**REPORT**

**On**

**Professional Practice in It Project**

**Submitted**

**In partial fulfilment**

**For the award of the Degree of**

**Bachelor of Science**

**in Computing in Software Development (year 3)**

**Submitted By:**

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**GitHub Repository Link = https://github.com/keemo01/Evercare**

**Department of Computer Science**

## Candidate's Declaration

**I hereby declare that the work being presented in the project report, entitled "Evercare", in fulfilment of the Professional Practice module, is a record of our investigations carried out under the guidance of the Department of Computer Science**

# Contents

# Introduction

## Project Idea

As part of my college project, I have decided to utilize the technology that I have learned over the past three years to develop a hospital page for people to book appointments use. This application Evercare, aims to create an efficient and organized system for managing various aspects of a hospital's operations. The project will involve designing and implementing a comprehensive database that enables seamless management of patient appointments, doctor schedules, medical records, and other essential administrative tasks. By leveraging modern database technologies, the system will enhance the hospital's efficiency, improve patient experience, and facilitate better decision-making.

## Requirements for this App

**Must have minimum 5 components**

- **User Authentication and Authorization:**
  - Allow users to register and log in to the application.
  - Implement role-based access control to differentiate between patients, doctors, and administrative staff.
  - Ensure secure password storage using encryption techniques.
- **Appointment Management:**
  - Provide a user-friendly interface for patients to book appointments with doctors.
  - Allow doctors to view and manage their schedules, including adding, modifying, or canceling appointments.
  - Implement automated appointment reminders for patients.
- **Patient and Doctor Profiles:**
  - Create detailed profiles for patients and doctors, containing essential information such as contact details, medical history, and specialization.
  - Allow users to update their profiles, including uploading profile pictures and modifying personal information.
- **Medical Records and History:**
  - Enable doctors to create and update patient medical records, including diagnosis, treatment plans, and prescribed medications.
  - Allow patients to access their medical history, test results, and treatment plans.
  - Implement a secure and organized repository for storing medical records.
- **Billing and Payments:**
  - Integrate a billing system to generate invoices for patients based on appointments, treatments, and services provided.
  - Provide patients with an overview of their bills, payment history, and insurance claims.
  - Allow administrative staff to manage billing and generate financial reports.

## System Requirements

- Visual Studio Code
- Sql
- PhpMyAdmin
- WampServer

## Technologies used and why:

**For this project I used many technologies which I've listed below:**

• I used SQL AND PHP because it's a very popular language when It comes to web development.

• I used PHP to build my UI.

•I'm using an SQL for the database to store, accounts etc and for user security.

## Reasons for Choosing PHP and SQL:

Our selection of PHP and SQL was driven by several factors that align perfectly with Evercare's objectives. PHP is a server-side scripting language well-suited for handling data and business logic. Paired with SQL, which is excellent for managing databases, it creates a dynamic duo for building a robust hospital system. PHP's widespread use ensures access to skilled developers, streamlining the project's development. SQL's ability to organize and retrieve data efficiently makes it ideal for storing and managing patient records and appointments.

## Simplicity and Security:

PHP's simplicity facilitates rapid development, allowing us to build Evercare's functionalities effectively. Moreover, SQL's security features enable us to safeguard sensitive patient information and ensure compliance with data protection standards.

## Seamless Integration:

The seamless integration of PHP and SQL empowers Evercare to manage appointment bookings, patient records, and other vital hospital operations seamlessly. Their compatibility makes it possible to create user-friendly interfaces and ensure smooth interactions.

## Scalability and Performance:

The combined strength of PHP and SQL ensures that Evercare can handle growing data volumes while maintaining optimal performance. Their scalability allows us to accommodate increasing patient and operational demands without compromising system responsiveness.

# Conclusion:

In conclusion, the strategic choice of PHP and SQL for Evercare was driven by their compatibility, security features, simplicity, seamless integration, and scalability. These features collectively equip Evercare with the capabilities needed to effectively manage hospital operations, patient data, and appointments, making it a reliable and efficient hospital database system.

### Design Methodologies Implemented:

In the creation of Evercare, our hospital database system, we followed specific design methodologies to ensure a structured and efficient development process. This section highlights the design methodologies that were implemented during the project's lifecycle.

We embraced the Agile methodology to facilitate iterative and incremental development. This approach allowed us to break down the project into smaller, manageable tasks, known as sprints. Regular feedback loops enabled us to refine features continuously, adapt to changing requirements, and deliver value to users in shorter cycles.

User-Centred Design was another key methodology we incorporated. By prioritizing the needs and preferences of users, we ensured that Evercare's design and features resonated with their expectations. User interviews, surveys, and usability testing provided valuable insights that guided the development process, resulting in a user-friendly and intuitive system.

