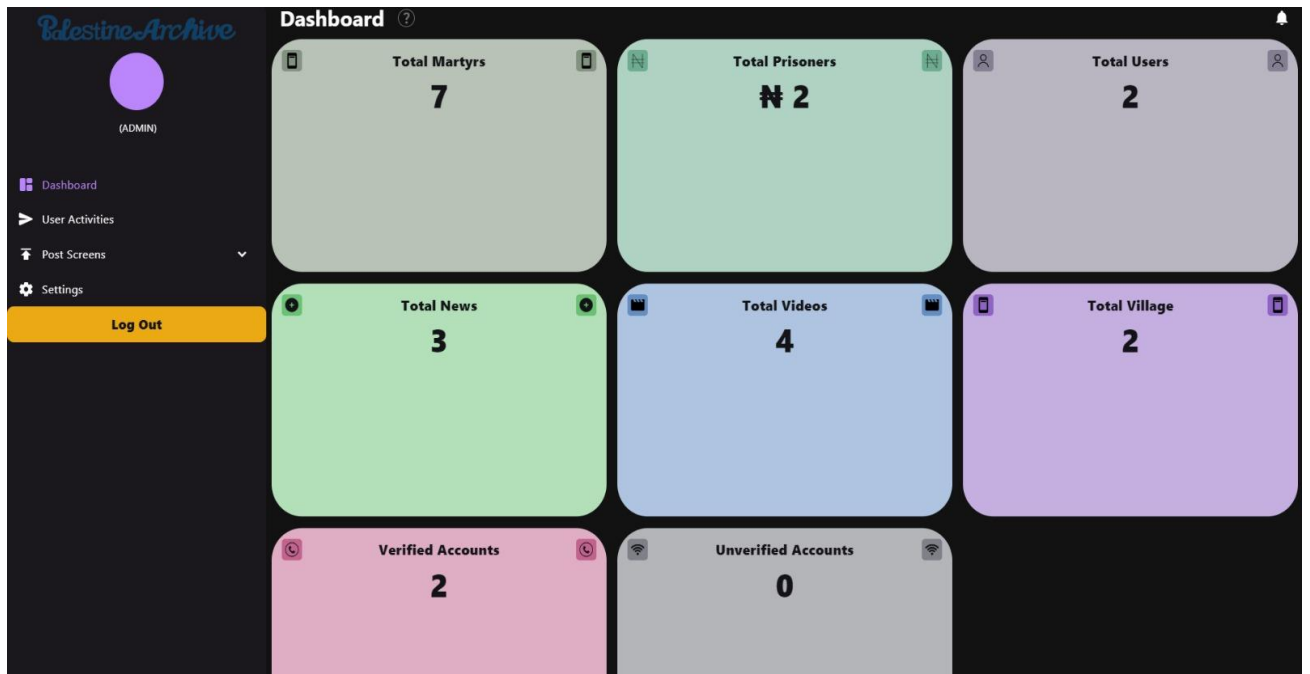
### 5.10.1. Login admin :

This page is for the admin to log in :



### 5.10.2. Dashboard page:

It is the admin's home page, and it shows the admin the number of users and the number of posts:

