

# **Heal Hub**

**“A Case study Report submitted in partial fulfillment of the requirement for awarding marks as part of the Course Continuous Evaluation**

**Submitted by**

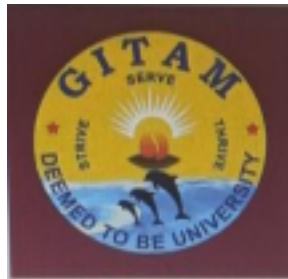
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I now declare that the case study report entitled HEAL HUB is an original work done in the Department of Computer Science and Engineering, GITAM School of Technology, GITAM (Deemed to be University), submitted in partial fulfillment of the requirements for awarding marks as part of the Course Continuous Evaluation. The work has not been copied or shared with any others.

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## **Abstract:**

Heal Hub is a pioneering web application tailored to cater to the diverse wellness needs of students. This documentation serves as a comprehensive guide to understand the functionalities, design principles, and implementation details of Heal Hub.

The core features of Heal Hub encompass task management, period tracking, calorie tracking, and expense tracking, all seamlessly integrated into a user-friendly interface. Each feature is meticulously designed to empower students in managing their daily lives more efficiently, promoting physical health, mental well-being, and financial stability.

This documentation provides an in-depth exploration of Heal Hub's architecture, user interface design considerations, and backend implementation details. It offers insights into the technology stack employed, including front-end frameworks, database management systems, and APIs utilized for integration with external services.

Moreover, the documentation elucidates the user experience design philosophy behind Heal Hub, emphasizing usability, accessibility, and engagement. It highlights the iterative development process, user feedback incorporation, and future roadmap for enhancements and expansions.

With Heal Hub, students can embark on a journey towards holistic wellness, supported by a versatile web application that adapts to their evolving needs. This documentation serves as a valuable resource for developers, stakeholders, and users alike, fostering a deeper understanding of Heal Hub's functionality and its potential to positively impact student life.

## **Introduction**

### **Understanding Student Struggles:**

In the hustle and bustle of student life, it's easy to overlook the challenges that students face on a daily basis. Let's take a moment to delve deeper into the real struggles encountered by students.

### **Balancing Academic Demands**

Juggling coursework, assignments, exams, and extracurricular activities can be overwhelming. The pressure to excel academically while maintaining a healthy work-life balance often leads to stress and anxiety among students. Finding effective time management strategies and seeking support from peers and mentors are crucial in managing academic demands.

### **Navigating Financial Stress**

Financial constraints pose a significant burden on students, affecting their ability to afford tuition fees, textbooks, housing, and other essential expenses.

### **Prioritizing Mental and Physical Health**

Amidst academic and financial pressures, students often neglect their mental and physical well-being. The stigma surrounding mental health issues may prevent students from seeking help when needed. It's essential to prioritize self-care, including regular exercise, sufficient sleep, and seeking support from counseling services or mental health professionals.

## **Problem Statement**

### **"A Student's Wish: Heal Hub"**

"Now, let's bring this wish to life with Heal Hub – the ultimate solution designed to meet every student's needs. Join us on a journey to simplify, organize, and thrive!"

"Introducing Heal Hub: Empowering Students to Thrive"

Welcome to Heal Hub, your ultimate solution tailored to meet the diverse needs of every student. With Heal Hub, embark on a transformative journey towards simplification, organization, and personal growth.

### **Simplify Your Student Life**

Heal Hub streamlines the complexities of student life, offering intuitive tools to manage your academic, financial, and personal responsibilities effortlessly. Say goodbye to stress and overwhelm as Heal Hub empowers you to prioritize what truly matters.

### **Organize Your Priorities**

Take control of your tasks, finances, and well-being with Heal Hub's suite of customizable features. From comprehensive to-do lists to intuitive expense tracking, sleep monitoring, and menstrual cycle management, Heal Hub ensures that you stay organized and focused on your goals.

### **Thrive in Every Aspect**

At Heal Hub, we believe that every student deserves to thrive academically, financially, and emotionally. With our user-centric approach and innovative solutions, we provide the support and resources you need to excel in all areas of your life.