The combination of Agile and UCD methodologies provided a balanced approach. Agile's emphasis on rapid development cycles aligned with UCD's focus on user satisfaction. Regular iterations allowed us to not only deliver features quickly but also to ensure that they genuinely addressed user needs, enhancing the overall system quality.

## Project Management Cycle:

As the sole project designer and manager for this, I followed a structured project management cycle tot ensure the success of this project.

### Planning Phase:

During the planning phase of the project management cycle, we conducted an in-depth analysis of the requirements and objectives of our application. This involved identifying key stakeholders, defining project scope, and establishing clear project goals. We created a comprehensive project plan that outlined the timeline, resources, and budget required for successful project execution. Additionally, risk assessment and mitigation strategies were developed to anticipate and address potential challenges that may arise throughout the project lifecycle.

### Requirements Phase:

In the requirements phase, we focused on gathering and documenting the specific functionalities and features that the application should possess. Through extensive stakeholder engagement, user interviews, and market research, we identified the needs and expectations of our target audience. These requirements were then translated into clear and concise specifications, forming the foundation for the subsequent development phases.

### Implementation Phase:

In the implementation phase, we put our plans into action and commenced the development of the application. Following an Agile methodology, we broke down the project into smaller, manageable tasks and assigned them to our development team. Regular communication and collaboration ensured that the development process remained on track and aligned with the project goals.

### Monitoring and Controlling Phase:

Throughout the project, the monitoring and controlling phase played a critical role in ensuring project success. Key performance indicators (KPIs) were established to measure progress, track milestones, and monitor the quality of deliverables. Regular project status meetings were held to assess progress, address any issues, and

make necessary adjustments to the project plan. Continuous monitoring allowed us to proactively manage risks, control costs, and maintain adherence to project timelines.

### Closing Phase:

In conclusion, the project management cycle encompassing planning, requirements gathering, implementation, and monitoring and controlling was pivotal in steering Evercare to successful fruition. Each phase contributed to the development of a user-friendly, efficient, and responsive hospital database system that catered to both staff and patients' needs. By adhering to this cycle, we ensured that Evercare was delivered with quality and precision.

# Testing Plans:

### Platforms:

To guarantee a seamless user experience, we rigorously tested Evercare on various platforms. From different web browsers like Chrome, Firefox, Safari, and Edge to devices spanning desktops, laptops, tablets, and mobiles running diverse operating systems, we ensured consistent performance and usability.

### Validation:

We subjected Evercare to extensive functional validation to ensure its features worked as intended. From appointment bookings to medical record access, each element underwent rigorous testing to verify its correctness and effectiveness in real-world scenarios.

### Security:

Security was paramount in Evercare's design. We implemented stringent measures against SQL injection and unauthorized access. Password encryption, role-based access control, and data protection ensured the confidentiality and integrity of sensitive patient data.

### Maintenance:

The testing plan also includes provisions for ongoing maintenance and regression testing. As updates and changes are made to the application, regression testing is performed to ensure that existing functionalities remain intact and unaffected by the modifications. Regular maintenance testing helps identify and resolve any issues that may arise post-deployment, ensuring the application's smooth operation and user satisfaction. Additionally, automated testing frameworks and continuous integration tools may be employed to streamline the maintenance and testing processes.

### Limitations:

While testing plans aim to cover a wide range of scenarios, it's important to acknowledge the limitations of testing. Time and resource constraints may limit the extent of testing, and it may not be possible to test the application on every conceivable platform and configuration. Additionally, testing cannot guarantee the absence of all possible defects or vulnerabilities. However, by following industry best practices, conducting comprehensive testing, and addressing known limitations, we strive to minimize risks and deliver a reliable and robust application.

# Planned Future Development

## Deploy to iOS/Android:

Recognizing the ubiquity of mobile devices, we intend to deploy Evercare as mobile applications for iOS and Android. By developing mobile versions of the application, we can cater to a broader audience and provide users with the convenience of accessing the blog platform from their mobile devices. This expansion to mobile platforms will involve adapting the user interface and optimizing the performance to ensure a seamless and user-friendly experience on iOS and Android devices.

## Expansion:

Our adaptable hospital database system, Evercare, is prepared to go on a dynamic expansion adventure. In order to improve user experience and provide complete hospital management solutions, our future development roadmap calls for broadening functionality with elements like real-time notifications, tailored recommendations, and interactive user profiles. In order to encourage participation outside of the app, we also intend to include social sharing options. Additionally, we'll roll out enhanced search and filtering tools to simplify user interactions. Iterations that are motivated by user feedback will continue to be essential since they allow for constant improvements that fit changing user needs. As a result of these coordinated efforts, Evercare is poised to transform into a user-centric solution, revolutionising hospital operations and enhancing patient care in novel ways.

