A

Project Report

On

# "Cheli Beti"

**"No Hesitation Around Menstruation"**


*Submitted in Partial Fulfillment of the Requirement for Degree of Bachelor of Science in Computer Science and Information Technology (B.Sc. CSIT) Awarded by Tribhuvan University*


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May, 2023


# Tribhuvan University

## Institute of Science and Technology

## Mount Annapurna Campus, Pokhara-5, Parshyang, Kaski

## Student's Declaration

We hereby declare that we are only author of this project work and that no sources other than listed here have been used in this work.

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## Supervisor's Recommendation

I hereby recommend that the project work prepared under my supervision by below listed team of students entitled "**Cheli Beti**" be accepted as in fulfilling partial requirement for completion of Four Year's Bachelor's Degree in Computer Science and Information Technology. In my best knowledge this is an original work in Computer Science and Information Technology.

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## LETTER OF APPROVAL

We certify that we have read this project work report and, in our opinion, it is appreciable for the scope and quality as a project work in the partial fulfillment of the requirements of Four Years Bachelor Degree of Science in Computer Science and Information Technology.

## Evaluation Committee

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# ACKNOWLEDGEMENT

Any project's success, aside from our own efforts, greatly depends on the support and direction of many others. We would like to take this chance to thank the team members for their commitment to overseeing the current project being worked on by our team.

We would like to express our gratitude to our supervisor, **"Er. Ranjan Adhikari"** sir, for his sound counsel, inspiration, and direction during this challenging assignment. We gratefully thank him for his helpful suggestions for this project and for his cooperative attitude.

We sincerely appreciate the efforts of our coordinator and all of the lecturers in leading the team toward the desired outcome and in providing us with the motivation to keep moving forward. All of my classmates, especially my friends, have my sincere gratitude for giving their time to assist and support me whenever I needed it while putting together my project. Finally, we would like to extend our sincere gratitude to everyone who assisted us in any way during the completion of our project work.

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# ABSTRACT

This proposal includes comprehensive information about the project, Cheli Beti, including its goals and objectives as well as how it will be carried out in practice. Cheli Beti is a free pad distribution-focused online web application. Users can sign up, browse, and access free pad. Women can benefit from this initiative by learning more about their health issues and how to take care of themselves while they are menstruating. Due to the high cost of menstrual products, women are currently obliged to utilize unclean products, and there is a dearth of information regarding women's health and period safety. This project was started to address the previously described issue. The goal of this project is to support the well-being of women after it is finished.

***Keywords**: Cheli Beti, Cheli, Beti, Free Pad, Menstruation, Women's Health, Period Cycle, Pad, Sanitary*

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| | |
|---|---|
| CSS | Cascading Style Sheet |
| DFD | Data Flow Diagram |
| ER | Entity Relationship |
| HTML | HyperText Markup Language |
| IOS | iPhone Operating System |
| MySQL | My Structured Query Language |
| PHP | Hypertext Preprocessor |
| QA | Quality Assurance |
| QR | Quick Response |
| RDBMS | Relational Database Management System |
| SMS | Short Message Service |
| SQL | Structured Query Language |
| UI/UX | User Interface/ User Experience |
| URL | Uniform Resource Locator |
| VAT | Value Added Tax |
| XAMPP | Cross-Platform Apache MariaDB PHP Perl |

# CHAPTER 1: INTRODUCTION

## 1.1. Introduction

Menstruation hygiene goods like sanitary pads, tampons, and menstruation cups cost 13% more for Nepali women. This is one of the reasons menstruation products are so expensive, particularly in rural communities and towns, making it challenging for women from low-income groups to buy them each month. A 2016 report on menstrual health and hygiene management found that only 15% of Nepalese women used sanitary pads while 83% still used cotton cloths. Similarly, a survey conducted by Pad2Go Nepal, a for-profit social enterprise that is campaigning to remove taxation on menstrual products, has calculated that an average Nepalese woman uses about 7,296 pads in her lifetime[1].

With our website, we hope to make it easier for users to learn about menstruation products and women's health without having to worry about what other people will think or feel alone in their struggles. Users will have access to a site where they may choose what information they want to learn about women's health, acquire facts, and get free sanitary pads. Our technology will give users a method to monitor their menstrual cycles, and based on that data, they will receive a pad within that time frame. As a result, we made the decision to create a website that offers free pad service without allowing users to abuse it.

## 1.2. Problem Statement

The method of purchasing necessities like pads is making life harder for women. They spend a lot of money on pads, and those who can't use clothes instead, which is very unhygienic and can lead to various health problems. Women are also uninformed about a variety of health issues relating to their bodies and personal hygiene. Due to this issue, we have made the decision to propose that pads be given out for free on our website. With the aid of the website's articles, we also hope to educate women about menstrual hygiene, reproductive products, and other pertinent health issues.

## 1.3. Objectives

The main objectives of the project “Cheli Beti” is:

- To design a system that provide a platform for women to track their periods and get access to free pads.
- To provide information regarding women’s health issues, and how to use menstruation products.

## 1.4. Scope and Limitations

Cheli Beti is a website that provide women access to their period logs and with the help of their period logs they will be able to obtain free pads.

The main scope of this project is:

- To ensure that menstruating females are able to manage this healthy biological process in a sustainable, hygienic, and dignified manner by getting access to free pads.
- Track their period menstruation cycle as well as gain information about the related issues

Though there are tons of scope of this website, there are limitation of this website too. Limitation of the websites are:

- This website won’t be of use if the user is not willing to track their period cycle or have no knowledge on how to navigate through it.
- This website is all based on the user, i.e., if user wants to buy pads on their nearest store then this website will be useless.

## 1.5. Development Methodology

The agile methodology seems to be more appropriate when it comes to frequent requirement changes. The agile scrum technique combines the scrum framework and the agile philosophy. Agile refers to incremental development, enabling teams to create projects in manageable chunks. One of the numerous varieties of agile technique is scrum, which is recognized for segmenting projects into sizeable units called "sprints." Agile scrum methodology is advantageous for companies that must complete particular projects fast.

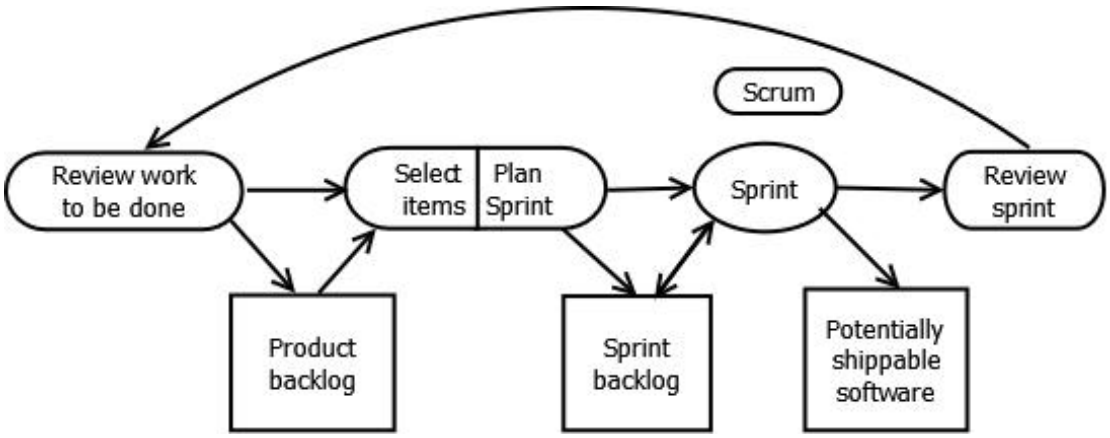


**Figure 1: Scrum Software Sprint Cycle**

### 1.5.1. Implementation

We went through various processes for completing our projects. Following are the list of steps implemented to successfully complete our project.

#### 1.5.1.1. Project planning

As with any project, each team member needed to be aware of the end result, the significance of the project, and the means by which it will be accomplished before work could begin.

Since the goal of implementing Agile project management is to be able to address modifications and additions to the project easily, we started to construct a project scope here. However, the project scope shouldn't be viewed as being unchangeable.

#### 1.5.1.2. Product roadmap creation

An outline of the features that will make up the finished product is called a roadmap. Due to the fact that our team created each of these distinct features throughout each sprint, this is an essential part of the Agile planning stage.

We also created a product backlog at this time, which is a list of all the features and deliverable that will go into the finished item. Our team selected tasks from this backlog to complete during later sprint planning.

#### 1.5.1.3. Release planning

Here, our project uses sprints, which are shorter development cycles with features released at the conclusion of each cycle.

We created a high-level strategy for feature releases before the project started, and at the start of each sprint, we went back and reviewed the plan.

#### 1.5.1.4. Sprint planning

We needed to arrange a sprint planning meeting prior to the start of each sprint to:

- What each individual will achieve during that sprint
- How it'll be accomplished
- Analyze the workload

In order to complete the allocated tasks within the sprint, it is crucial to distribute the workload fairly among the team members.

#### 1.5.1.5. Daily stand-ups

We had brief daily stand-up meetings to help our team complete their tasks during each sprint and determine whether any changes were necessary. Each team member briefly discussed what they accomplished the day prior and what they will be working on the following day during these sessions.

The duration of these brief daily meetings was 20 minutes. They weren't intended to be lengthy forums for discussion of current events or problem-solving.

#### 1.5.1.6. Sprint review and retrospective

Each sprint ended with our team having two meetings.

- To show the project supervisor the finished product, we first scheduled a sprint review. Maintaining open contact with your supervisor requires doing this.
- Second, we met with our supervisor for a sprint retrospective to go over: what aspects of the sprint went well? What might have been improved? For each member, was the task load too heavy or too light? What was achieved throughout the sprint?

## 1.6. Report Organization

In this report, we have divided the topics into six different chapters and they are:

**Chapter 1 : Introduction:** The first chapter have covered the introduction of our website "**CHELI BETI**", here we have discussed the reason why we decided to come up with this website, which method we have implemented, and why. We also stated the objectives of our website with its scope and limitations. Moreover, we have discussed the features that we have in our website.

**Chapter 2: Background Study and Literature Review:** The second chapter is all about background study and literature review. Here we have done research to build our website, as good research helps to provide facts for an easy implementation.

**Chapter 3: System Analysis:** The third chapter is all about system analysis. Here we have done a requirement analysis, and feasibility analysis. This is a very important phase as we found our functional and non-functional requirements. We also found whether our website is technically, economically, scheduling, and operationally feasible or not.

**Chapter 4: System Design:** The fourth chapter included the designs required to build our website. We have provided a database design, block diagrams for admin, and user and detailed algorithms related to it.

**Chapter 5: Implementation and Testing:** The fifth chapter is about what methods we used for the implementation and testing of our website, what tools and languages were used, and what sort of testing procedures were followed.

**Chapter 6: Conclusion and Recommendation:** Finally, in chapter six, we have concluded the report by providing a future recommendation for this website and how the website is overall.

## 1.7. Features

We have gathered the list of features that is in our project and they are:

### 1.7.1. Menstrual Cycle Tracker

To keep track of the length and regularity of their menstrual cycle, users can record the beginning and ending dates of their periods. It also provides fertility tracking to aid users in determining the best time to get pregnant.

### 1.7.2. Articles

It typically includes a wide range of articles that are geared towards women's interests, needs, and concerns. Articles related to women's health and wellness, including fitness, nutrition, mental health, menstrual health and reproductive health.

### 1.7.3. Search Function

It can be quite helpful in assisting people in finding the data they require fast. Users can type a word or phrase that describes the information they're looking for, like "health," "women," or "pads.".

### 1.7.4. Membership Management

Both admin and users may find it beneficial. To access more features and services, users can register on the website. Users can edit their name, email address, and password as well as their account settings and personal data. Members can simply access their tracking information, profile details, and other features by logging in and out of their accounts. Overall, membership management tools can improve the user experience and assist the administrator in better managing their user base.