Together, let's simplify, organize, and thrive with Heal Hub.

## **Project structure**

### **Student Life Management Tools**

#### **To-Do List**

Stay organized and on top of your tasks with a comprehensive to-do list. Keep track of assignments, deadlines, and other commitments to ensure nothing falls through the cracks. Prioritize tasks based on urgency and importance, and enjoy the satisfaction of checking items off your list as you complete them.

#### **Expense Tracker**

Take control of your finances with an expense tracker. Monitor your spending, track your expenses, and set budgets to avoid overspending. Gain insights into your spending habits and identify areas where you can save money. Whether it's managing tuition fees, textbooks, or daily expenses, an expense tracker helps you stay financially responsible.

#### **Sleep Tracker**

Prioritize your well-being by monitoring your sleep patterns with a sleep tracker. Keep track of your sleep duration, quality, and consistency to ensure you're getting enough restorative rest. Identify any disruptions or irregularities in your sleep schedule and make adjustments to improve your overall sleep health. A good night's sleep is essential for academic performance and overall wellness.

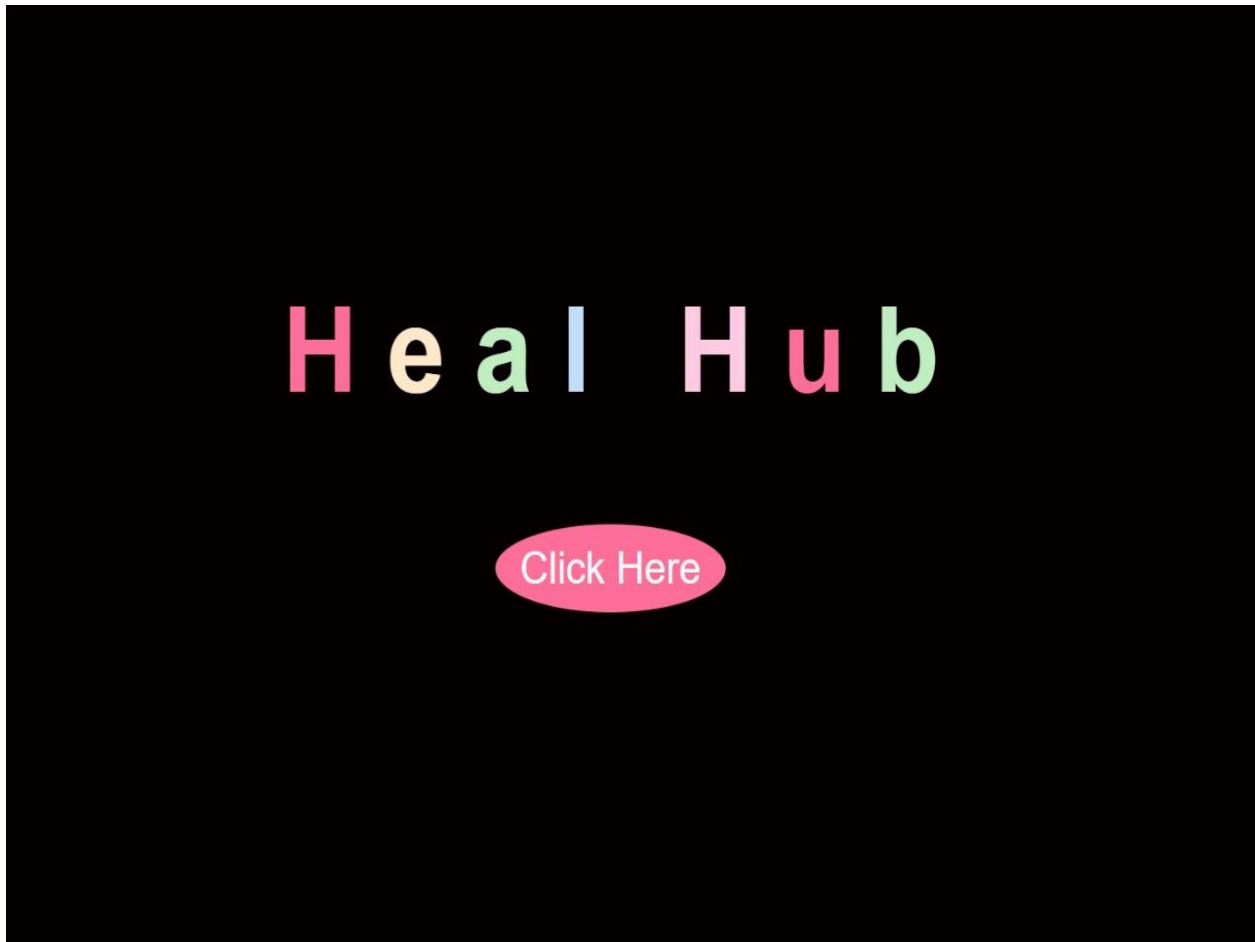
#### **Period Cycle Tracker**

Take control of your reproductive health with a period cycle tracker. Monitor your menstrual cycle, track symptoms, and predict your next period with accuracy. Stay informed about your body's natural rhythms and plan accordingly. Whether it's managing menstrual symptoms or tracking fertility, a period cycle tracker empowers you to take charge of your reproductive health.

By incorporating these tools into your daily routine, you can enhance your productivity, financial management, sleep quality, and reproductive health. Embrace technology to streamline your student life and achieve success both academically and personally.

## Results & discussions

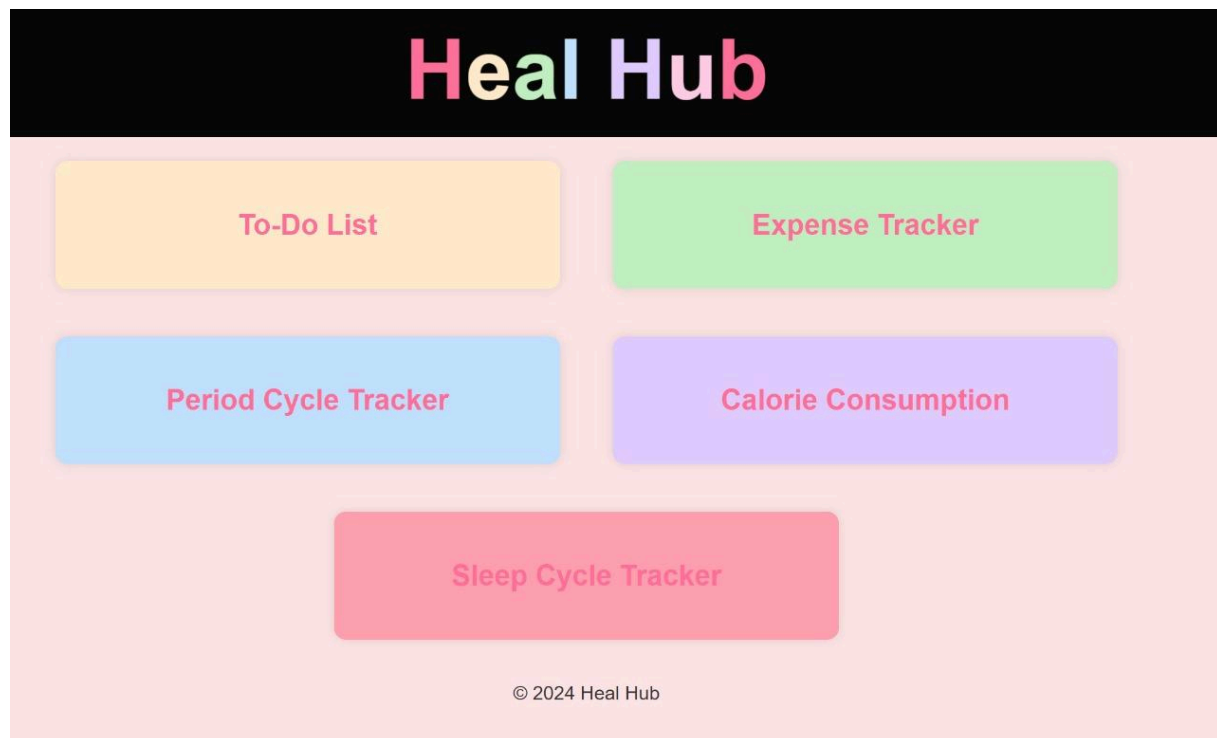
- When you first visit the Heal Hub website, you'll be greeted with an introductory page featuring the Heal Hub logo and a prominent call-to-action button saying "Click Here" or "Get Started".
- Click on the "Click Here" button to proceed to the main dashboard.