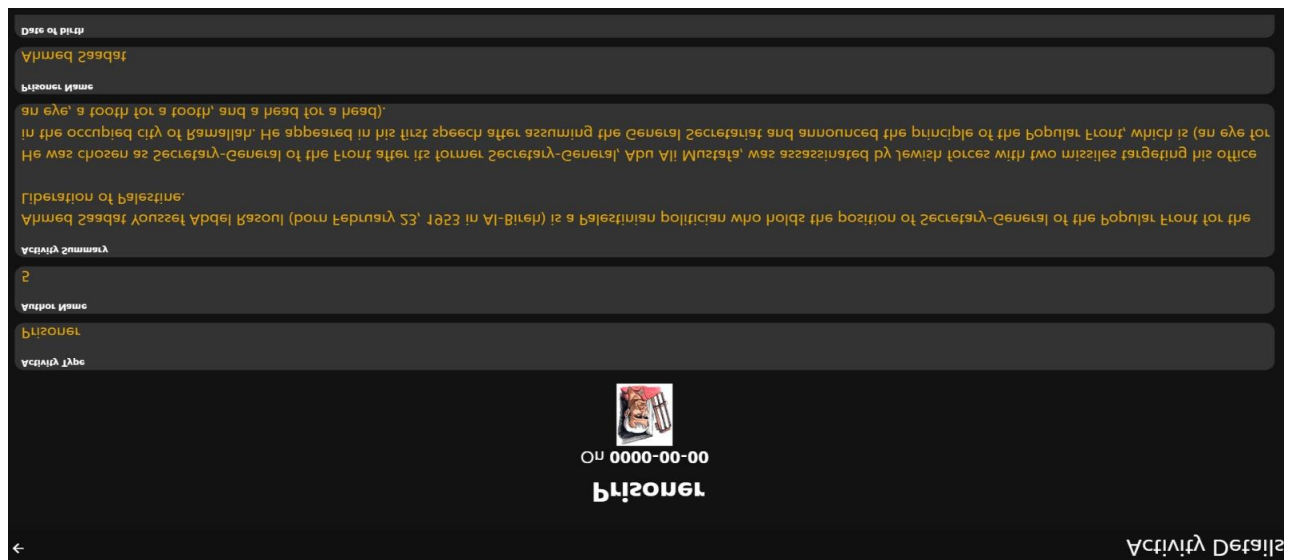


### 5.10.3. This page is for users activate:

On this page, the admin shows all user activities:



The admin logs in to view the post and then approves or rejects the post. An email is sent to the user if the admin approves or rejects the post:



Liberation of Palestine.

He was chosen as Secretary-General of the Front after its former Secretary-General, Abu Ali Mustafa, was assassinated by Jewish forces with two missiles targeting his office in the occupied city of Ramallah. He appeared in his first speech after assuming the General Secretariat and announced the principle of the Popular Front, which is (an eye for an eye, a tooth for a tooth, and a head for a head).

Prisoner Name  
Ahmed Saadat

Date of birth  
1953-02-22T22:00:00.000Z

Date of Arrest  
2003-02-28T22:00:00.000Z

Place of birth  
Ramallah

Created Date  
0000-00-00 0000-00-00

**✖ Reject Activity** **✔ Accept Activity**

This is the email that reaches the user after the admin rejects or approves the post:

✂ 📧 ✖

⋮ ↪ 😊 ☆ (أريل 8:48)

Post Declined البريد المرفوض ✖

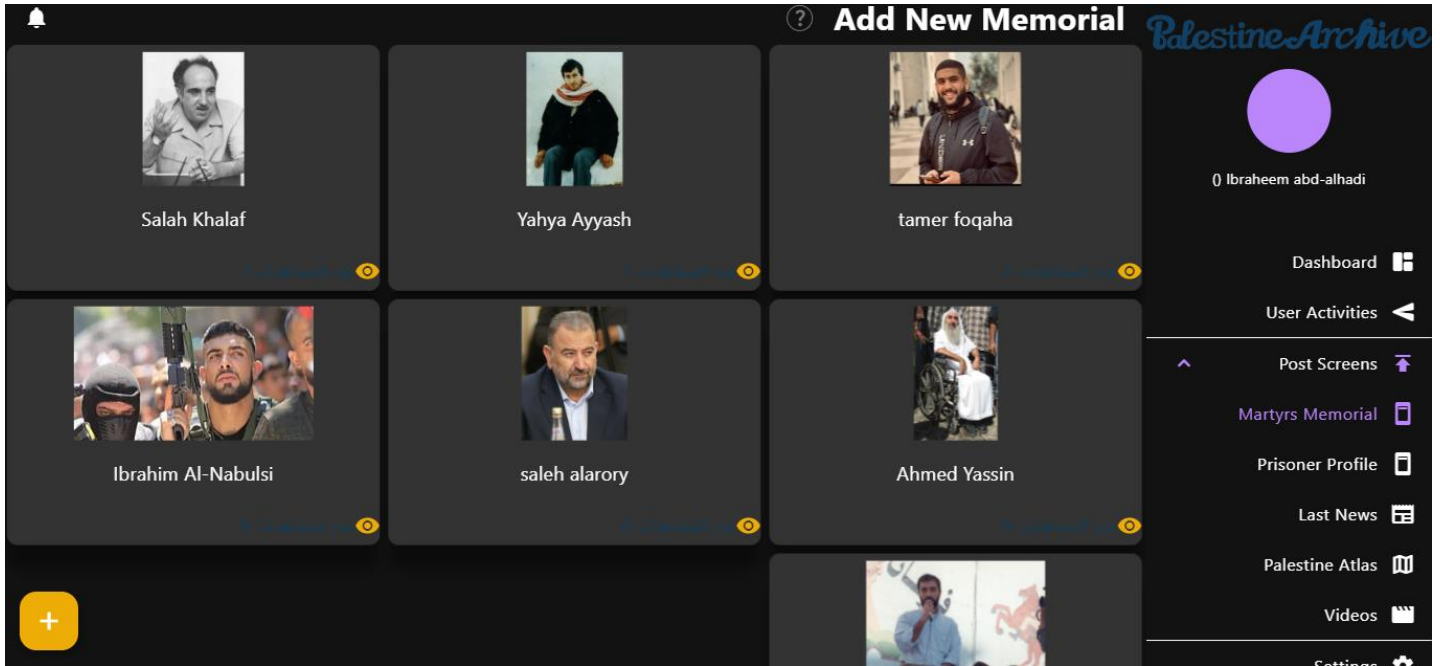
palestinearchive@hotmail.com لنا

✖ عدم ترجمة اللغة الإنجليزية 📧

Your post has been declined and removed

5.10.4. The admin can access all posts to browse and add to them through these pages and he can add to it:

Martyrs page:



The 'Create Martyr Profile' form is displayed on a dark background. It features several input fields, each with a label and a placeholder text. The fields are: 'Martyr Name' with placeholder 'Enter full name', 'Nationality' with placeholder 'Enter Martyr Nationality', 'Date of birth' with a calendar icon and placeholder 'Enter Martyr Birth Date', 'Date of Death' with a calendar icon and placeholder 'Enter Martyr Death Date', 'Death Place' with placeholder 'Enter Martyr Death Place', 'Martyr Cause Of Death' with placeholder 'Enter Cause of Death', and 'Martyr Life description' with placeholder 'Enter Life description'. Below these fields is a link that says '...Select Martyr Image'. At the very bottom, there is a large yellow button with the text 'Create Martyr Profile'.

Prisoners page:

Prisoner profiles shown:

- Marwan Barghout
- Abdullah Barghout

Navigation menu items:

- Dashboard
- User Activities
- Post Screens
- Martyrs Memorial
- Prisoner Profile
- Last News
- Palestine Atlas
- Videos

## Create Prisoner Profile

**Prisoner Name**  
Enter full name

**Date of birth**  
Enter Prisoner Birth Date

**Birth Place**  
Enter Prisoner Birth Place

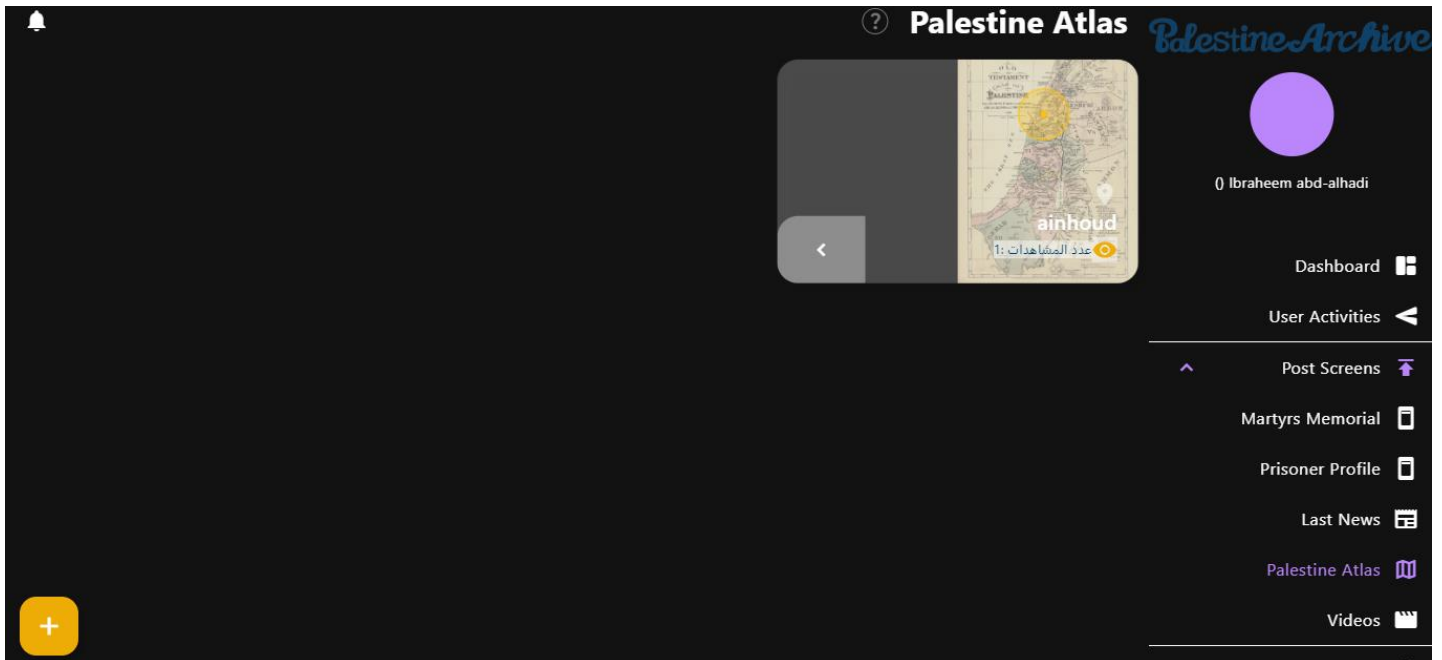
**Date of Arrest**  
Enter Prisoner Arrest Date

