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# WEBTECH FINAL PROJECT

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VACCINATION MANAGEMENT SYSTEM



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## Project Requirements

### Purpose of the Project:

The purpose of the Vaccination Management System is to provide a comprehensive and efficient platform for managing and tracking vaccination-related data. The system aims to streamline the vaccination process by digitizing and organizing information related to patients, vaccines, and healthcare professionals involved in administering vaccinations.

### Expected Outcomes:

- **Patient Record Management:** Maintain a centralized database of patient information, including personal details, medical history, and vaccination records.
- **Vaccine Tracking:** Monitor the inventory and distribution of vaccines, ensuring that healthcare providers have access to accurate and up-to-date information on available vaccines.
- **Appointment Scheduling:** Facilitate the scheduling of vaccination appointments, optimizing the allocation of resources and reducing wait times for patients.
- **Healthcare Professional Management:** Manage information about healthcare professionals involved in the vaccination process, including nurses and doctors responsible for administering vaccines.
- **Automated Notifications:** Implement a system for automated notifications to remind patients of upcoming vaccination appointments and provide relevant health information.
- **Reporting and Analytics:** Generate reports and analytics to assist healthcare administrators in assessing vaccination coverage, identifying trends, and making informed decisions.

### Specific Constraints or Limitations:

- **Time Limitations:** Completion is expected within 3 weeks.
- **Technology Constraints:** The application will be developed using Java, Spring Boot, Thymeleaf, and POSTGRES.

## Project Plan

### Scope of the Project:

#### 1. Patient Management:

- Capture and store patient demographic information.
- Maintain a record of patients' vaccination history and schedules.

#### 2. Vaccine Management:

- Track vaccine inventory, including types, quantities, and expiration dates.
- Manage vaccine distribution and logistics.

#### 3. User Roles and Permissions:

- Define roles (admin, healthcare professional, patient) with specific permissions.
- Control access to sensitive information based on user roles.

### Source Code:

The source code for the project is hosted on GitHub:  
[<https://github.com/BugingoBlaise/VaccinationMIS>].

#### Key Files:

- `AdminController.java`: Handles HTTP requests related to admin requests.
- `VaccineController.java`: Manages vaccine-related operations.
- `UsersController.java`: Handles information request transactions.
- `InformationController.java`: Handles weapon return transactions.

### Database Schema:

#### Table Definitions:

##### 1. Information Table:

- Id;
- IdNumber;
- patientName;
- gender;

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- email;
- dob;
- vaccine;
- nurse;

## 2. Users Table:

- Id;
- name;
- email;
- username;
- password;
- role;

## 3. Vaccine Table:

- Id;
- name;
- DoseNumber;
- entry\_date;
- expiry\_date;

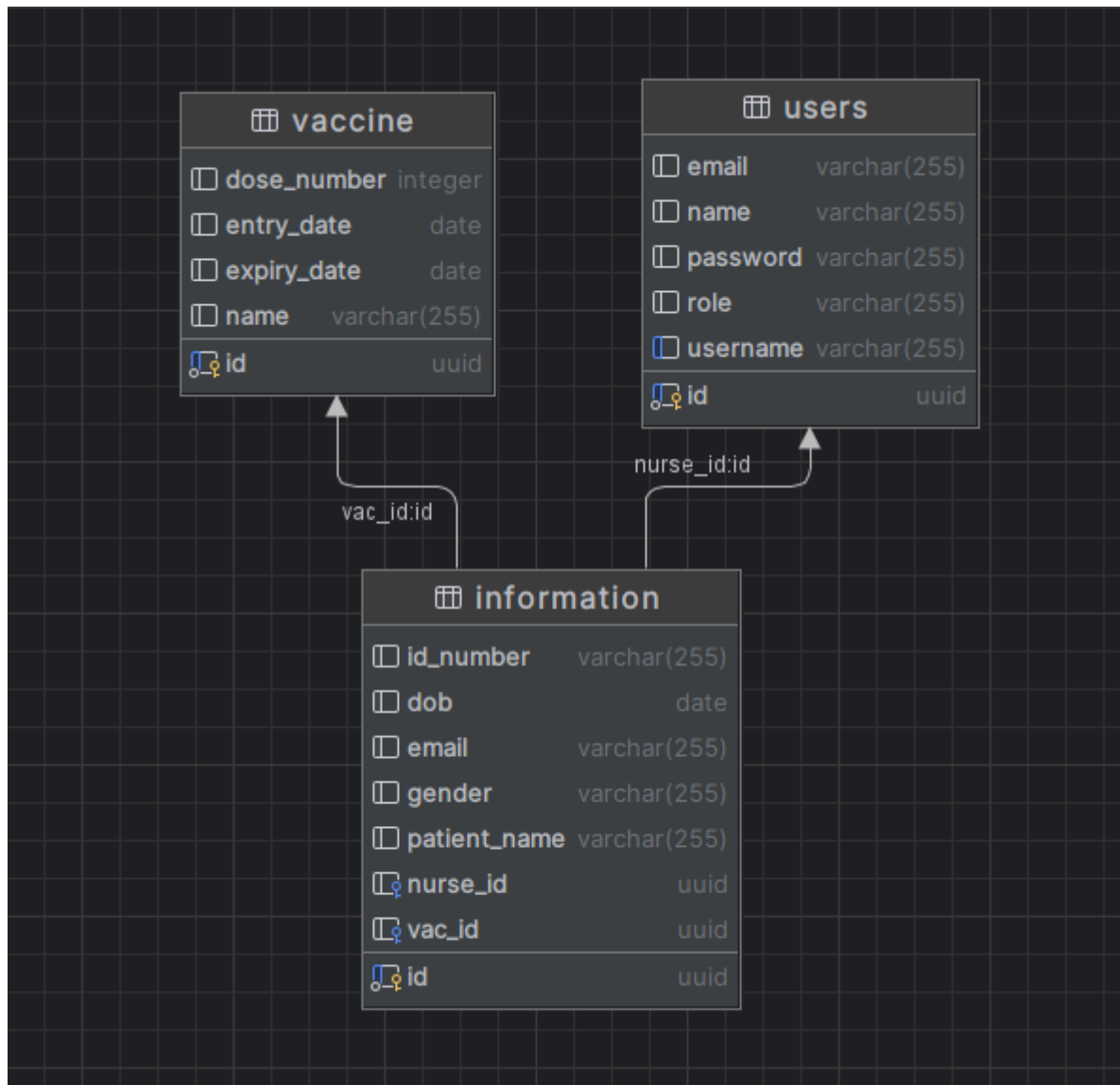
## 4. Gender ENUM :