### 1.7.5. QR Code for User Profile

Without having to input their login information, users can immediately access their profile by scanning the QR code with the camera on their smartphone. Users' access to and sharing of their profile information via QR codes can be quick and safe, and it can improve their entire online experience.

### 1.7.6. ChatBot

Users can use a chatbot at any time, including after typical business hours for customer service. A chatbot can escalate a conversation to a live customer service agent if it is unable to resolve the user's issue.

### 1.7.7. E-mail and  Notification

When the user's period is due or is about to begin, they can receive email or notifications. For a more individualized experience, notifications can be customized with the user's name, tracking information, or other pertinent information. To authenticate their identity and prevent unwanted access, users can email their accounts to validate their accounts. If a user loses access or has their account compromised, they can recover their accounts via email. Through the contact page's email system, users can reach the administrator.

### 1.7.8. Feedback and Comments

Feedback gives users the chance to communicate their thoughts, ideas, and worries to the website's creators. Comments , allowing users to engage with the content and with each other.

# CHAPTER 2: BACKGROUND STUDY AND LITERATURE REVIEW

## 2.1. Background Study

The first pads were made from wood pulp bandages by nurses in France. It was very absorbent, and cheap enough to throw away afterwards. Commercial manufacturers borrowed this idea and the first disposable pads were available for purchase came as early as 1888 – called the Southball pad. In America, Johnson & Johnson developed their own version in 1896 called Lister's Towel: Sanitary Towel's for Ladies.

The problem was, women did not feel comfortable asking for this product, so in the early 1920s, the name was changed to Nupak, a name that did not describe the product. Even though sanitary pads were available during this time, they were much too expensive for most women, and they continued using more traditional methods. When they could be afforded, women were allowed to place money in a box so that they would not have to speak to the clerk and take a box of Kotex pads from the counter themselves. It took several years for disposable menstrual pads to become commonplace. The earliest disposable pads were generally in the form of a cotton wool or similar fibrous rectangle covered with an absorbent liner.

Over the last twenty years, the sanitary pad industry has advanced by leaps and bounds. Gone are the days of bulky belts and diaper-like thickness. With the invention of more absorbent materials and better designs, pads are more comfortable and practical than ever. The invention of 'wings' keeps pads in place in the underwear, and the invention of 'scented pads' reduces odor. Sanitary pads are the most widely used form of menstrual management, but they are still overpriced, particularly in developing countries [2].

## 2.2. Literature Review

There is no website that offers free pad service in Nepal. However, there are websites that offer details on women's health and track period. However, the user cannot be adequately served by those websites since they only offer basic information about the health of women and just track period. Users of our application will be able to select the information categories they want to access within the site and the time they want to use the free pad.

The following list of already-established websites are:

### 2.2.1. Pad2go

Pad2go is a social enterprise aiming to create a positive change in the Menstrual Health sector through innovative ideas and outreach programs. This organization has helped various individuals in different parts of Nepal by providing them with free pads. They have also inserted Pad vending machines in different parts of Nepal. Their team also conducts workshops related to menstrual health and the social taboos associated with it [3].

### 2.2.2. Mahilaswasthya

Mahilaswasthya.com is a Nepali website that is concerned with providing various information related to women's health and hygiene to the people. As its slogan states, it is a "Complete Women's Health Magazine". It provides the users with various articles related to women's health including pregnancy issues, reproductive health, skincare, family planning, period sanitation, child care, and diet methods for their bodily changes. It also posts blogs regarding different women's issues with the help of various experts in the related field.

Though this is an extremely informative website regarding women's health issues, it is also disadvantageous in terms of the ads it features. The users are notable to distinguish between ads and the required articles [4].

### 2.2.3. Healthywomen

Healthywomen is dedicated to educating women in the middle — ages 35 to 64 — to make informed health decisions, advocate for themselves, and to prioritize their health and wellness. This website helps women to grow, innovate, and shape the future of women’s health. It also shares stories about the experiences of various women across the globe [5].

### 2.2.4. Flo.health

Flo.health is one of the most prominent websites for period and ovulation tracking along with providing information about other health insights. It also teaches how the menstrual and ovulation cycle affects one’s body and well-being through various articles and expert suggestions. It also informs people about pregnancy and post-pregnancy healthcare along with ways to adjusting to motherhood [6].

# CHAPTER 3: SYSTEM ANALYSIS

## 3.1. System Analysis

To build a proper system that addresses the need of every individual we carried out various methods to collect the required information. We went through various articles and web resources. Going through the various sites related to the academic field, we analyzed the feedback from the colleges and administrations of various institutions.

### 3.1.1. Requirement Analysis

Requirement analysis is significant and essential activity after elicitation. We analyze, refine, and scrutinize the gathered requirements to make consistent and unambiguous requirements. This activity reviews all requirements and may provide a graphical view of the entire system. After the completion of the analysis, it is expected that the understandably of the project may improve significantly. Here, we may also use the interaction with the customer to clarify points of confusion and to understand which requirements are more important than others. We have done two types of requirement analysis i.e. functional and non-functional requirement analysis.

#### 3.1.1.1 Functional Requirement

Functional requirements define what services the system should deliver, how it should react to specific inputs, and how it should behave under specific situations. Functional requirements of our system are:

- **Period Tracker**

The system should be able to track the period cycle using a period tracker.

- **Articles**

The system should be able to provide facts and relevant information related to woman's health. Users should be able to search for the article of their choice.

- **Notification**

The system should be able to provide pads on time by being in touch with the user and constantly updating the database.

- **User Account**

The system should be able to provide the user profile so that users can continue, discontinue for the time being, shift the location they want to get the service from or discontinue the service of receiving pad forever.

- **Authentication**

Only authentic user must have the access to the system.

- **Feedback**

Give feedback to the website.

- **Update Profile**

Users should be able to update their profile.

- **Interaction**

Users are able to interact with the website using chatbot.

#### 3.1.1.2 Non-Functional Requirement

Non-functional requirements describe system attributes and constraints. They can emerge from users' wants, financial constraints, organizational policies, or external factors like safety regulations, privacy registration, and so on. Non-functional requirements are:

- **Security**

The system is only accessible to legitimate users. It is secure on the network and protected against malware attacks or unauthorized access. Using session and password hashing, the system would be made secure.

- **Performance**

The system is able to perform tasks as desired by the user without any delay.

- **Reliability**

The system is available to any and all users at any time to perform various tasks as per the user's needs. It will not work in the absence of internet.

- **Scalability**

The system is scalable to handle an extended number of users at a time while maintaining optimal performance.

- **Usability**

The system have a user-friendly interface and simple design for any users to understand, learn, and use.

- **Portability**

The system is able to run on any operating system platform like Windows 10 or 11, Android, and IOS. Being a web application, it work on any device using almost all mainstream web browsers.

- **Maintainability**

The proposed system is easy to maintain. The mean time to restore the system after its failure will be as less as possible.

- **Backup**

The system is regularly backed up so that it can be recovered in case data is lost for some reason.

### 3.1.2. Feasibility Analysis

A feasibility analysis considers all of the aspects of our project, including the availability of time and capacity, financial and other resources, market demand, and technical aspects. Some of the feasibility that should be included in this project are discussed below:

#### 3.1.2.1. Technical Feasibility:

For Frontend, we are using concept of HTML, CSS, JavaScript, in Visual Studio which is easily available and technically feasible.

For backend, we are using PHP and for the database engine “MySQL”. MySQL organizes and presents data in tabular form, with well-indexed rows and columns, as it is an RDBMS. Because passwords are encrypted in MySQL and it has a strong data security layer to protect critical information from hackers, MySQL offers better security.

### 3.1.2.2. Operational Feasibility:

This project is operationally feasible as it solves the problem that women face during the menstruation cycle. Women are able to obtain pad freely through this platform that further helps to improve their health and hygiene and practice safe menstruation. They also gain knowledge related to the bodily changes occurring during menstruation and the advantages of using period products.

### 3.1.2.3. Economic Feasibility:

Our project doesn't need high-package software as we used JavaScript, HTML, CSS, bootstrap and MySQL which is open source and available for free. We will require a high budget, investment, or funding once the system is developed as the pad is expensive. With investment and budget the project will be fruitful and feasible.

### 3.1.2.4. Schedule feasibility:

Our project is schedule feasible as it is completed within the scheduled time. Here is gantt chart representing each and every steps of our project.

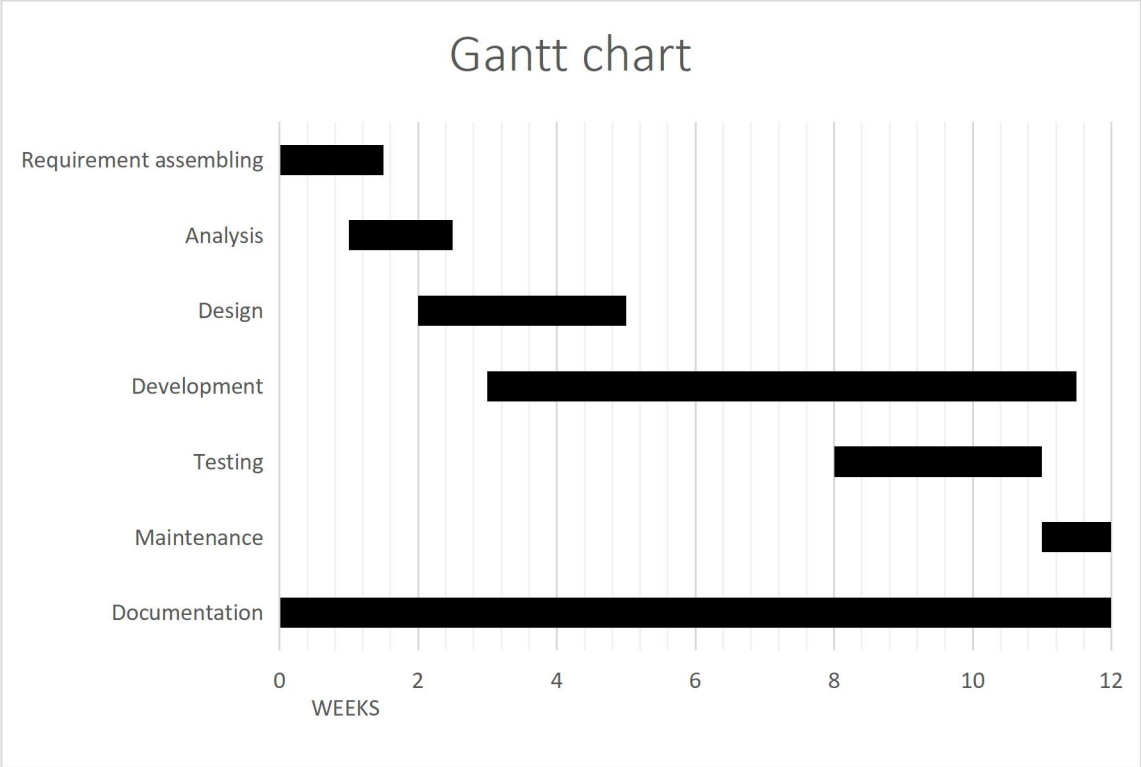


**Figure 2: Gantt Chart for Schedule Feasibility**

### 3.1.3. Analysis

As our website follows structured approach which is a development method that allows the analyst to understand the system and its activities in a logical way. It is a systematic approach, which uses graphical tools that analyze and refine the objectives of an existing system and develop a new system specification which can be easily understandable by user. Structured approach tools are data flow diagrams, data dictionary, decision trees, decision tables, structured English pseudo code.

#### 3.1.3.1. System Context diagram/Data Flow Diagram

The DFD level 0 diagram, also referred to as the context diagram, depicts how the system interacts with other external elements. Two users—Admin and User—can operate the system, according to the DFD of the system (CheliBeti) shown below.