**Life Story**  
Enter Life Story

...Select Prisoner Image

**Create Prisoner Profile**

Displaced villages and cities page:



## Create Village Profile

**Village Name**  
Enter Village name

**City**  
Enter Village City

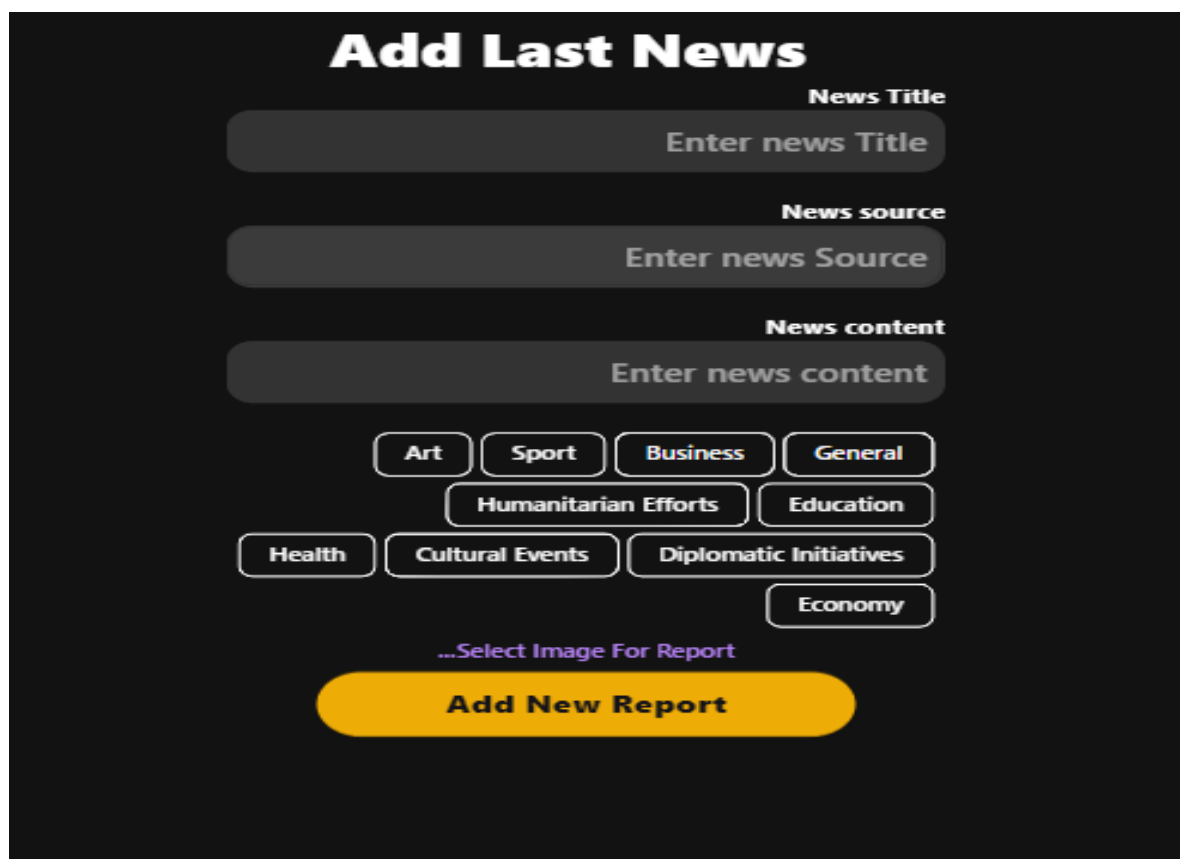
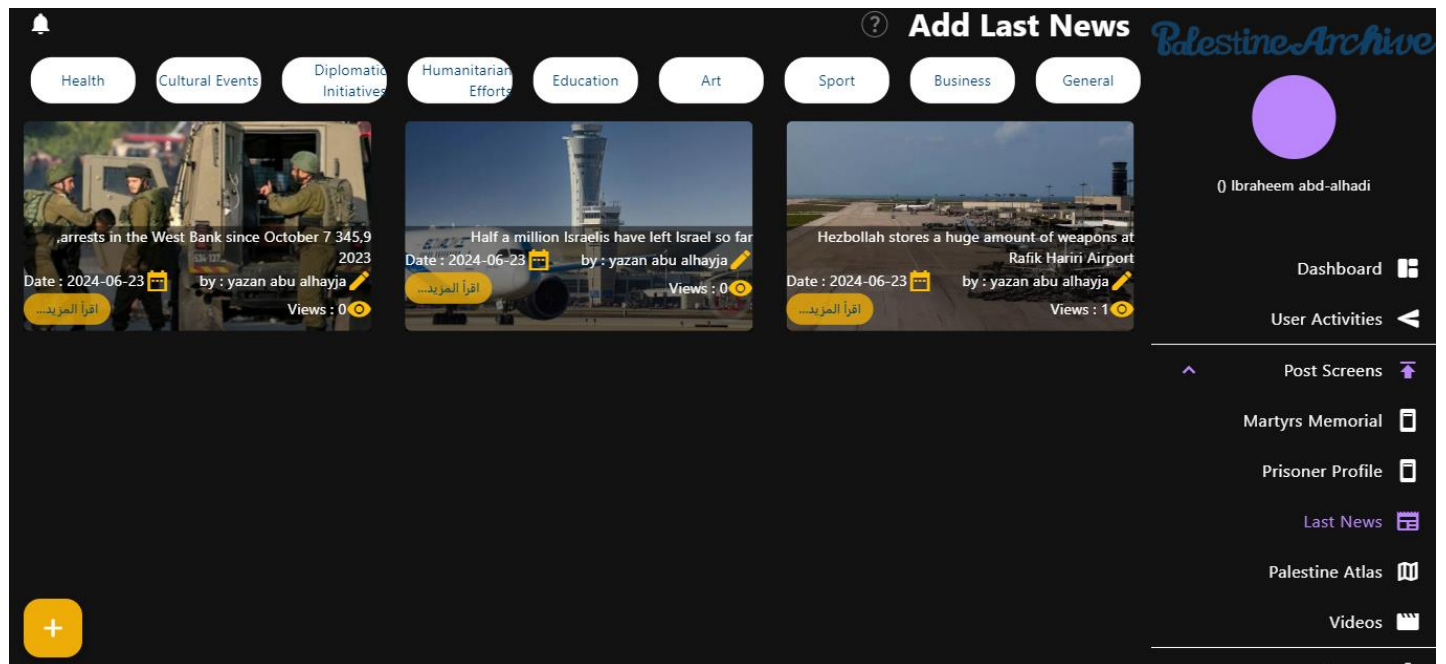
**Historical Context**  
Enter Village Historical Context