## Main Dashboard

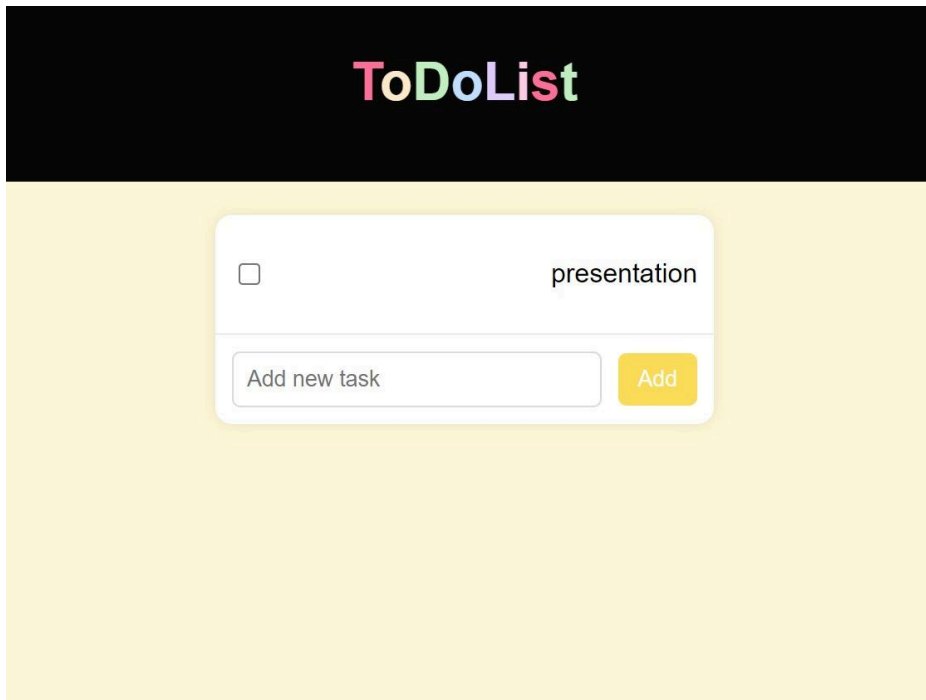
- After clicking "Click Here", you'll be directed to the main dashboard of Heal Hub.
- The dashboard will display various features available for use, such as the To-Do List, Expense Tracker, Sleep Tracker, and Period Cycle Tracker.
- Each feature will be represented by a clickable icon or button.
- To use a specific tool, simply click on the corresponding icon or button on the dashboard.
- Upon selecting a feature, you'll be redirected to the respective page or section dedicated to that tool.
- For instance:
  - If you clicked on the "To-Do List" icon, you'll be directed to the To-Do List page where you can add, edit, and manage your tasks.
- Similarly, selecting other features will take you to their respective pages for usage.



## To-Do List

The To-Do List feature helps you stay organized and focused by allowing you to add tasks, mark them as done when completed, and manage your priorities efficiently.

- **Adding Tasks:**
  - Click "Add Task" to enter task details like title, description
  - Assign priority levels or categories for better organization.
- **Managing Tasks:**
  - Easily view and prioritize tasks based on urgency and importance.
- **Marking Tasks as Done:**
  - Click on the checkbox or "Mark as Done" button to indicate completion.
  - Completed tasks are crossed out or visually marked as done for clarity.
- **Updating Tasks:**
  - Edit tasks to make changes like updating due dates or modifying descriptions.
- **Viewing Completed Tasks:**
  - Option to view or filter completed tasks for progress review.
- **Reminders and Notifications:**
  - Set reminders for upcoming deadlines or important tasks to stay on track.