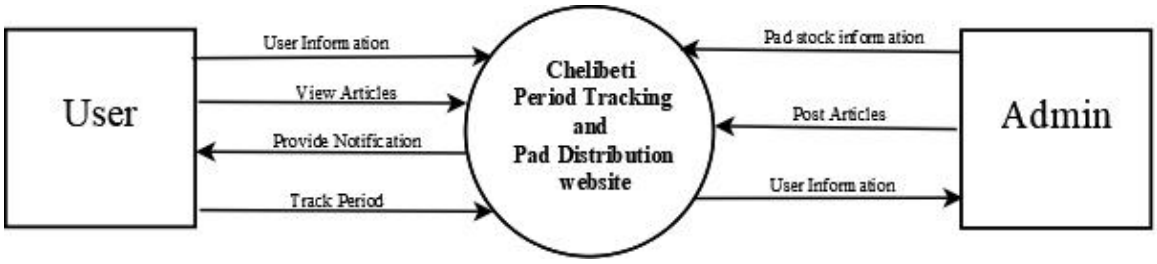


**Figure 3: Level 0 DFD for CheliBeti**

The DFD of User provides information about the Registration, login, account, feedback. Period and ovulation tracker.

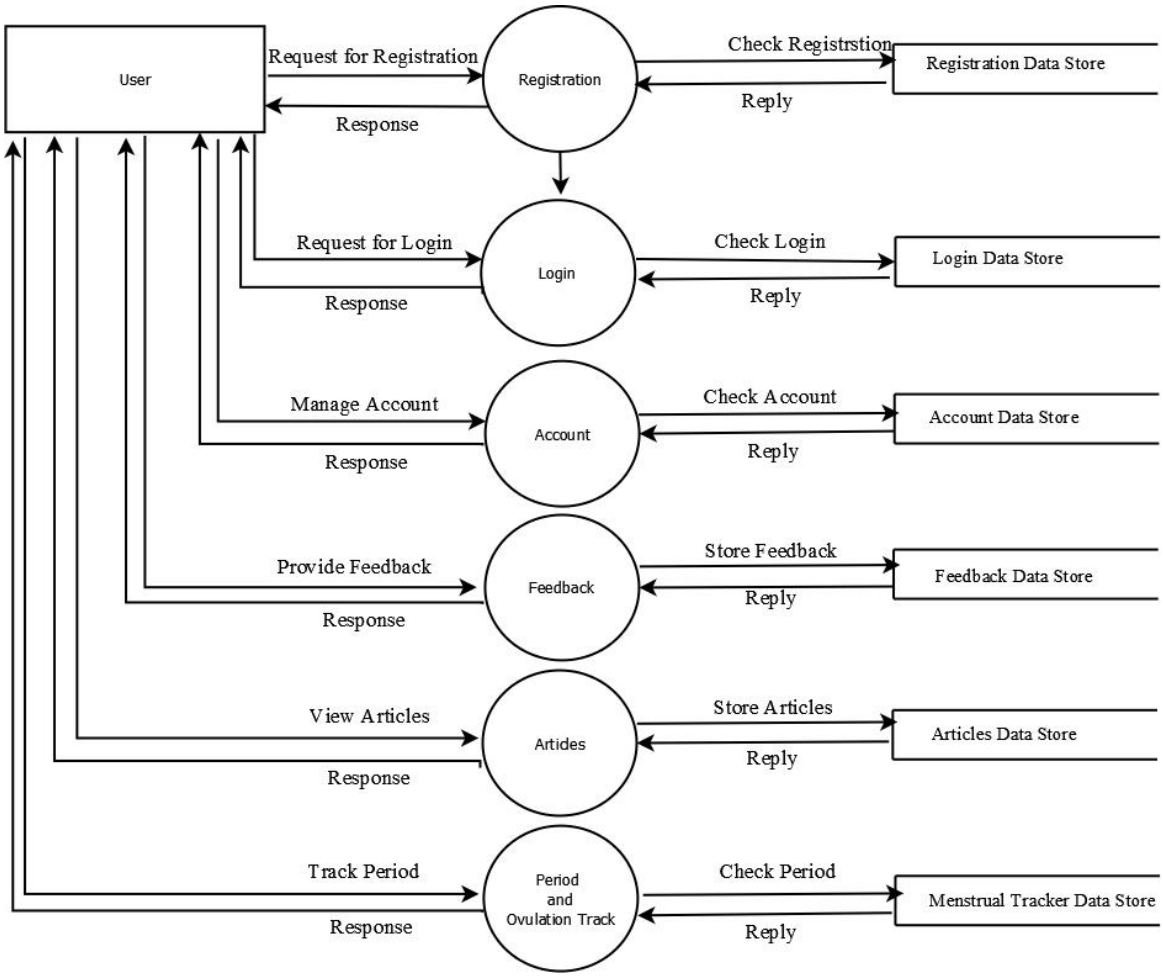


**Figure 4: Level 1 DFD for user**

The DFD of Admin manages the distribution of pads, user information, the impending date of a period, and many other things as illustrated in the image below.

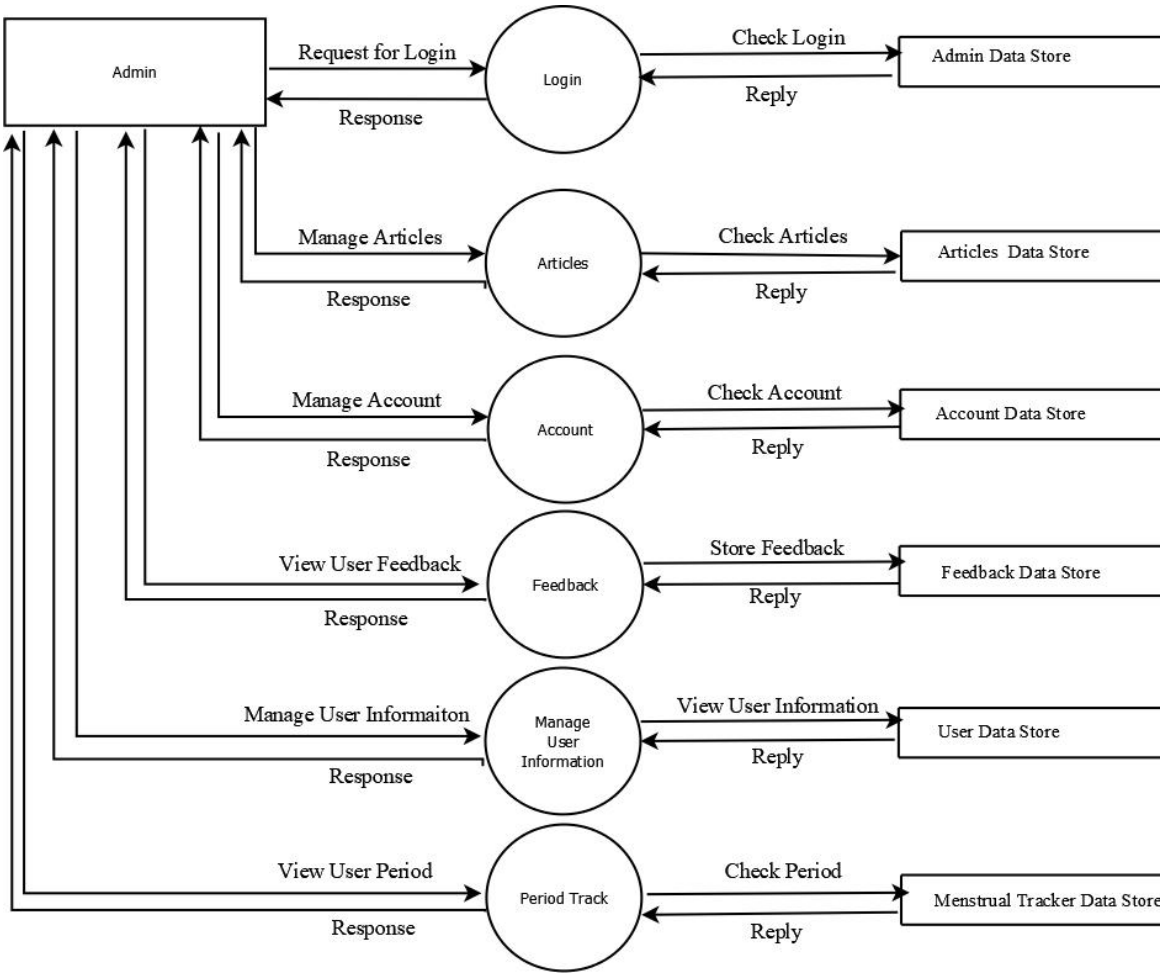


**Figure 5: Level 1 DFD for Admin**

### 3.1.3.2. ER Diagram

The ER diagram has given us a sneak peek at how all of our tables should connect and what fields each table will include. With the aid of diagrams, it facilitates our understanding of the data to be included in the database. It enabled us to explain the logical organization of the database to users. Additionally, they can be translated into relational tables, which enabled us to quickly build databases.

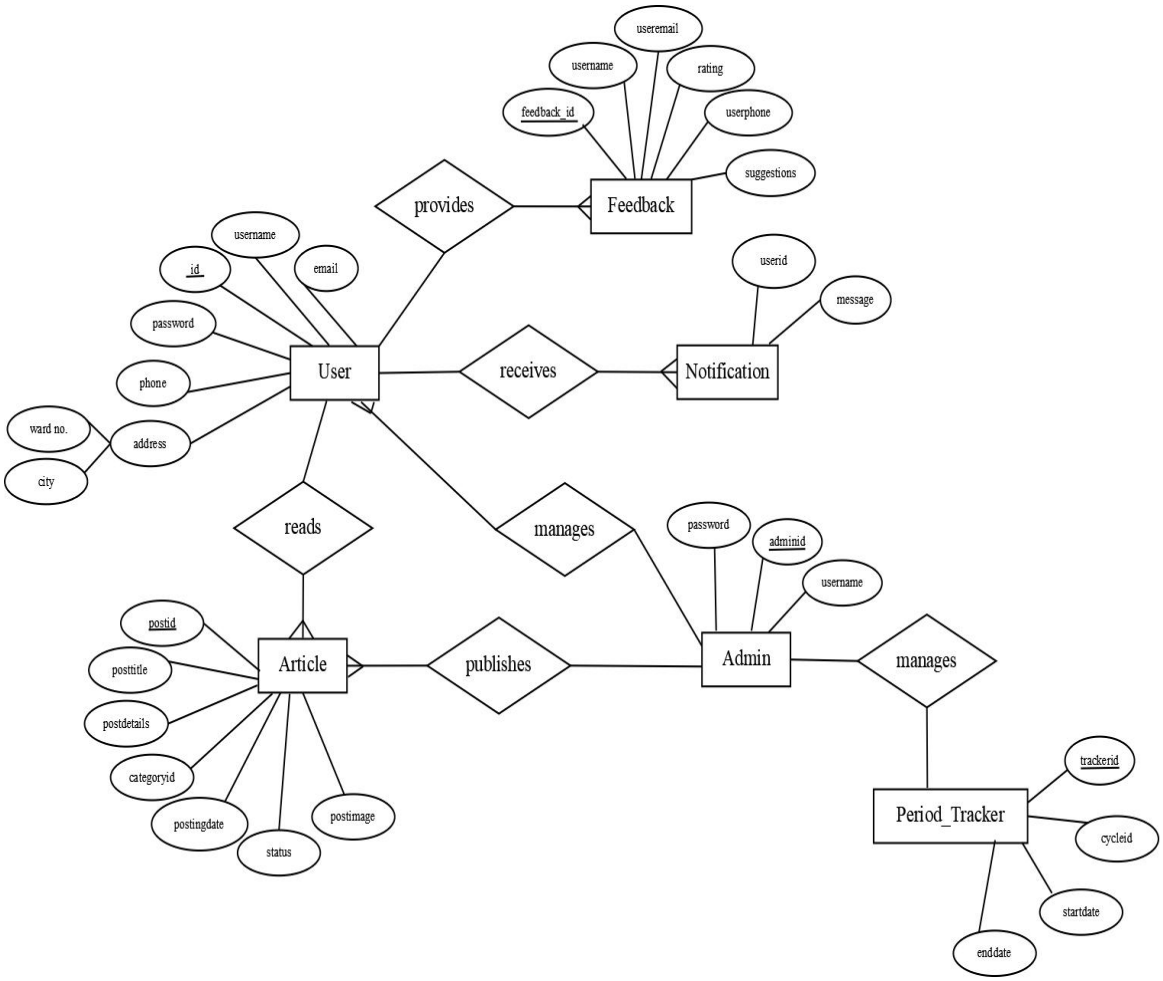


**Figure 6: ER Diagram**

### 3.1.3.3. Use Case Diagram

Use case diagrams were useful for putting a system's functional needs into visual form, which later informed design decisions and development priorities.