**Current Status**  
Enter Village Current Status

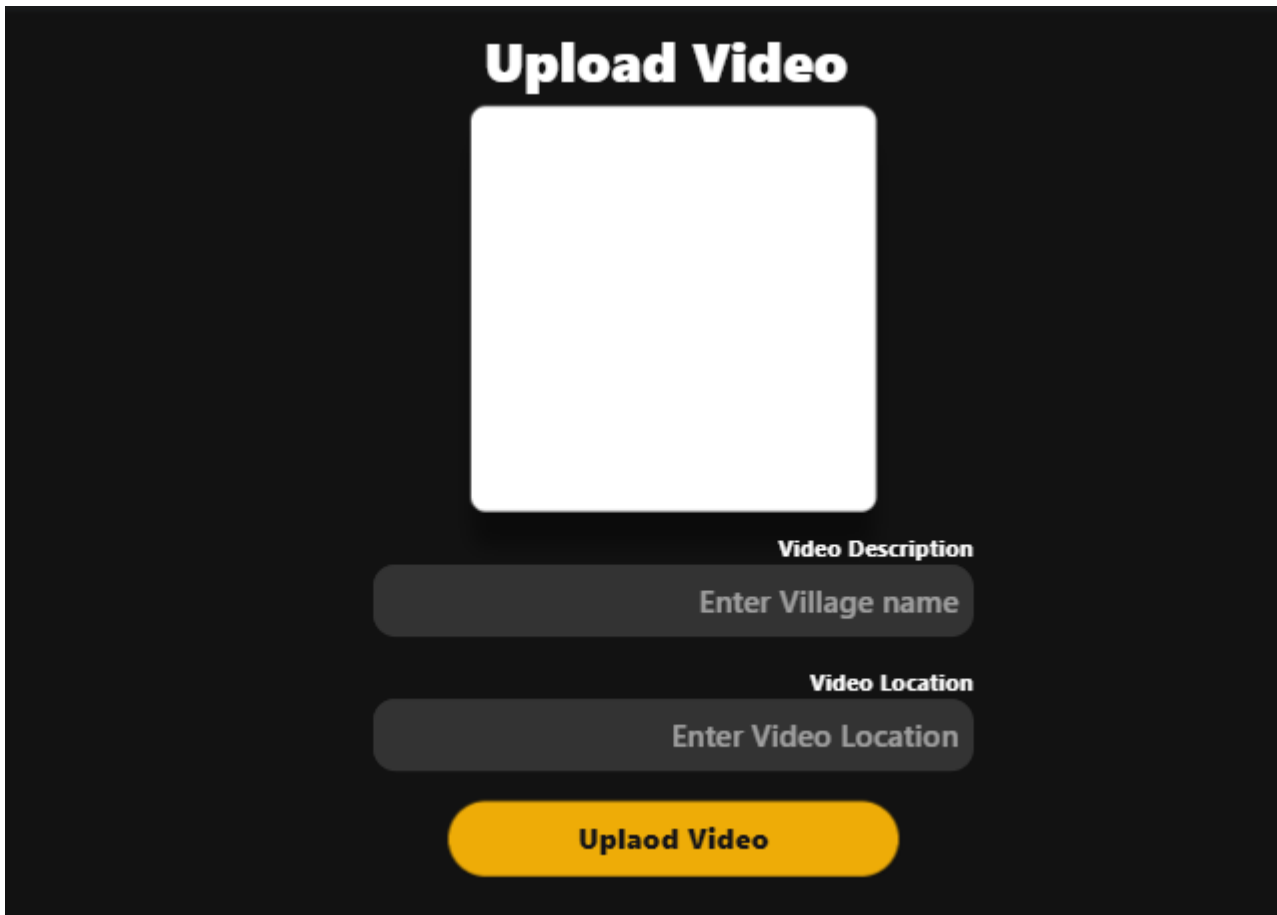