The screenshot shows a web application titled "ToDoList" in a colorful font on a black header. Below the header is a light yellow background. In the center, there is a white rounded rectangle containing a task entry. The task entry has a checkbox on the left and the text "presentation" on the right. Below the task entry is a form with a text input field labeled "Add new task" and a yellow "Add" button.

## Expense Tracker

Once you're on the main dashboard, click on the "Expense Tracker" icon to access the financial tracking tool. The Expense Tracker allows you to monitor and manage your expenses efficiently, helping you stay within budget and achieve your financial goals.

- **Creating Expense Categories:**
  - Upon entering the Expense Tracker, you'll have the option to create different categories to organize your expenses effectively. Common categories include:
    - Food and Travel
    - Health Expenses
    - Entertainment Expenses
    - Others
- **Adding Expenses to Categories:**
  - Within each category, you can add individual expenses by clicking on the "Add Expense" button.
  - Enter the details of the expense, including the price and a brief description.
  - Each expense will be displayed in an organized format within its respective category.
- **Viewing Expenses:**
  - The Expense Tracker presents your expenses in clear and concise tables, making it easy to track your spending habits.
  - You can view expenses by category or in a comprehensive overview, allowing you to analyze your spending patterns and identify areas where you can save money.
- **Editing and Deleting Expenses:**
  - If you need to edit or delete an expense, simply navigate to the corresponding category and locate the expense in the table.
  - Click on the edit or delete option to make changes or remove the expense from your records.
- **Budgeting and Analysis:**
  - Utilize the Expense Tracker to set budgets for each category and track your expenses against these budgets.
  - Gain valuable insights into your spending habits with visual graphs and charts, helping you make informed financial decisions.

The Expense Tracker provides a user-friendly interface for managing your finances efficiently. By organizing your expenses into categories and tracking them systematically, you can take control of your budget and work towards achieving your financial goals.

# Expense Tracker

Category:

Bills

Description:

Amount:

Add Expense

## Bills Expenses

Description	Amount
vbn	3.00
bjsnhkj	8789.00

## Entertainment Expenses

Description	Amount
movie	300.00

## Others Expenses

Description	Amount
asdfvg	42255.00

bjsnhkj	8789.00
asdfvg	781.00
asdfvg	781.00
vbn vv	34.00
<b>Food&amp;travel Expenses</b>	
<b>Description</b>	<b>Amount</b>
res	6000.00
<b>Health Expenses</b>	
<b>Description</b>	<b>Amount</b>
surgery	10000.00
<b>Entertainment Expenses</b>	
<b>Description</b>	<b>Amount</b>
movie	300.00

## Period tracker

Upon selecting the "Period Tracker" feature, you'll be presented with a user-friendly tool designed to help you monitor and predict your menstrual cycle efficiently.

- **Entering Last Period Date:**
  - Begin by inputting the date of your last menstrual period into the tracker. This serves as the starting point for tracking your cycle.
  - You can easily select the date using a calendar or manually enter it into the provided field.
- **Setting Ideal Period Cycle:**
  - Specify your ideal period cycle length, which represents the average number of days between your periods.
  - This information helps the tracker calculate and predict the dates of your future periods based on your individual cycle.
- **Predicting Next Period:**
  - Using the data provided (last period date and ideal cycle length), the period tracker calculates and predicts the dates of your upcoming periods.
  - The predicted next period dates are displayed clearly within the tracker, allowing you to plan and prepare accordingly.

By utilizing the Period Tracker, you can effectively monitor your menstrual cycle, receive accurate predictions for upcoming periods, and stay informed about your reproductive health.

The screenshot shows a web application titled "Period Tracker" with a black header. The main content area has a light blue background. A white form is centered, containing the title "Period Tracker", a "Last Period Date:" field with the value "16-03-2024", a "Period Cycle Time (in days):" field with the value "28", and a blue "Submit" button. Below the form is a calendar for April 2024. The calendar table has columns for days of the week (Mon-Sun) and rows for dates (1-30). The date "13" is highlighted in blue.

Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

## Calorie Tracker

The Calorie Tracker feature provides a convenient way to monitor your daily calorie intake by recording the foods consumed during each meal of the day: breakfast, lunch, snacks, and dinner.

- Recording Meals:
  - Begin by selecting the corresponding mealtime tab (breakfast, lunch, snacks, or dinner) within the Calorie Tracker.
  - In each tab, you can input the foods and beverages consumed during that meal.
- Automatic Calorie Calculation:
  - As you add food items to your meal, the Calorie Tracker automatically calculates the total calorie intake for that particular meal.
  - The tracker sums up the calories from all the items added to provide you with a comprehensive total.

By utilizing the Calorie Tracker, you can easily monitor your daily calorie intake and make informed decisions about your dietary choices. Whether you're looking to maintain, gain, or lose weight, this tool empowers you to track your food consumption and stay on track with your health and fitness goals.

# Calorie Tracker

Food:

Hyderabadi Biryani (400 calories) ▾

Meal:

Breakfast ▾

Add Calories Consumed

Calories Consumed Today

## Sleep Tracker

The Sleep Tracker feature allows you to monitor and analyze your sleep patterns, providing insights into the duration and quality of your sleep each night.

- Recording Sleep Data:
  - Begin by accessing the Sleep Tracker and inputting the time you went to bed and the time you woke up.
  - You can easily enter this information manually
- Calculating Sleep Duration:
  - The Sleep Tracker automatically calculates the duration of your sleep based on the bedtime and wake-up time provided.
  - You'll be able to see the total hours and minutes slept for each night.
- Assessing Sleep Quality:
  - In addition to sleep duration, the Sleep Tracker evaluates the quality of your sleep based on factors such as interruptions, restless periods, and overall sleep efficiency.
  - Quality metrics may include sleep efficiency percentage, number of awakenings, and time spent in different sleep stages (e.g., REM, deep sleep, light sleep).
- Viewing Past Sleep Data:

- The Sleep Tracker allows you to access and review your past sleep information, providing a historical overview of your sleep patterns.
- You can easily navigate through previous nights' data to identify trends and patterns in your sleep behavior over time.

## Sleep Tracker

Start Time:

dd-mm-yyyy --:--

Wake-up Time:

dd-mm-yyyy --:--

Add Sleep Entry

### Last 10 Days Sleep Quality

Start Time	Wake-up Time	Duration (hours)	Sleep Quality
2024-02-22 23:07	2024-02-22 00:08	-22.98	Very Bad
2024-02-08 01:08	2024-02-09 05:12	28.07	Very Good



## **Software requirement specifications:**

### **1.Functional Requirements:**

- Task Management:
  - Create, edit, and delete tasks with priority levels and due dates.
  - Mark tasks as completed.
- Period Tracker:
  - Log menstrual cycle data, predict future cycles, and receive notifications for upcoming periods and ovulation.
- Calorie Tracker:
  - Log food items and calculate daily calorie intake.
  - Set calorie intake goals and track progress.
- Expense Tracker:
  - Log expenses, generate spending pattern visuals, set budgets, and receive notifications for exceeding limits.

### **2.Non-Functional Requirements:**

- Performance:
  - Responsive interface with minimal loading times.
  - Ability to handle concurrent user interactions.
- Usability:
  - Intuitive interface catering to users of varying technical proficiency.
  - Incorporate accessibility features for users with disabilities.
- Security:
  - Encrypt user data during transmission and storage.
  - Implement authentication and authorization mechanisms.
- Compatibility:
  - Compatible with popular web browsers and adaptable to various devices.

### **External Interface Requirements:**

- User Interface:
  - Clean and intuitive design supporting multi-platform access.
- APIs:
  - Integration with external APIs for features like calorie and expense tracking.

## Technologies Used in Heal Hub:

**Zamp:** Zamp is utilized as the local development environment for hosting the web application. It includes Apache HTTP Server, MySQL, and PHP, providing a platform for testing and development.

**VS Code:** Visual Studio Code (VS Code) serves as the primary Integrated Development Environment (IDE) for coding and editing HTML, CSS, JavaScript, PHP, and SQL files. Its versatile features enhance productivity and facilitate collaborative development.