It assisted us in identifying any internal or external variables that might affect the system and need to be taken into account.

It offered an excellent high-level analysis coming from outside the system. Use case diagrams outline the system's interactions with actors without focusing on the specifics of how those interactions are carried out.

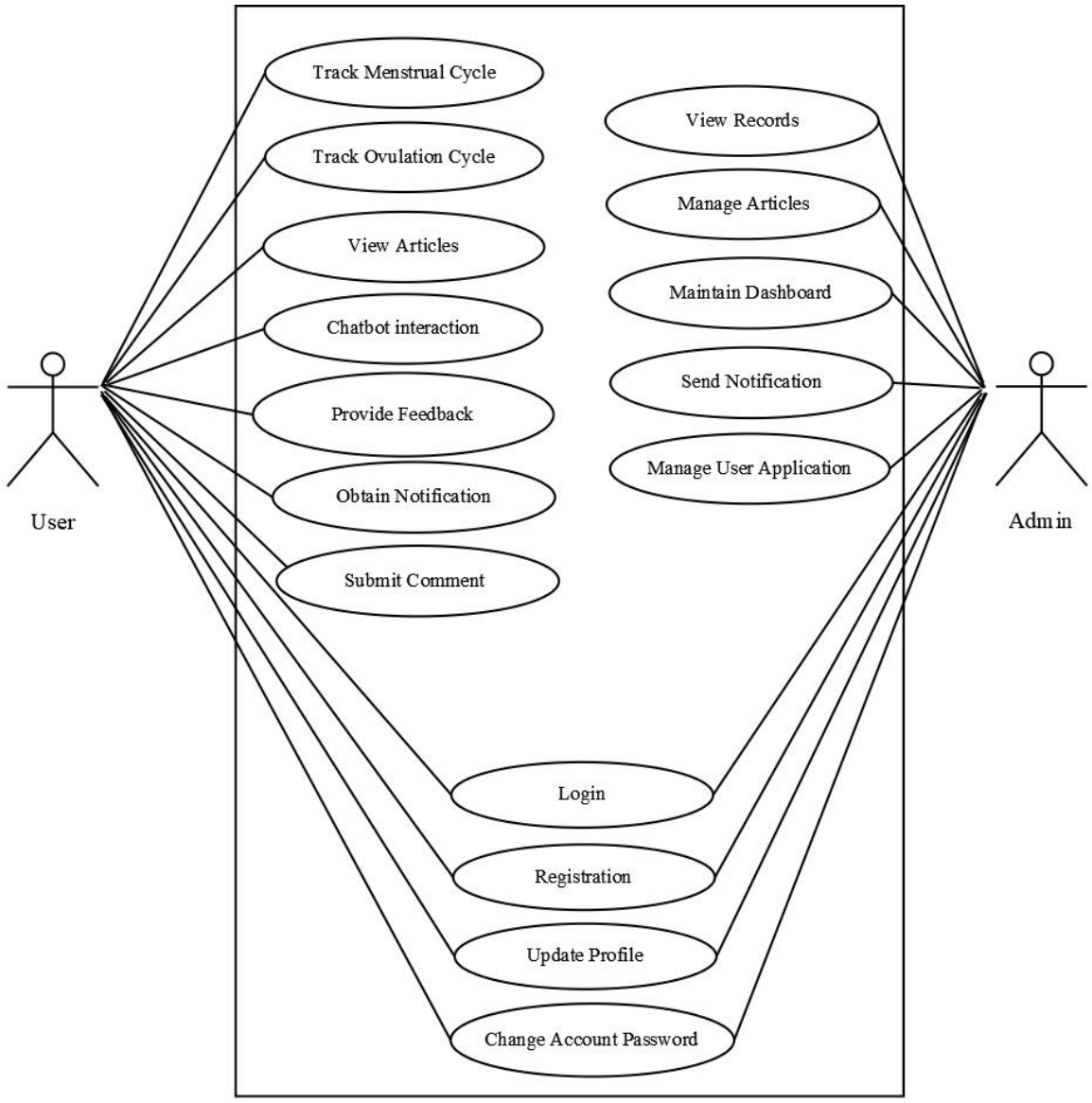


**Figure 7: Use Case Diagram for User and Admin**

# CHAPTER 4: SYSTEM DESIGN

## 4.1. Design

System design is the process of designing the elements of a system such as the architecture, modules and components. The different interfaces of those components and the data that goes through that system.

### 4.1.1. Database Design

Our website have three database which included database for admin , users, and post. Admin database included information for admin login. User database have all the required information of user registration. And posts database have all the required information related to the articles, how to add posts, review, like, comment all all section. Different types of database of our websites are given below:

**Table 1: Database Design For Admin**

| Id | Name | Type | length | Extra | Description |
|---|---|---|---|---|---|
| 1 | id | int | 100 | Auto increment | Id for the admin registration |
| 2 | name | Varchar | 255 | | Name for admin |
| 3 | password | Varchar | 255 | | Password for the security |

**Table 2: Database Design For User**

| id | Name | Type | Length | Extra | Description |
|---|---|---|---|---|---|
| 1 | id | int | 11 | Auto increment | Id for user registration |
| 2 | fname | varchar | 255 | | First name of the user |
| 300 | lname | varchar | 255 | | Last name of the user |
| 4 | email | varchar | 255 | | Email for the user |
| 5 | password | varchar | 300 | | Password for user |
| 6 | contact no. | varchar | 11 | | Contact number of user |
| 7 | Posting_date | timestamp | | | Timestamp of registration |
| 8 | Location | varchar | 50 | | Location of user |

**Table 3: Database for tblcategory**

| Id | Name | Type | Length | Extra | Description |
|---|---|---|---|---|---|
| 1 | id | int | 11 | Auto increment | Id for post |
| 2 | Category Name | Varchar | 200 | | Category name for post |
| 3 | Description | Medium text | | | Description for the post |
| 4 | Posting Date | timestamp | | | Posting date of the article |
| 5 | Updation Date | timestamp | | | Article date for post |
| 6 | IsActive | Int | 1 | | Status for post |

**Table 4: Database for tblpost**

| Id | Name | Type | Length | Extra | Description |
|---|---|---|---|---|---|
| 1 | id | int | 11 | Auto increment | Id for post |
| 2 | Post title | longtext | 200 | | Post title for post |
| 3 | Category | int | 11 | | Category name for post |
| 4 | SubCategoryId | int | 11 | | Posting date of the article |
| 5 | PostDetails | longtext | | | Detail about post |
| 6 | Posting date | Timestamp | | | Posting date of the article |
| 7 | UpdationDate | Timestamp | | | Update date of the article |
| 8 | IsActive | Int | 1 | | Status for post |
| 9 | PostUrl | Mediumtext | | | URL for article |
| 10 | PostImage | Varchar | 255 | | Image used in article |

**Table 5: Database for tblcomments**

| Id | Name | Type | Length | Extra | Description |
|---|---|---|---|---|---|
| 1 | id | int | 11 | Auto increment | Id for post |
| 2 | Post Id | longtext | 200 | | Post id for post |
| 3 | name | int | 11 | | name for post |
| 4 | email | int | 11 | | Email of commenter |
| 5 | comment | longtext | | | Detail of comment |
| 6 | Posting date | Timestamp | | | Posting date of the article |
| 7 | Status | Int | 1 | | Status for post |

**Table 6: Database for Menstrual_cycle_tracker**

| Id | Name | Type | Length | Extra | Description |
|---|---|---|---|---|---|
| 1 | User_id | int | 11 | Auto increment | User Id for tracking |
| 2 | Prev_period-data | Data | | | Previous date of period |
| 3 | Cycle_length | int | 11 | | Cycle length of user |
| 4 | Period_length | int | 11 | | Period length of user |
| 5 | Next_period_date | date | | | Next predicted period date |

**Table 7: Database for pads**

| Id | Name | Type | Length | Extra | Description |
|---|---|---|---|---|---|
| 1 | location | Varchar | 50 | | Location for pads |
| 2 | available | Int | 11 | | Available detail of pads |

**Table 8: Database Design of Poll**

| SN | Name | Type | Length | Extra | Description |
|---|---|---|---|---|---|
| 1 | Id | int | 11 | Auto increment | Feedback Id unique for each user |
| 2 | Name | text | | | Name of the user |
| 3 | Email | text | | | Email of user |
| 4 | Phone | text | | | Phone number of user |
| 5 | Feedback | text | | | Feedback given by user |
| 6 | Suggestion | text | | | Suggestion given by user |

### 4.1.2. Form and Report Design

We have forms for different section. User can enquire about the problem using contact us page form. There are login, registration form for a user, for admin, contact form and many more as shown below in our website "**CheliBeti"**.

- **User's Side**

    1. Login form
    2. Contact us form
    3. Register form
    4. Period Form
    5. Change password form

6. Password recovery form

7. User’s Profile Form

- **Admin Side**

1. Login Form

2. Manage pad form

3. Between Date report form

### 4.1.3. Interface and Dialogue

The sequencing of interface displays is the emphasis of dialogue design, whereas interface design focuses on how information is presented to and collected from users. Dialogues are comparable to a two-person conversation. Each person's adherence to grammatical conventions during a conversation serves as the interface.

## 4.2. Algorithm Details

Here we have presented two main types of algorithm i.e. for admin and for user.