- MALE,
- FEMALE

## 5. Role ENUM:

- NURSE,
- ADMIN

## Relationships:



## User Documentation:

### Application Access:

The application is accessible at [<https://vaccinationmis.onrender.com/>]. Use the provided login credentials to access the system.

### Login Credentials:

- **Username:** [sample username]
- **Password:** [sample password]

## Navigation:

### 1. Add New nurse

- Navigate to "Add New nurse."
- Fill in
- Click "Save" to add a new nurse.

Note: Email will be sent to the nurse.

Password will be provided if he/she is allowed to access the system.

If patient is not given the password, he/she is only allowed to search on the index page of the system using his/her nurse number to get the information about his/her request and returns and he/she if needed can download the information.

### 1. Add New Weapons:

- Navigate to "Add New vaccines."
- Fill in manufacturer, model, type, serial number, purchase date, and registration number.
- Click "Save" to add a new weapon.

Note: Added a Combo box of information mostly common to all guns to make the task easy for the users.

### 1. Register vaccine:

- Navigate to "Assign vaccine."
- Select vaccines and vaccine Officer then select the date.
- Click "Save" to add a new request.

Note: Now the vaccine is accessible throughout the system search.

### 2. Return Information about the patient:

- Go to "Return patients."
- Select the request and fill all required info.
- Click "Submit" to complete the return process.

### 2. Search:

- Go to "Search" on the index or on Navbar on the Dashboard

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- Enter id number of patient the search the information and will display all information related to the patient.
- Go to "Download Data" to download the data

## Technical Documentation:

### Architecture:

The application follows a three-tier architecture:

1. **Front-end:** Thymeleaf for server-side rendering.
2. **Back-end:** Java and Spring Boot for RESTful APIs.
3. **Database:** POSTGRES for data storage.

### Implementation:

#### 1. **Back-end:**

- Spring Security for user authentication.

#### 2. **Front-end:**

- HTML, CSS for responsive and user-friendly design.

#### 3. **Database:**

- POSTGRES for data storage.
- Foreign key relationships ensure data integrity.

### Relevant Technical Details:

- **Security:** Spring Security ensures secure user authentication.
- **Front-end Styling:** Bootstrap provides a responsive and visually appealing design.



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- **Communication:** RESTful APIs enable seamless communication between front-end and back-end.

## Gallery

The top screenshot shows the homepage of the 'Vaccination System'. It features a dark blue navigation bar with links for 'Home', 'About Us', 'Contact Us', and 'Login'. The main content area has a light gray background with the heading 'Welcome to the Vaccination System' and the subtitle 'Your trusted platform for managing vaccination records'. Below this is a section titled 'Important Information' with the text 'Stay up-to-date with the latest vaccination news and guidelines.' and 'Protect yourself and others by getting vaccinated against preventable diseases.' A green button labeled 'How Vaccines work' is centered at the bottom of this section.

The bottom screenshot shows a login form. It has a dark blue navigation bar with 'Home' on the left and 'LOGIN/SIGNUP' on the right. The main content area is white and contains a login form with the title 'Login'. The form has two input fields: 'Username:' and 'Password:'. Below the fields are two buttons: a blue 'Login' button and a purple 'Signup' button.

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[Home](#)[LOGIN/SIGNUP](#)

### Signup

**Names:**

**Email:**

**Username:**

**Password:**

[Login](#)

[Home](#)[Vaccines](#)[Patients](#)[Logout](#)

## WELCOME TO PAGE INFORMATION

Patient informations page

### VACCINATION INFORMATION

**Patient ID Number:**

**Patient Name:**

**Patient Email:**

**Gender:**

**Date of Birth:**

### PATIENTS DATA

NAMES	EMAIL	GENDER	DOB	VACCINE	NURSE	ACTIONS
MUGISHA CHRISs	blaisemugisha1@gmail.com	MALE	2023-12-20	phizer	juste	Edit Delete
Total: 1 Patients						

[Home](#)[Vaccines](#)[Patients](#)[Logout](#)

## WELCOME TO VACCINE PAGE INFORMATION

This is where all information is kept

### Vaccine Registration

**Vaccine Name:**

**Dose Number:**

**Date:**

**Date:**

### VACINES DATA

NAMES	DOSE	ENTRY_DATE	EXPIRY_DATE	ACTION
phizer	1	2023-12-28	2023-12-28	Edit Delete
Total: 1 Vaccines				

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