**SQL:** Structured Query Language (SQL) is employed for database management. It is used to create, retrieve, update, and delete data in the MySQL database, ensuring efficient storage and retrieval of user information and application data.

**PHP:** PHP (Hypertext Preprocessor) is the server-side scripting language used for implementing dynamic functionalities in Heal Hub. It handles user requests, processes data, interacts with the database, and generates dynamic content for web pages.

**JavaScript (JS):** JavaScript is utilized for client-side scripting to enhance interactivity and user experience. It is employed for tasks such as form validation, dynamic content generation, and handling user events within the web application.

**CSS:** Cascading Style Sheets (CSS) are used to define the presentation and styling of web pages in Heal Hub. CSS rules dictate the layout, colors, fonts, and other visual aspects of the user interface, ensuring a cohesive and visually appealing design.

**HTML:** HyperText Markup Language (HTML) forms the backbone of Heal Hub, defining the structure and content of web pages. HTML elements are used to organize information, create forms, and establish the layout hierarchy within the application.

By leveraging this comprehensive stack of technologies, Heal Hub is equipped with the necessary tools and frameworks to deliver a robust, dynamic, and user-friendly web application tailored to meet the wellness needs of students.

## Implementation:

```
todo.php
1  <?php
2  // Database connection
3  $servername = "localhost";
4  $username = "root";
5  $password = "";
6  $dbname = "heal app";
7
8  $conn = new mysqli($servername, $username, $password, $dbname);
9
10 if ($conn->connect_error) {
11     die("Connection failed: " . $conn->connect_error);
12 }
13
14 // Add task
15 if (isset($_POST['add_task'])) {
16     $task_name = $_POST['task_name'];
17     $sql = "INSERT INTO tasks (task_name) VALUES ('$task_name')";
18     $conn->query($sql);
19 }
20
21 // Get tasks
22 $sql = "SELECT * FROM tasks WHERE completed = 0 ORDER BY id DESC";
23 $result = $conn->query($sql);
24
25 ?>
26
27 <!DOCTYPE html>
28 <html lang="en">
29 <head>
30     <meta charset="UTF-8">
31     <meta name="viewport" content="width=device-width, initial-scale=1.0">
32     <title>To-Do List</title>
33     <style>
```

```

<style>
  body {
    font-family: 'Arial', sans-serif;
    margin: 0;
    padding: 0;
    background-color: #fff8d8;
    text-align: center;
  }

  header {
    background-color: #080808;
    color: #fff;
    padding: 20px 0;
  }

  h1 span:nth-child(1) { color: #ff719a; }
  h1 span:nth-child(2) { color: #ffebcc; }
  h1 span:nth-child(3) { color: #c2f0c2; }
  h1 span:nth-child(4) { color: #c2e0ff; }
  h1 span:nth-child(5) { color: #e0ccff; }
  h1 span:nth-child(6) { color: #ffcce5; }
  h1 span:nth-child(7) { color: #ff719a; }
  h1 span:nth-child(8) { color: #c2f0c2; }
  h1 span:nth-child(9) { color: #ffcce5; }

  #todo-container {
    width: 300px;
    margin: 20px auto;
    background-color: #fff;
    box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
    border-radius: 10px;
    overflow: hidden;
  }

```

```

#todo-list {
  list-style: none;
  padding: 0;
}

#todo-list li {
  display: flex;
  justify-content: space-between;
  align-items: center;
  padding: 10px;
  border-bottom: 1px solid #eee;
}

#todo-list li:last-child {
  border-bottom: none;
}

#todo-list input[type="checkbox"] {
  margin-right: 10px;
}

#add-todo {
  padding: 10px;
  border-top: 1px solid #eee;
  display: flex;
  justify-content: space-between;
  align-items: center;
}

#new-task {