### 4.2.1. Algorithm for user

1. Start
2. View Website
3. Go to register
4. If registered successfully, enter user id & password and go to step 5.
   Else go to step 3
5. Go to Login page
6. If Login successful, go to step 7
   Else go to step 3
7. View user dashboard
8. Track period, ovulation cycle
9. View Articles
10. Stop

### 4.2.2. Algorithm for Admin

1. Start
2. View Website
3. Go to register
4. If registered successfully, enter admin id & password and go to step 5.
   Else go to step 3
5. Go to Login page
6. If Login successful, go to step 7
   Else go to step 3
7. View admin dashboard
8. Manage users, period data, pad stock
9. Post, Manage, Edit, Delete Articles
10. Stop

### 4.2.3. Block Diagram for Admin and User

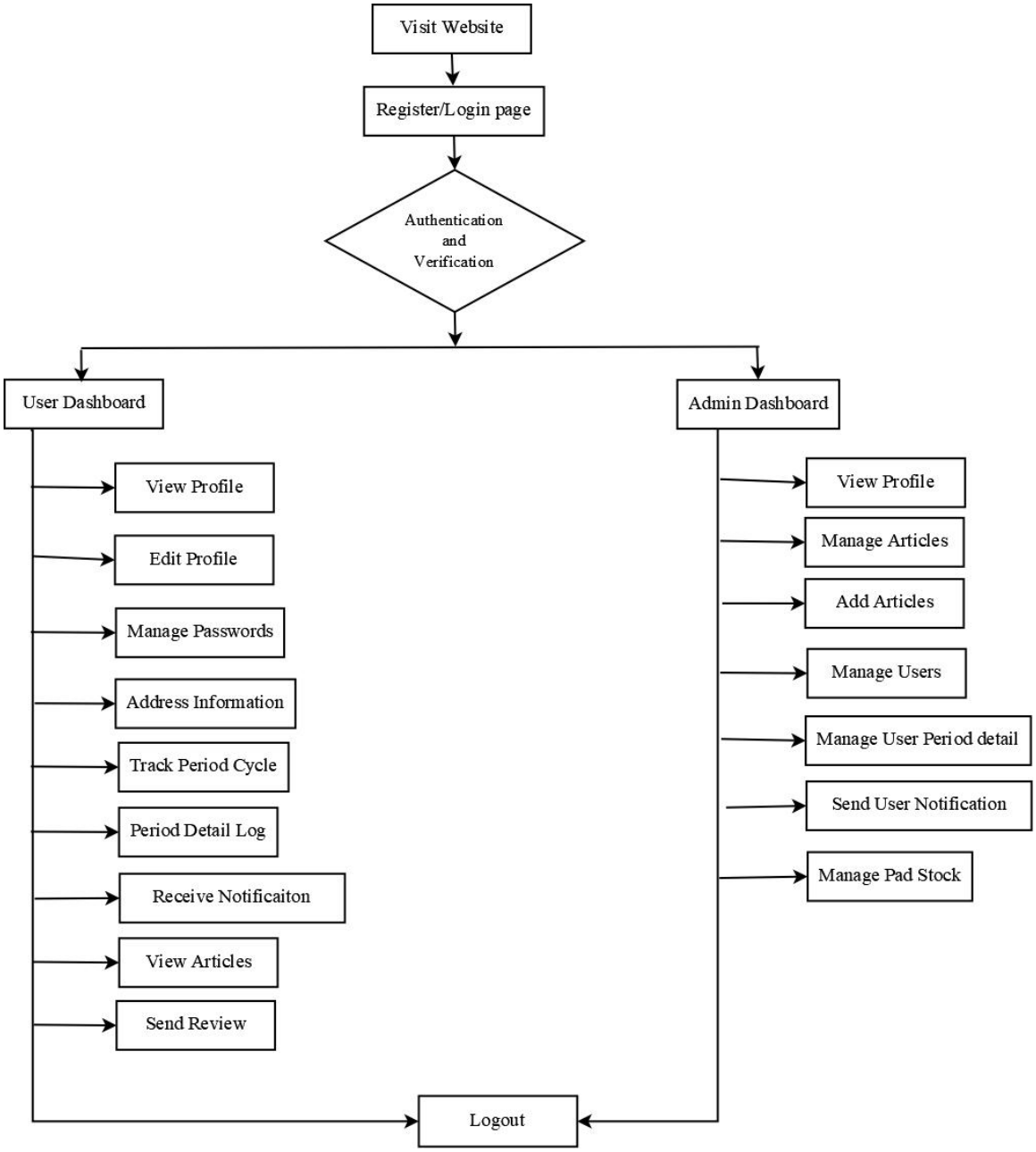


**Figure 8: Block Diagram for User and Admin**

# CHAPTER 5 : IMPLEMENTATION AND TESTING

## 5.1. Implementation

A software implementation plan have helps us to find and deploy the right software for your business needs. Adopting new software is both time-consuming and can be costly in terms of finances and human resources. Without a plan in place before the process starts, it's likely your software adoption will fail.

With a properly developed plan in place, we can avoid making hasty decisions, ensure the correct people are involved in the implementation, configure the system correctly and create a situation where employees can truly appreciate the full benefits the software has to offer while also providing adequate training.

### 5.1.1. Tools, Languages and Software Used

#### 5.1.1.1. Frontend

We have used various Frontend tools. Following are the tools used in the Frontend:

**i. HTML**

Our website uses HTML for the following purposes:

- **HTML Form**

For login, registration, the contact page, and other purposes, HTML forms were utilized to generate input areas where users could enter details about their menstrual cycle, such as the start and finish dates.

- **HTML tables**

To make it simpler for users to examine and evaluate their cycle data, the recorded menstrual cycle data was displayed in a tabular fashion using HTML tables.

- **HTML headings and paragraphs**

The website's content was organized and structured using HTML headings and paragraphs. This was helpful for giving users knowledge about menstrual cycles, such as descriptions of menstrual cycle phases, techniques for fertility awareness, and more.

- **HTML links**

HTML links were used to link to articles or external resources about menstruation health as well as to internal website pages like the articles or the feedback module.

- **HTML images**

To add visual components to the website, such as images for linked articles, HTML images were employee.

**ii. CSS**

Here are some illustrations of how our website made use of CSS:

- **Form styling**

The input fields and buttons used in the period tracking forms were styled using CSS. This includes altering the form elements' text size, color, and background color as well as giving them borders or shadows to improve their aesthetics.

- **Layout and positioning**

The layout and positioning of the various website elements, such as the navigation menu, community forum, and data visualization module, were defined using CSS. This includes customizing the width and height of various website parts as well as arranging the pieces visually appealingly using CSS grid or flex box.

- **Text styling**

The headings, paragraphs, and links on the website have all been styled using CSS. It also includes adding text shadows, gradients, or background colors, as well as altering the font family, font size, line height, and letter spacing.

- **Color customization**

The background, text, and accent colors used on the website were all altered using CSS. This aids in establishing a unified visual aesthetic and brand identity for the website.

- **Design that responds to various screen sizes and devices**

CSS was used to build a responsive design. This includes utilizing media queries to modify the website's layout and styling for various screen sizes as well as CSS frameworks like Bootstrap or Foundation to develop a responsive design.

### iii. JavaScript

The following are some instances of JavaScript usage on our website:

- **Form Validation**

Validation of the user's input on the menstrual cycle tracking form was done using JavaScript. It was used, for instance, to verify that the user entered a genuine date or a number that was inside a certain range.

- **Data visualization**

Interactive and dynamic charts or graphs that depict the user's menstrual cycle data were made using JavaScript. Users now find it simpler to comprehend and evaluate the patterns of their menstrual cycles.

- **Reminders and notifications**

The creation of alerts and reminders for users using JavaScript, such as reminding them to enter their menstrual cycle data or informing them when their period is due.

- **Community forum features**

To add interactive elements to the community forum, such as the ability for users to like or comment on posts or to filter postings by topic or category, JavaScript was employed.

- **User customization**

To enable users to alter the website according to their preferences, such as selecting their favourite language or color scheme, JavaScript was employed.

- **User behavior tracking**

JavaScript was used to monitor how visitors interacted with the website, including the pages they visited, how long they stayed on each, and the actions they took. The website was optimized using this data to enhance user experience.

### iv. Bootstrap

Here are some instances of websites using Bootstrap for period tracking:

- **Responsive Design**

Bootstrap was used to develop a responsive grid system, which automatically modifies the website's layout and aesthetic to accommodate various screen sizes and devices. This makes it possible to guarantee that the website is simple to use and available from both desktop and mobile devices.

- **Components for styling**

For a variety of HTML components, such as buttons, forms, tables, and typography, Bootstrap offers pre-made CSS styles. The many parts on the period tracking website can be simply changed and applied using these styles, resulting in a unified and polished appearance.

- **JavaScript plugins**

To add interactive and dynamic functionality to the website, Bootstrap offered a selection of JavaScript plugins, including modals, tool tips, and carousels. For instance, a carousel may be used to show customer reviews, and a popup could be used to give more details about a certain website function.

- **Navigation Menu**

Bootstrap includes a per-designed navigation menu that may be readily modified to meet the particular requirements of the period tracking website. This includes enhancing the navigation menu with drop-down menus, social media symbols, or a search bar.

- **Form elements**

For a variety of form elements, including as input fields, check boxes, and radio buttons, Bootstrap offered per-designed styles. The menstrual cycle tracking form can be simply altered using these styles to produce an aesthetically pleasing and user-friendly interface.

#### 5.1.1.2. BACK END

For backend we have chosen PHP. PHP was used in following ways:

**i. PHP**

Here are some illustrations of PHP usage on our website:

- **Processing form data**

The website's menstrual cycle tracking form data was processed using PHP. This entails verifying the input, sanitizing the information to thwart harmful assaults, and archiving the information in a database for later use.

- **User authentication and authorization**

In order to safeguard user information and guarantee privacy, PHP was used to authenticate and authorize users on the website. This includes configuring user rights for various areas of the website and handling login and logout features.

- **Management of the website's database**

PHP was utilized to control the menstrual cycle monitoring information. This includes locating the data, displaying it on the website, and updating or erasing it as necessary.

- **Dynamic content generation**

PHP was used to generate dynamic content on the website, such as displaying personalized messages or recommendations based on the user's menstrual cycle data.

- **Email notifications**

PHP was used to send email notifications to users, such as reminders to enter their menstrual cycle data, or notifications about upcoming periods or ovulation.

- **Integration with third-party services**

PHP was used to integrate the period tracking website with third-party services, such as social media platforms or payment gateways.

#### 5.1.1.3. Database

For database we have decided to use MySQL as it seems appropriate for our project. We have used MySQL in following ways:

**i. MySQL**

Here are some instances of websites using SQL in period tracking:

- **Creating tables and columns**

The database tables and columns required to hold the information for tracking a woman's menstrual cycle were made using SQL. Determining the data formats and connections between various tables is part of this process.

- **Data insertion**

The menstrual cycle monitoring data was inserted using SQL into the necessary tables and fields in the database.

- **Data retrieval**

The menstrual cycle tracking information on the website was retrieved and displayed using SQL. This includes using a database query to find specific data based on input from the user or other standards.

- **Data updating**

When necessary, SQL was utilized to update the database's menstrual cycle monitoring information. This includes updating the database with new data or making changes to current data.

- **Data deletion**

When a user deletes their account or removes a specific menstrual cycle record, SQL is used to remove that specific record from the database.

- **Data analysis**

To analyze the menstrual cycle tracking data, SQL was utilized. Running queries to find patterns and trends in the data as well as producing reports or visualizations based on the findings are all included in this.

#### 5.1.1.4. Software

We have used various software for our projects. Software that were used for completing our project are:

**i. Visual Studio Code**

In our project, visual studio code was used as a main code editor to write the codes for the platform. We chose this as primary code editor for project as it's an open source software with user-friendly interface and support multiple programming language and added functionality like integration debugging, version control, testing tools, snippets. Embedded Git, etc.

**ii. XAMPP**

XAMPP includes PHP and MySQL, which are essential tools for building dynamic web applications like ours. These tools were used to create dynamic content for the website, process user input, and store information in a database.

**iii. DIA**

System diagrams illustrating the many elements and operations of our website were produced using DIA. This improved our understanding of the website's architecture and the relationships between its many elements.

**iv. MySQL Server**

Here are some instances of period tracking websites that were created using the MySQL server:

- **Data storage**

To record information on menstrual cycle tracking, including period dates, symptoms, and mood, MySQL was employed. With the use of this data, graphs and statistics were produced to make it easier for users to keep tabs on their menstrual periods.

- **User accounts**

Usernames, passwords, and email addresses were all stored in MySQL for user accounts. This data was used to authenticate users and offer them individualized website experiences.

- **Search functionality**

The period tracking website has search capabilities, which was implemented using MySQL. Users might, for instance, look up previous menstrual cycles or certain symptoms they've had.

- **Data analysis**

Menstrual cycle data were analyzed using MySQL to produce insights that can assist consumers better understand their bodies. For instance, the website may use MySQL to figure out how long on average a user's menstrual cycle is.

- **Data backup and recovery**

MySQL has tools for backing up and restoring databases, which can assist ensure that user data is secured in the event of a hardware failure or other disaster.

### 5.1.2. Implementation Modules

Here are some implementation modules that were consider while making "**CheliBeti**":

- **User Authentication Module**

The website's user authentication is handled by this module. It oversees user registration, login, and logout. This module ought to provide the security and protection of user data.