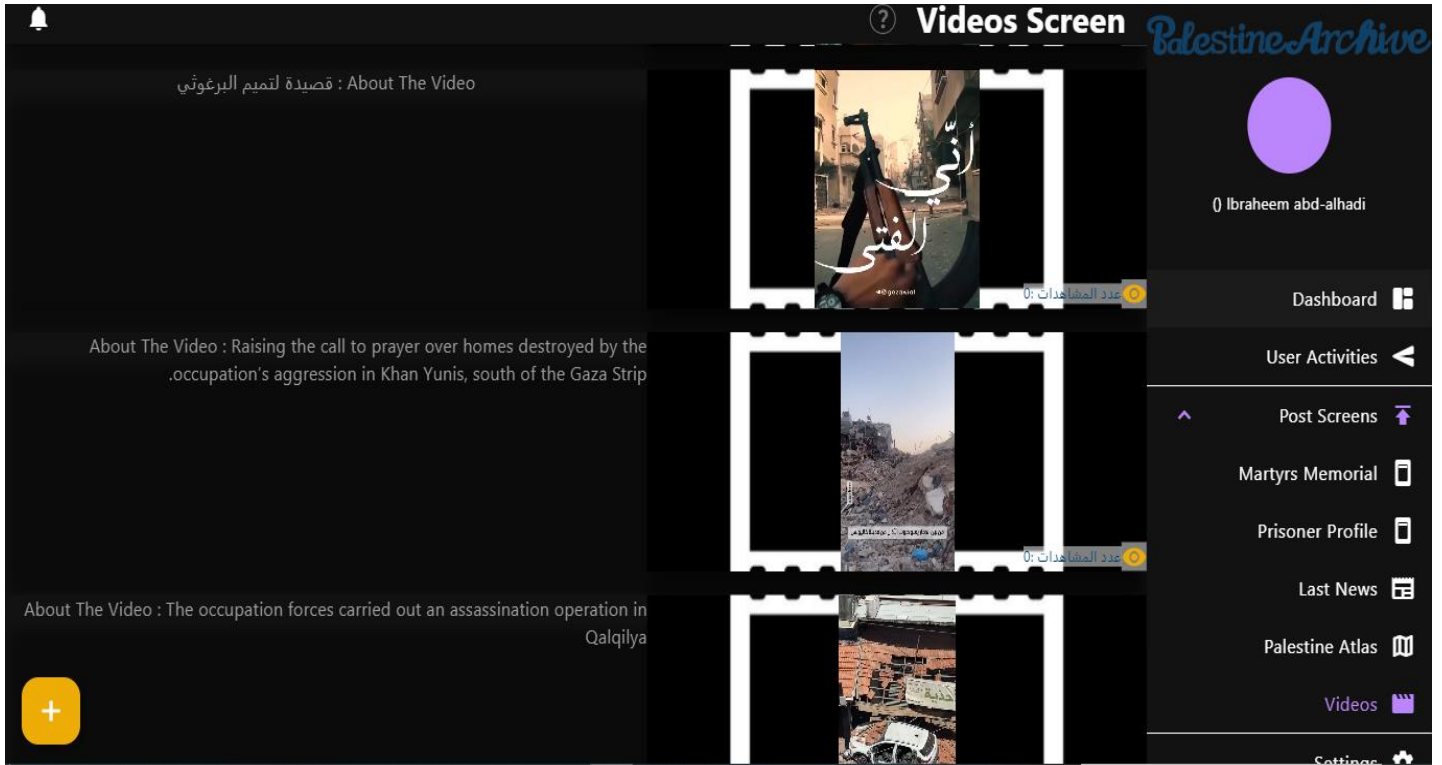
...Select Village Image

