Project Documentation: Elderly Care System

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1 Introduction

The Elderly Care web application is specifically designed to enhance the well-being and health management of individuals aged 65 and above. As individuals age, it becomes increasingly important to maintain a healthy lifestyle and manage medications effectively. With this in mind, Elderly Care provides a user-friendly platform to streamline medication management, track health metrics, and facilitate physical activity.

2 Installation

2.1 Prerequisites

- PHP (8.3.1)
- CodeIgniter Framework (3.0)
- MySQL Database
- HTML, CSS, JavaScript

2.2 Steps

1. Clone the project repository from GitHub.
2. Set up a MySQL database and import the provided SQL file.
3. Configure the database connection in the `config/database.php` file.
4. Install any necessary dependencies using Composer.
5. Set up the project on a web server (e.g., Apache, Nginx).

3 Usage

3.1 Adding Medications

1. Navigate to the "Add Medication" page.
2. Enter the details of the medication, including name, dosage, and timing.
3. Click the "Save Medications" button to add the medication to the schedule.
4. Upon successful addition, a confirmation page will be displayed.

3.2 Viewing Scheduled Medications

1. Click on the "View Scheduled Medications" button.
2. The system will display a table listing all currently scheduled medications.
3. If no medications are scheduled, a message indicating so will be shown.

3.3 Yoga Exercise Assistance

1. Access resources and guidance for yoga and exercise routines.
2. Promote physical activity and overall fitness.

3.4 Health Tracking

1. Monitor vital health metrics, including heart rate and temperature.
2. Enable users to track their health status and make informed decisions about their well-being.

3.5 Nearby Hospitals

1. Provide information on nearby hospitals and medical facilities.
2. Offer convenience in accessing medical assistance and emergency services.

4 Features

4.1 Medication Management

- Add medications in the schedule.
- View a list of all scheduled medications.

4.2 Health Tracking

- Record and track vital health parameters such as heart rate and temperature.
- Visualize health data using interactive charts for better analysis.

5 Examples

5.1 Adding a Medication

```
// Example PHP code for adding a medication
$this->Medication_model->add_medication($data);
```

5.2 Viewing Scheduled Medications

```
// Example PHP code for retrieving scheduled medications
$data['scheduled_medications'] =
    $this->Medication_model->get_all_scheduled_medications();
```

6 Future Enhancements

As the Elderly Care web application continues to evolve, there are several potential improvements and features that can be implemented to enhance its functionality and user experience. One promising area for improvement is the Health Tracking feature, which currently displays dummy data charts for heart rates and temperature. By leveraging AWS services and integrating IoT sensors, significant enhancements can be made to this aspect of the application.

6.1 Utilization of AWS Services

Integrating various AWS services can greatly enhance the Health Tracking feature, providing real-time data analysis, secure storage, and seamless communication. Some potential AWS services to consider for future enhancements include:

- **AWS IoT Core:** Connect and manage IoT sensors securely, enabling the collection of accurate health data.
- **AWS Lambda:** Implement serverless functions to process incoming health data in real-time, enabling quick analysis and response.
- **Amazon DynamoDB:** Store health data in DynamoDB for easy retrieval and historical tracking, facilitating comprehensive health monitoring.
- **Amazon CloudWatch:** Implement monitoring and alerts using CloudWatch for system health and anomalies, ensuring proactive management of the application's health tracking system.

6.2 Integration of IoT Sensors

Incorporating IoT sensors into the Health Tracking feature can provide more accurate and detailed health data, allowing for better monitoring and analysis. Some potential IoT sensors to integrate include:

- **Heart Rate Monitors:** Measure heart rates accurately in real-time, providing valuable insights into cardiovascular health.
- **Temperature Sensors:** Monitor body temperature continuously, enabling early detection of fever or abnormal fluctuations.
- **Blood Pressure Monitors:** Track blood pressure levels regularly, helping users manage hypertension and cardiovascular health.

By leveraging AWS services and integrating IoT sensors, the Elderly Care web application can offer more comprehensive and accurate health tracking capabilities, ultimately improving the overall well-being of its users.

7 References

- CodeIgniter User Guide
- MySQL Documentation
- GitHub Repository