- **Period Tracking Module**

This module is in charge of gathering and storing information on a user's menstrual cycle. It enables users to enter details about their menstrual cycle, like the start and end dates, the length of the period, etc. Users who use this module will receive notifications and cycle-related reminders.

- **Data Visualization Module**

This module is in charge of providing an easy-to-use interface for the recorded menstrual cycle data. It is presented via graphs, charts, or tables. It enables users to access and examine their menstrual cycle data with ease**.**

- **Notification Module**

This module gives users notifications and reminders about their forthcoming periods and other significant menstrual cycle-related events.

- **Analytics Module**

Users are expected to receive information and statistics about their menstrual cycle from this module. It gives consumers knowledge about things like cycle duration and regularity.

- **Feedback Module**

Users can report problems, offer new features, and provide comments on the website using this module.

## 5.2. Testing

Software Testing is evaluation of the software against requirements gathered from users and system specifications. Testing is conducted at the phase level in software development life cycle or at module level in program code. Software testing comprises of Validation and Verification.

### 5.2.1. Test Cases for Unit Testing

During the coding phase each individual module was tested to check whether it works properly or not. Different errors found during unit testing were debugged. Some of the test cases are listed below:

**Table 9: User Login test case**

| SN | Test Inputs | Expected Outputs | Actual Outputs | Result |
|---|---|---|---|---|
| 1 | When user provides correct username and password:<br>Username:<br>sandy@gmail.com<br>Password: Sandy123 | Login should be successful | Login successful | Test successful |
| 2 | When username and password is not provided:<br>Username:<br>Password: | Error message should appear to fill required fields | Error messages appear to fill required fields | Test successful |
| 3 | When username is provided with incorrect password:<br>Username: anisa@gmail.com<br>Password: wqqw324 | Error message about invalid password should appear | Error message about invalid password | Test successful |

**Table 10: User Registration test case**

| SN | Test Inputs | Expected Outputs | Actual Outputs | Results |
|---|---|---|---|---|
| 1 | First name: Sandhya<br>Last name: Rimal<br>Address: Bajhapatan<br>Mobile: 9806545665<br>Email: sandy@gmail.com<br>Password: Sandy123 | Successfully registered | Successfully registered | Test successful |
| 2 | First name: Anisa<br>Last name: Shrestha<br>Address:<br>Mobile:<br>Email: anisa@gmail.com<br>Password: | Registration should fail | Error message to fill required field | Test successful |

### 5.2.2. Test Cases for System Testing

In order to confirm that the entire system operates as intended, system testing was conducted following integration testing. Following integration testing, the entire system's operational procedure was examined. Two Categories of System Testing are:

- **White Box Testing**

  The internal workings or code of a system application were working properly.

- **Black Box Testing**

  The output was as per the system specifications and hence the system was found to work properly.

**Table 11: System Testing Test Results**

| SN | Test Inputs | Expected Output | Actual Output | Result |
|---|---|---|---|---|
| 1 | Login | User/Admin logged in website | As expected | Pass |
| 2 | Period Track | Tracking according to input data | As expected | Pass |
| 3 | Notification | According to cycle activity | As expected | Pass |
| 4 | Review Articles | Comment a review on every article | As expected | Pass |

### 5.2.3. Result Analysis

For unit testing, the user login and registration cases were tested with different inputs in the system. The errors and unexpected outputs were removed and all the tests were completed successfully.

For system testing, each unit of the system were tested as a whole and results were obtained accordingly. The errors were removed and all the test cases were successfully operated.

# CHAPTER 6: CONCLUSION AND FUTURE RECOMMENDATION

## 6.1. Conclusion

At the end of this project, we are capable of providing a platform for free pad distribution in different parts of our country. Many women have access to pads during their menstrual cycle that can further be helpful to maintain their health and sanitation. We made women aware about menstruation hygiene and the bodily changes that occurs in a women through various articles and posts.

Articles were helpful to make the livelihood of women little bit easier than before. By providing pad in systematic order, women don't have to use cloth which is unhygienic during menstruation and be safe from insanitary practices. We allowed user to track there menstrual cycle to coordinate pad distribution.

## 6.2. Future Recommendation

We would like to suggest the following in order to mitigate the project's risks and challenges and achieve improvements in future developments.

- **Premium Pads**

We can add section where user can register as a premium user and get access to the pads they want without paying the VAT.

- **Remainder Notification**

User will be able to set up remainders for their upcoming periods or ovulation dates, as well as remainders for taking birth control or other medications.

- **Symptom Tracking**

Users can track any symptoms they experience during their menstrual cycle, such as cramps, bloating, or mood changes. This can be helpful for identifying patterns and predicting future symptoms.

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[1] “What if… sanitary pads were made free?,” The Annapurna Express. https://theannapurnaexpress.com/news/what-if-sanitary-pads-were-made-free-3663 (accessed Dec. 05, 2022).

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[5] “Home | HealthyWomen,” HealthyWomen, 2020. https://www.healthywomen.org/

[6] Flo, “Flo - ovulation calendar, period tracker, and pregnancy app,” Flo.health - #1 mobile product for women’s health, 2014. https://flo.health/