**Create Village Atlas**

News page:

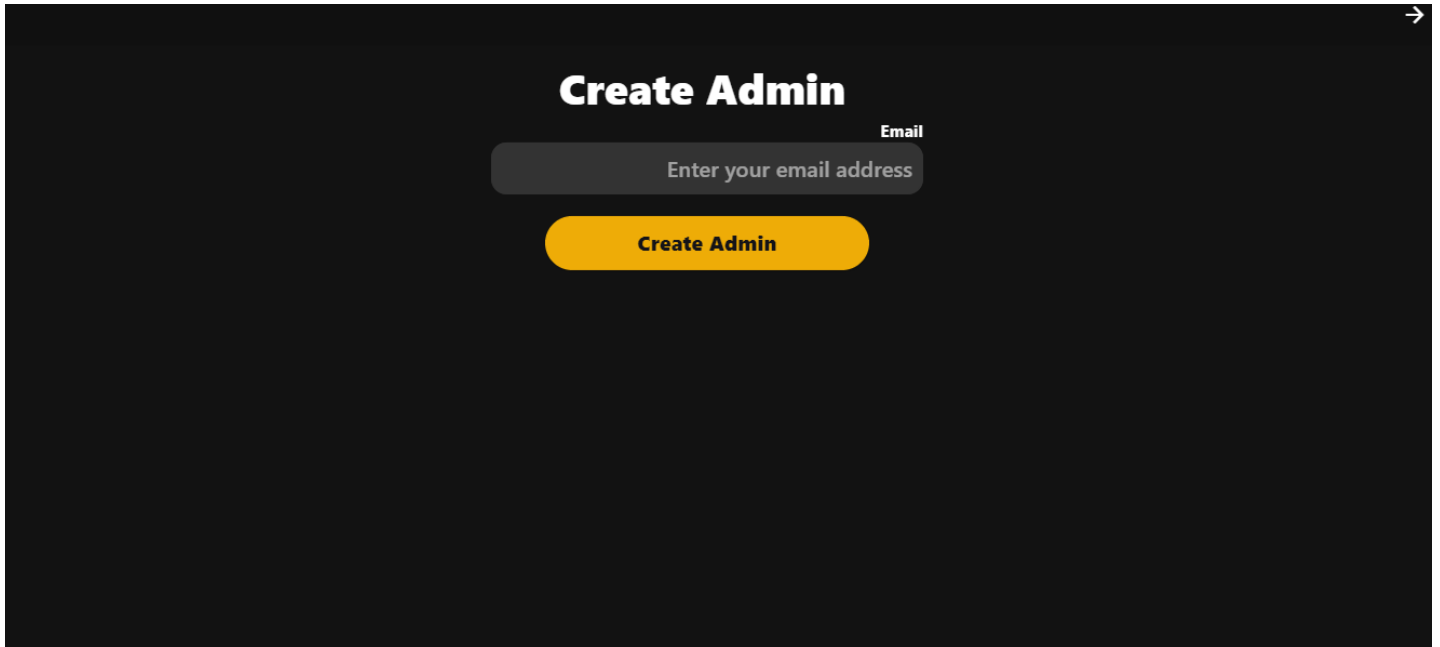


Videos page:



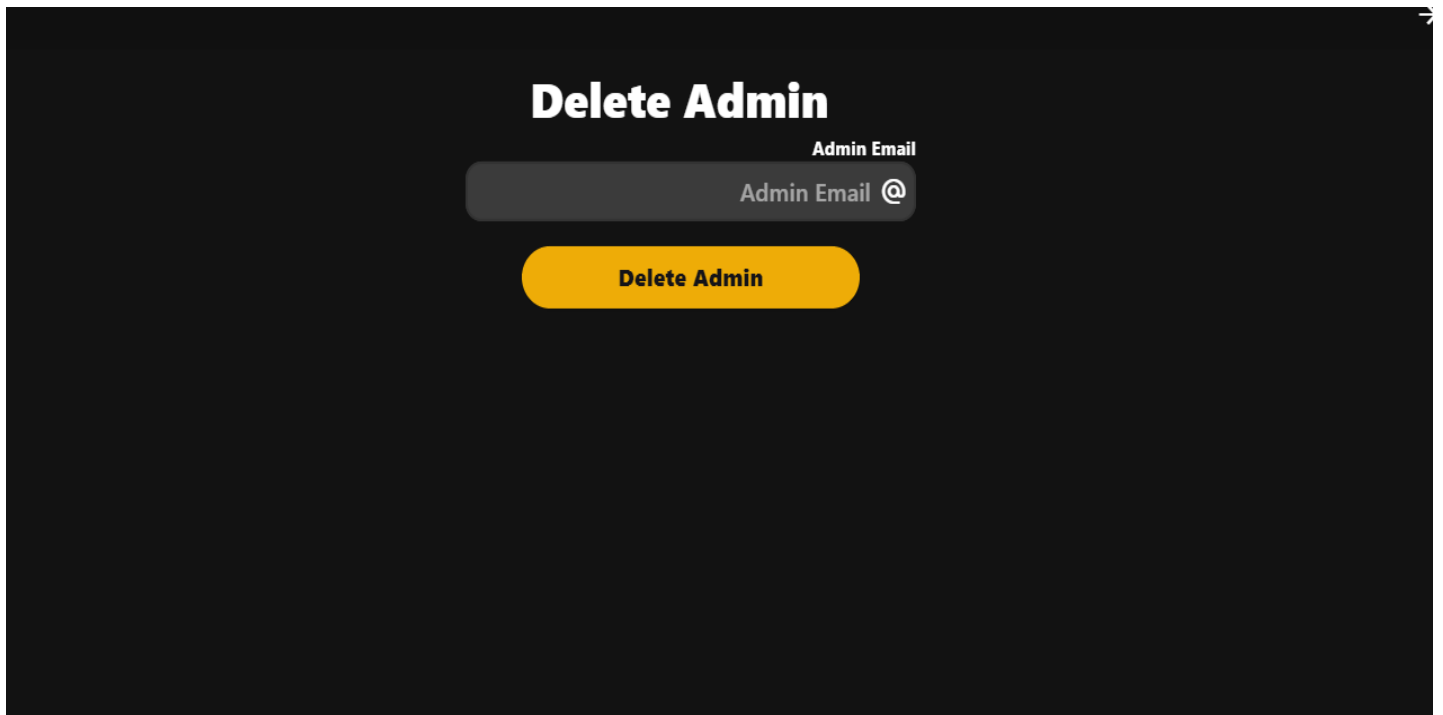
### 15.10.5. create admin:

On this page, the admin makes one of the users an admin:



The screenshot shows a dark-themed interface for creating an admin. At the top center, the title "Create Admin" is displayed in white. Below the title is a text input field with the placeholder text "Enter your email address". Above the input field, the word "Email" is written in a smaller font. Below the input field is a yellow button with the text "Create Admin".

On this page, the main admin deletes one of the admins:



The screenshot shows a dark-themed interface for deleting an admin. At the top center, the title "Delete Admin" is displayed in white. Below the title is a text input field with the placeholder text "Admin Email @". Above the input field, the words "Admin Email" are written in a smaller font. Below the input field is a yellow button with the text "Delete Admin".

## **6. Conclusions and Recommendation**

We're going to highlight the most significant project outcomes in this section.

### **6.1. Summary**

The Palestine Archive project is a comprehensive digital platform aimed at preserving and promoting the rich historical and cultural heritage of Palestine. The archive features sections such as the AI-Powered Chatbot, Videos and Documented Events, Prisoners' Chronicle, Martyrs Memorial Page, and Press Releases Archive. Each section offers unique insights into the Palestinian narrative, providing a rich and interactive user experience. The archive supports education, research, and commemoration, ensuring that stories of resilience, sacrifice, and legacy are accessible to all. Through innovative approaches, the Palestine Archive bridges the past and present, preserving legacies for future generations.

### **6.2. Future work**

Future work on the Palestine Archive project will focus on expanding the archive's content and enhancing its technological capabilities.:

1. This includes integrating more advanced AI tools for improved data organization and search functionalities, as well as expanding the multilingual support to reach a broader audience.
2. ongoing efforts will be made to collaborate with historians, researchers, and community members to continually update and verify the archive's information.