```

```

    #new-task {
      flex-grow: 1;
      margin-right: 10px;
      padding: 8px;
      border: 1px solid #ddd;
      border-radius: 5px;
    }

    #add-button, .delete-button {
      background-color: #fbdd59; /* Pink button */
      color: #fff;
      padding: 8px 12px;
      cursor: pointer;
      border: none;
      border-radius: 5px;
      transition: background-color 0.3s;
    }

    #add-button:hover, .delete-button:hover {
      background-color: #ffbb33; /* Darker pink on hover */
    }
  </style>
</head>
<body>
  <header>
    <h1><span>T</span><span>o</span><span>D</span><span>o</span><span>L</span><span>i</span><span>s</span>
  </header>

```

```

<div id="todo-container">
  <ul id="todo-list">
    <?php while ($row = $result->fetch_assoc()) : ?>
      <li>
        <input type="checkbox" data-id="<?php echo $row['id']; ?>" />
        <label><?php echo $row['task_name']; ?></label>
      </li>
    <?php endwhile; ?>
  </ul>
  <form id="add-todo" method="POST" action="">
    <input type="text" id="new-task" name="task_name" placeholder="Add new task" required>
    <button type="submit" id="add-button" name="add_task">Add</button>
  </form>
</div>

<script>
  // JavaScript for handling checkbox click event
  const checkboxes = document.querySelectorAll('#todo-list input[type="checkbox"]');
  checkboxes.forEach(checkbox => {
    checkbox.addEventListener('change', function() {
      const taskId = this.getAttribute('data-id');
      const completed = this.checked ? 1 : 0;
      fetch('update_task.php', {
        method: 'POST',
        headers: {
          'Content-Type': 'application/json',
        },
        body: JSON.stringify({ id: taskId, completed: completed }),
      })
        .then(response => response.json())
        .then(data => {

```

```

<script>
  // JavaScript for handling checkbox click event
  const checkboxes = document.querySelectorAll('#todo-list input[type="checkbox"]');
  checkboxes.forEach(checkbox => {
    checkbox.addEventListener('change', function() {
      const taskId = this.getAttribute('data-id');
      const completed = this.checked ? 1 : 0;
      fetch('update_task.php', {
        method: 'POST',
        headers: {
          'Content-Type': 'application/json',
        },
        body: JSON.stringify({ id: taskId, completed: completed }),
      })
      .then(response => response.json())
      .then(data => {
        if (data.success) {
          if (completed) {
            this.parentElement.classList.add('completed');
            this.checked = true;
          } else {
            this.parentElement.classList.remove('completed');
            this.checked = false;
          }
        }
      })
      .catch(error => console.error('Error:', error));
    });
  });
</script>
</body>
</html>

```

## References

OpenAI. (2022). GPT-3.5. <https://openai.com/gpt-3>

Google. <https://www.google.com>

<https://ijarsct.co.in/Paper391.pdf>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7597680/>

<https://www.tandfonline.com/doi/abs/10.1080/08832323.2018.1441120>

## **Conclusion**

In conclusion, Heal Hub emerges as a transformative solution in addressing the intricate wellness challenges faced by students. Through its multifunctional capabilities encompassing task management, period tracking, calorie tracking, and expense tracking, Heal Hub presents a holistic approach to student well-being. The journey of conceptualization, development, and refinement reflects a commitment to user-centric design, technological innovation, and continuous improvement.

The case study elucidates the profound impact Heal Hub can have on students' lives, empowering them to navigate the complexities of academic, personal, and financial spheres with greater confidence and ease. By fostering self-awareness, promoting healthy habits, and facilitating efficient lifestyle management, Heal Hub stands as a beacon of support for students striving to achieve balance and success in their educational journey.

Looking ahead, the potential for Heal Hub is vast, with opportunities for further enhancements, integrations, and expansions to better serve the evolving needs of its user base. As Heal Hub continues to evolve, it is poised to not only address the wellness needs of students but also contribute positively to their overall academic performance, mental health, and quality of life.

In essence, Heal Hub exemplifies the fusion of technology and compassion, harnessing the power of innovation to nurture student well-being and foster a community of resilience and empowerment. As it continues to make strides in the realm of student wellness, Heal Hub remains steadfast in its mission to support students in thriving academically, emotionally, and financially, paving the way for a brighter and healthier future.