# APPENDICES

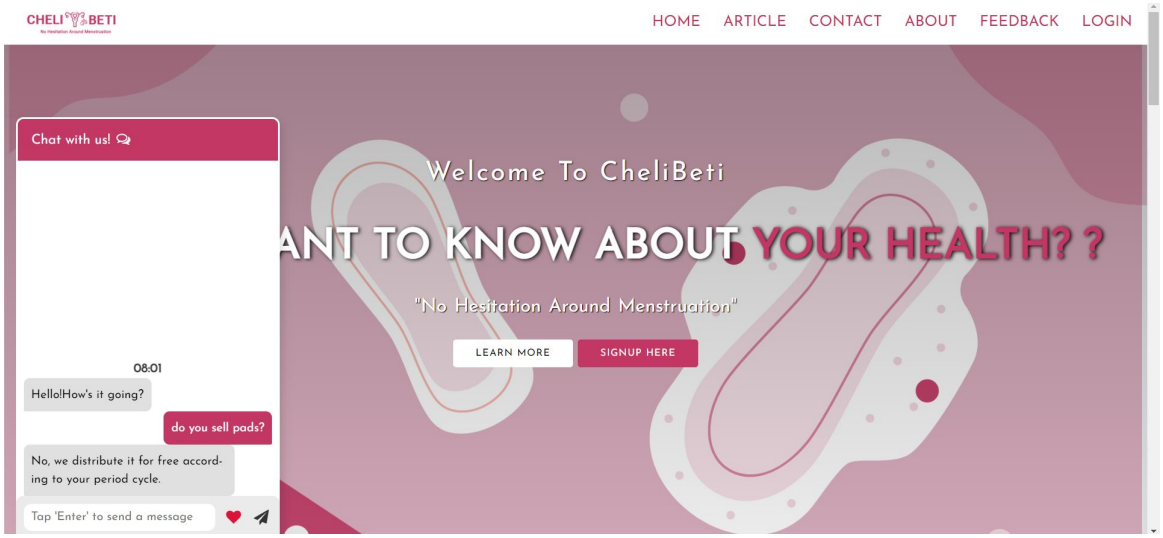


**Figure 9: Landing page**

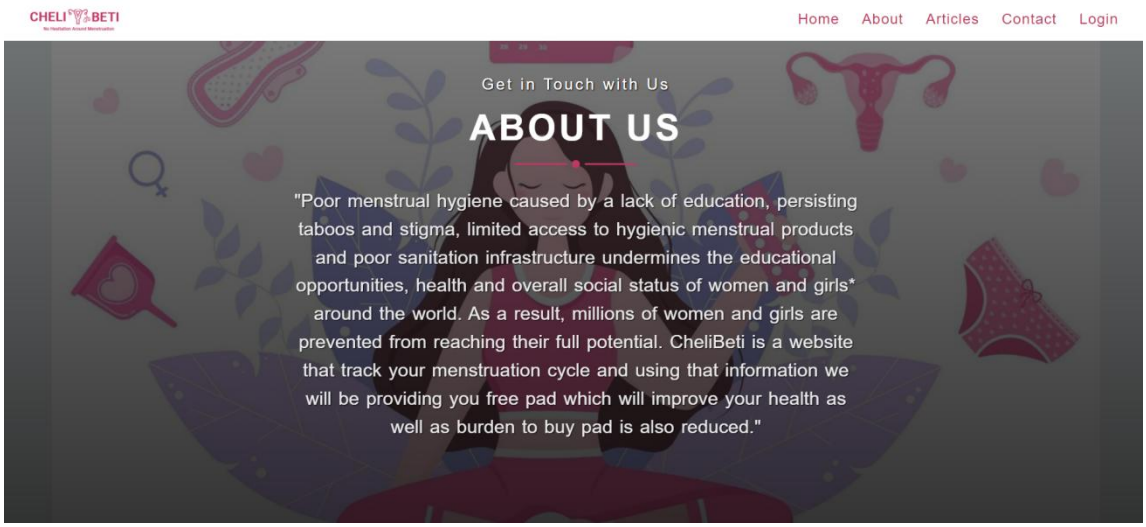


**Figure 10: About us**

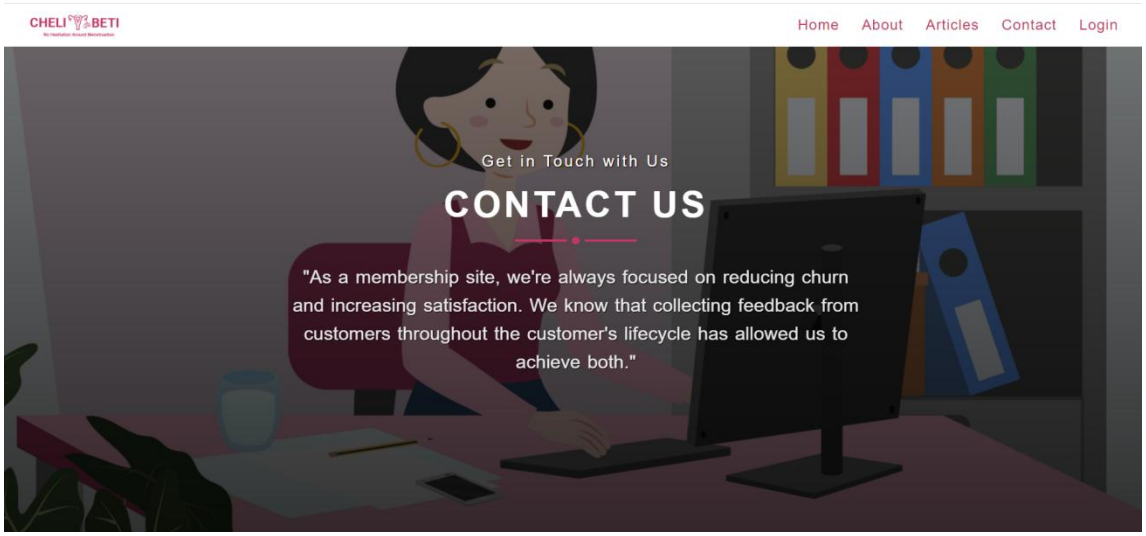


**Figure 11: Contact us**

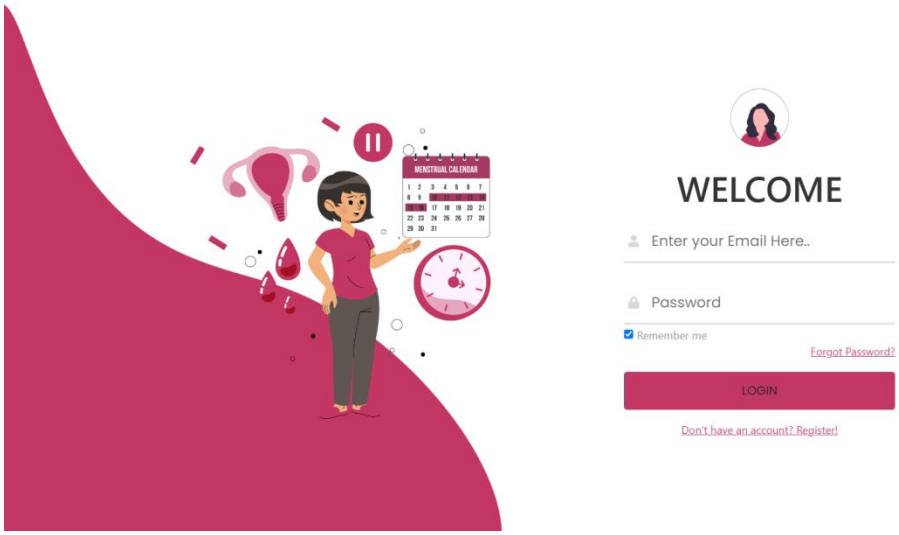


**Figure 12: Login**

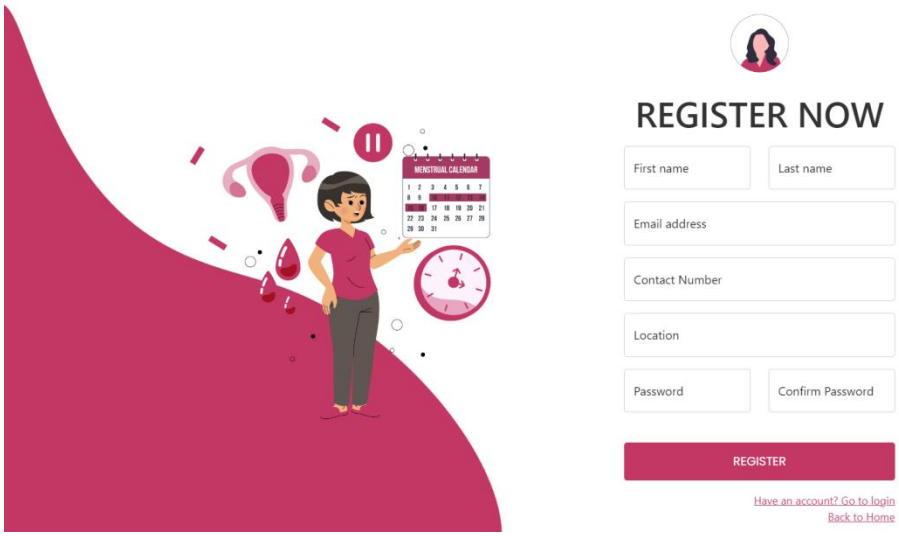


**Figure 13: Register page**

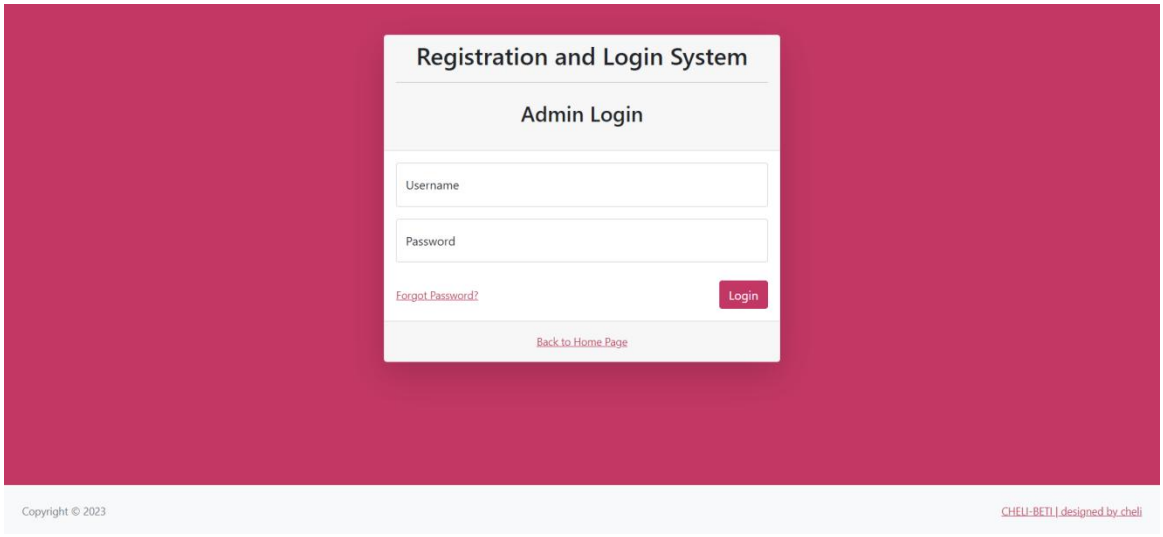


**Figure 14: Admin login**

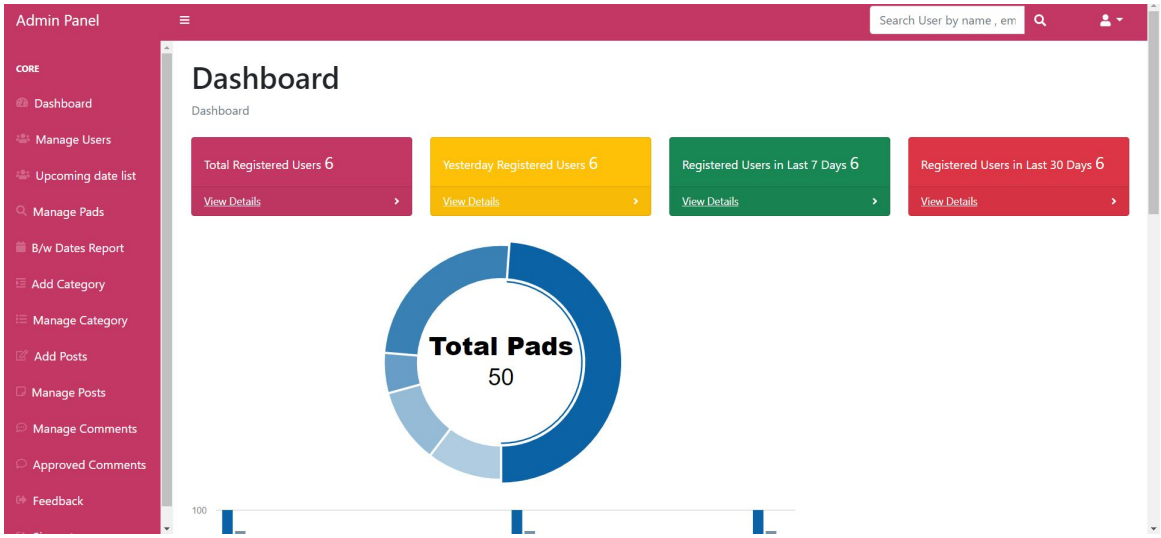


**Figure 15: Admin Dashboard**

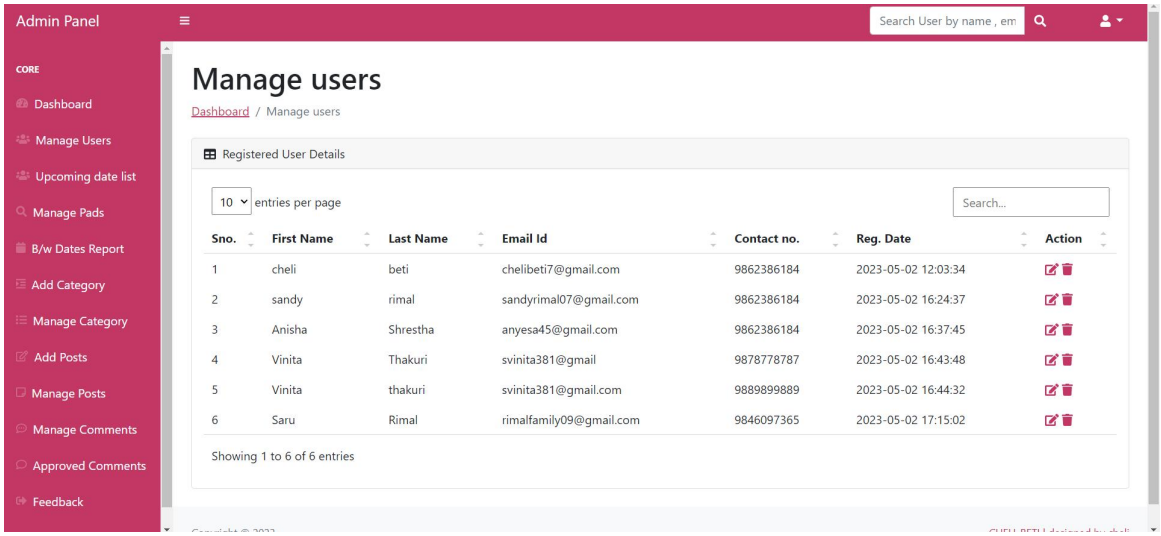