## User Feedback:

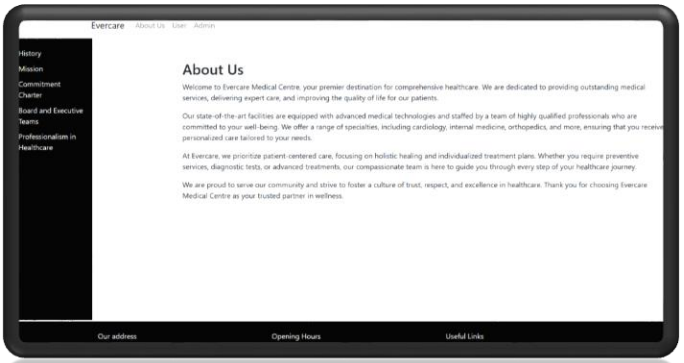
User input is a crucial component of our future development plans. We appreciate customer feedback since it gives us important information about their wants and expectations. With the help of surveys, user testing sessions, and careful observation of user conduct within the application, we intend to proactively collect and examine user input. We can identify areas for development, prioritise feature upgrades, and fix any usability issues by utilising user feedback. This iterative process makes sure that the MERN blog application keeps developing and meets our users' changing needs.

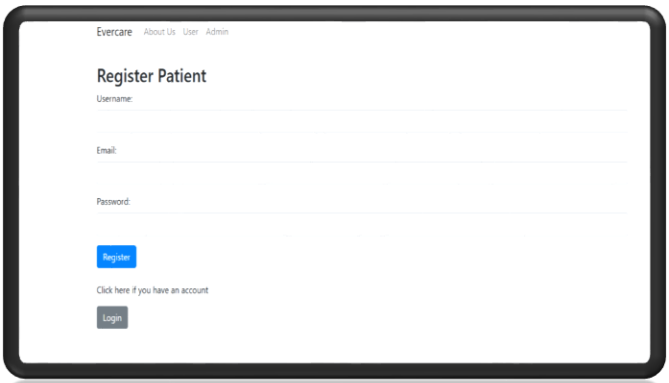
## Conclusion:

A comprehensive hospital database system that empowers both patients and medical personnel has been created as a result of the development of Evercare. We have accomplished an integrated solution for efficient operations by strategically selecting JavaScript and React for dynamic interfaces and PHP and SQL for solid data administration. Evercare has been made sensitive to user needs thanks to our iterative methodology, which is governed by Agile and User-Centered Design approaches. Our future expansion plans, which are entirely based on user feedback, include the introduction of additional features and the deployment of mobile applications. The growth of Evercare is more than just a feat; it represents a dedication to constant innovation in healthcare administration that will improve productivity, accessibility, and patient care.

# Images


Welcome to Evercare
Get Started
IRELAND'S LARGEST INDEPENDENT HOSPITAL GROUP
> 300,000
Patients
5
JCI Accreditations
> 490
Consultants
> 3,000
Employees


Evercare
About Us
User
Admin
History
Mission
Commitment Charter
Board and Executive Teams
Professionalism in Healthcare
About Us
Welcome to Evercare Medical Centre, your premier destination for comprehensive healthcare. We are dedicated to providing outstanding medical services, delivering expert care, and improving the quality of life for our patients.
Our state-of-the-art facilities are equipped with advanced medical technologies and staffed by a team of highly qualified professionals who are committed to your well-being. We offer a range of specialties, including cardiology, internal medicine, orthopedics, and more, ensuring that you receive personalized care tailored to your needs.
At Evercare, we prioritize patient-centered care, focusing on holistic healing and individualized treatment plans. Whether you require preventive services, diagnostic tests, or advanced treatments, our compassionate team is here to guide you through every step of your healthcare journey.
We are proud to serve our community and strive to foster a culture of trust, respect, and excellence in healthcare. Thank you for choosing Evercare Medical Centre as your trusted partner in wellness.
Our address
Opening Hours
Useful Links


Evercare
About Us
User
Admin
Register Patient
Username:
Email:
Password:
Register
Click here if you have an account
Login

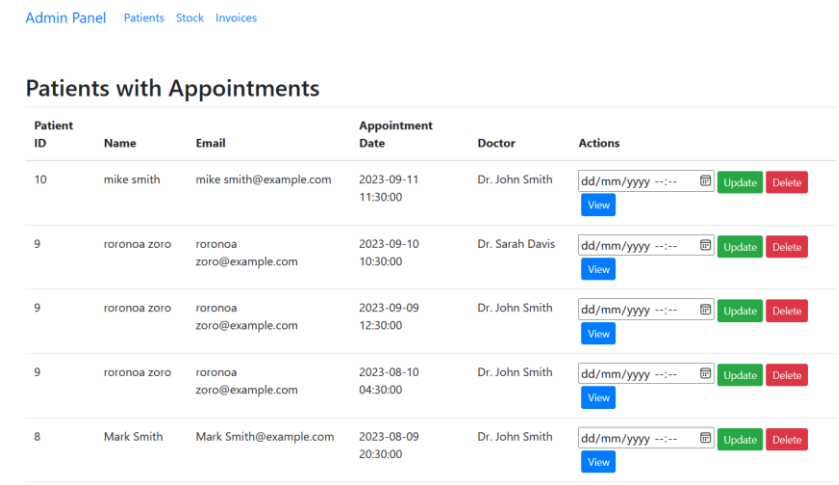
```sql
DROP TABLE IF EXISTS `users`;
CREATE TABLE IF NOT EXISTS `users` (
  `user_id` int NOT NULL AUTO_INCREMENT,
  `username` varchar(50) NOT NULL,
  `password` varchar(255) NOT NULL,
  `email` varchar(255) NOT NULL,
  PRIMARY KEY (`user_id`)
) ENGINE=InnoDB AUTO_INCREMENT=9 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;

--
-- Dumping data for table `users`
--

INSERT INTO `users` (`user_id`, `username`, `password`, `email`) VALUES
(1, 'john020', '$2y$10$.cKJjoICPZDs/LR5JI7jw.uohwUEn7rLY1SrmZwYtApz41mcUgIvu', 'johnojo@gmail.com'),
(2, 'ajoko', '$2y$10$UrhPg/UYR205E21btfFhjen83VLCCJvF1y.vUY5GWJu2blr8tPzve', 'jordanakeem@ymail.com'),
(8, 'miles', '$2y$10$KfN2BEwnQk7ZOYJ1WToftOfi9I4mmU21dMrAo3orY1ExBlCw62yum', 'milesmor@ymail.com');

--
-- Constraints for dumped tables
--


--
-- Constraints for table `appointment`
--
ALTER TABLE `appointment`
  ADD CONSTRAINT `appointment_ibfk_2` FOREIGN KEY (`doctor_id`) REFERENCES `doctor` (`doctor_id`),
  ADD CONSTRAINT `appointment_patient_fk` FOREIGN KEY (`patient_id`) REFERENCES `patient` (`patient_id`);
```




# Conclusion

To sum up, creating the "Evercare" hospital database system has been a big effort that shows our dedication, smart decision-making, and creative thinking. We aimed to make hospitals work better, improve patient experiences, and be more efficient. We made Evercare to meet the complicated needs of today's healthcare.

We picked PHP and SQL as the base for this system. These are well-known technologies that work together nicely, making a safe, flexible, and easy-to-use system. By using PHP's simplicity and SQL's data skills, we built a system that handles patient appointments, medical records, and bills smoothly.

We mixed Agile and User-Centered Design methods to make sure Evercare isn't just good technically, but also easy for users. We made changes step by step, listened to feedback, and learned what users needed. This made the app smooth and easy to use for doctors and patients.

The future of Evercare looks exciting. We're planning to put it on iOS and Android so more people can use it on their phones. We're also going to add more features based on what users want. This will help hospitals manage things even better and make patients' experiences even better.

This journey taught us that planning, doing things right, and being able to change are all really important in making software that helps in healthcare. Evercare isn't just something we made and finished; it's an example of always improving and caring about making healthcare better with technology.

I'm proud to show Evercare as a solution that's easy, useful, and all about users. Making it was hard work, and I hope it helps hospitals and patients for a long time. Thanks for being part of this journey with me.

Akeem Jokosenumi (G00366442)

# References:


https://www.youtube.com/watch?v=RxDb1mqNWrI&pp=ygUZZWhyIHN5c3RlbXMgaW4gaGVhbHRoY2FyZQ%3D%3D

Blogger.com - Create a unique and beautiful blog easily.

Reddit - Dive into anything

https://www.youtube.com/watch?v=sVbEyFZKgqk&list=PLr3d3QYzkw2xabQRUpcZ_IBk9W50M9pe-

https://www.youtube.com/watch?v=ieWSzBL1rHc&t=556s&pp=ygUdZWhyIHN5c3RlbXMgaW4gaGVhbHRoY2FyZSBwaHA%3D

bing.com/ck/a?!&&p=ac5d5892b0905b3fJmltdHM9MTY5MzQ0MDAwMCZpZ3VpZD0yYTkzMGE2MS01ZGU1LTY4ZWQtMzBhNi0xOTA0NWM5YTY5ZWEmaW5zaWQ9NTIwOQ&ptn=3&hsh=3&fclid=2a930a61-5de5-68ed-30a6-19045c9a69ea&psq=w3schools&u=a1aHR0cHM6Ly93d3cudzNzY2hvb2xzLmNvbS8&ntb=1

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