**Figure 16: Manage users**

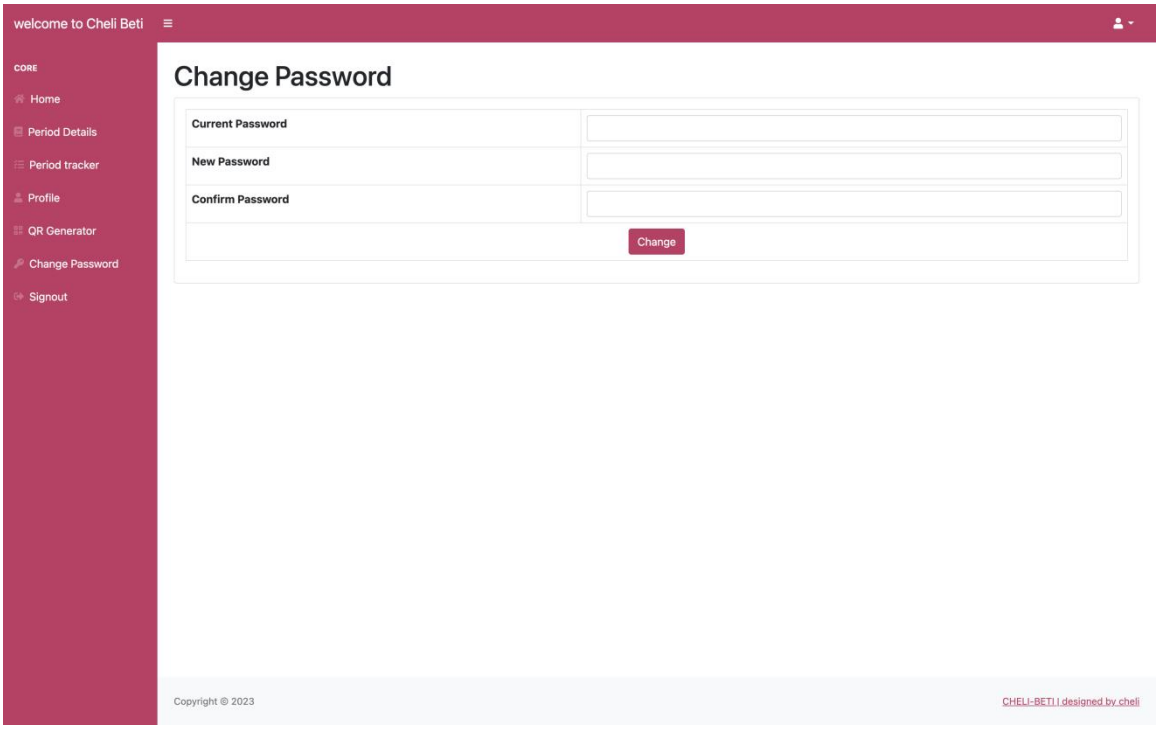


**Figure 17: Password changes**

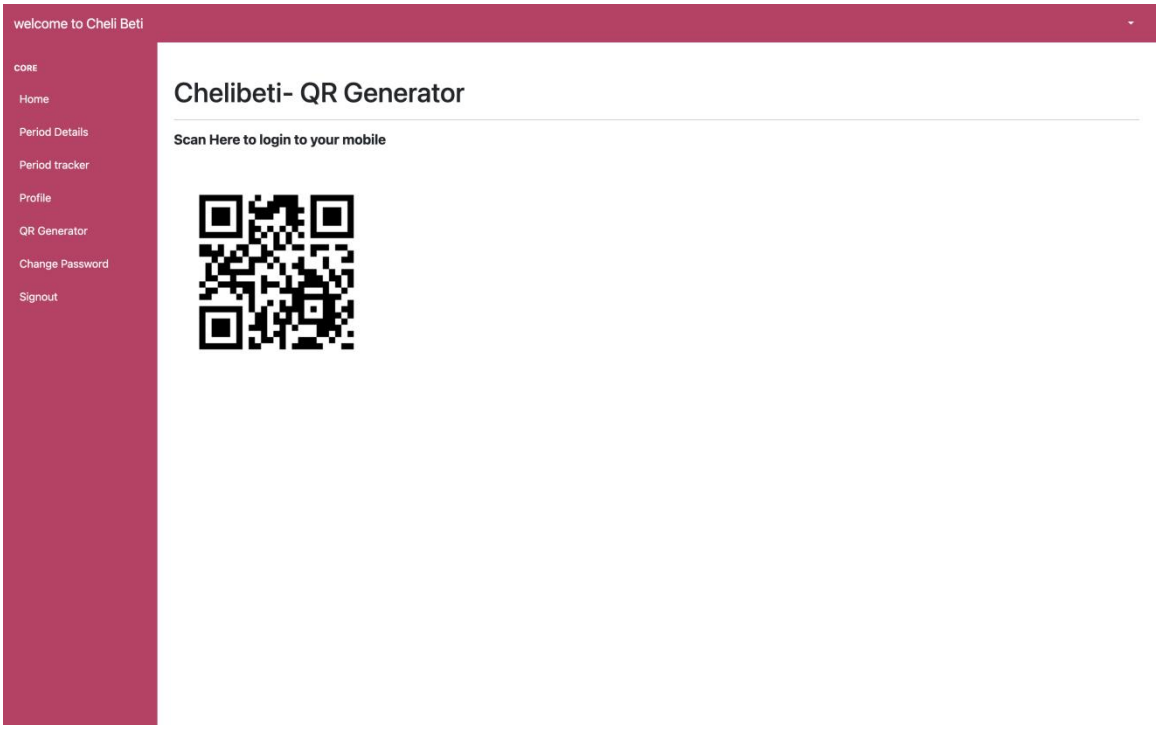


**Figure 18: QR Code Scanning**

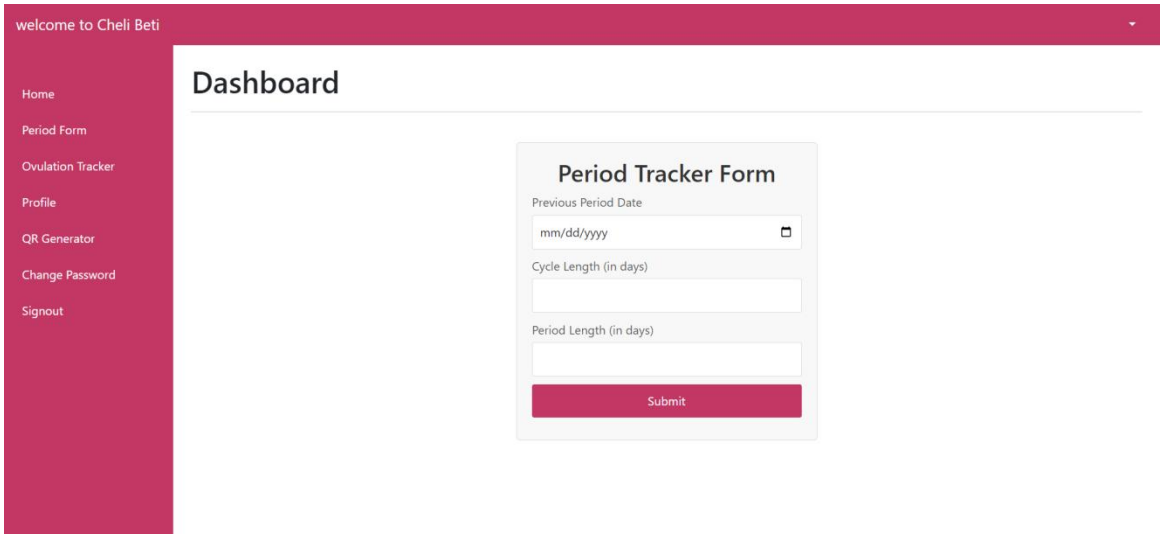


**Figure 19: Period tracking form**

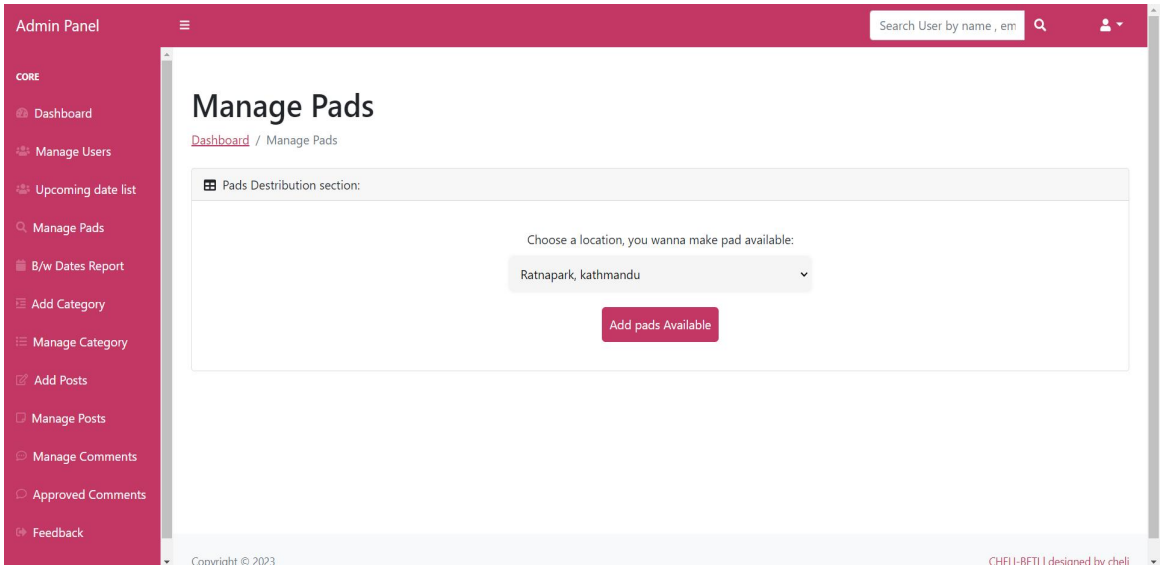


**Figure 20: Manage pads according to location**

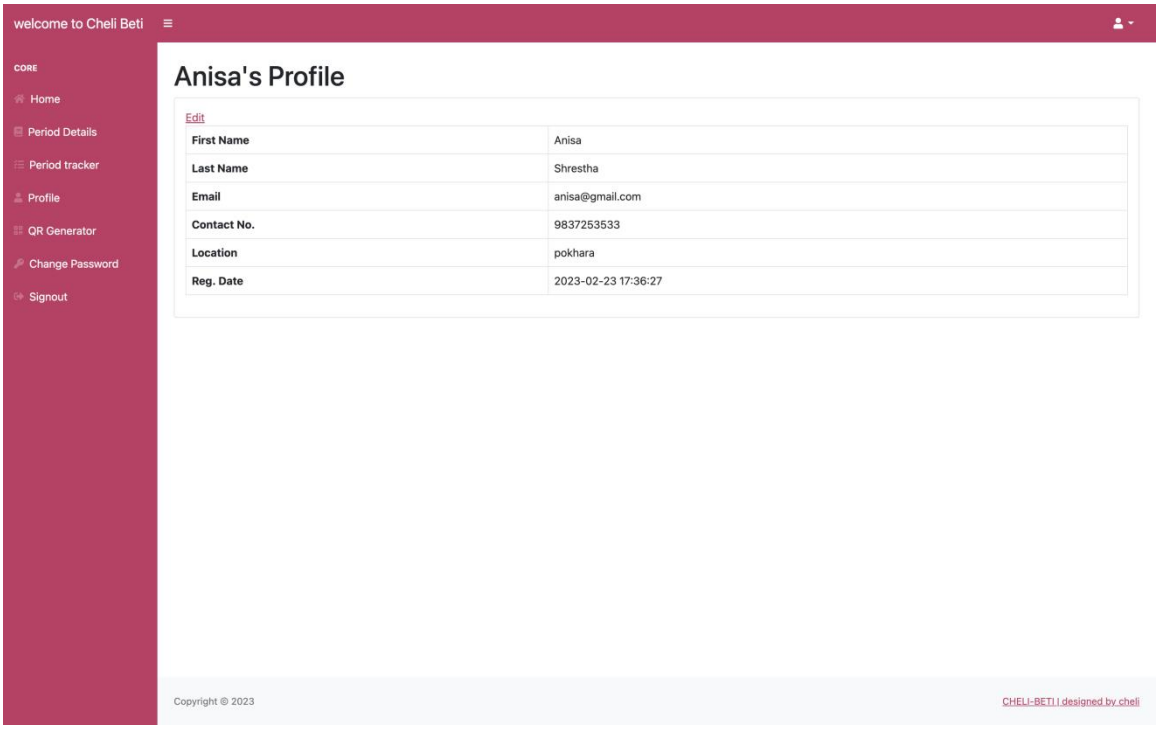


**Figure 21: Users profile**

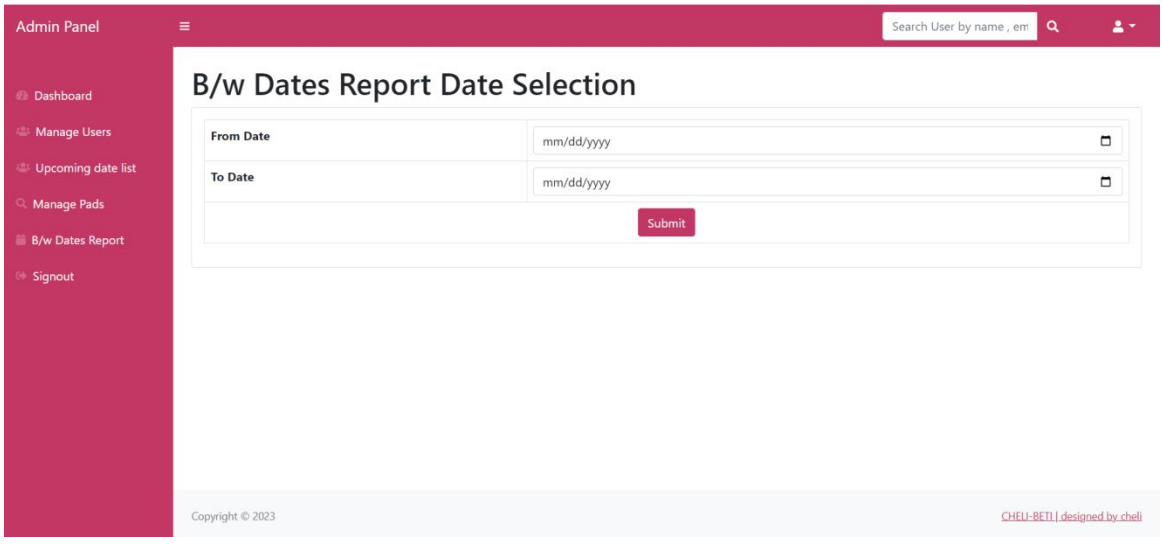


**Figure 22: Between dates reports**

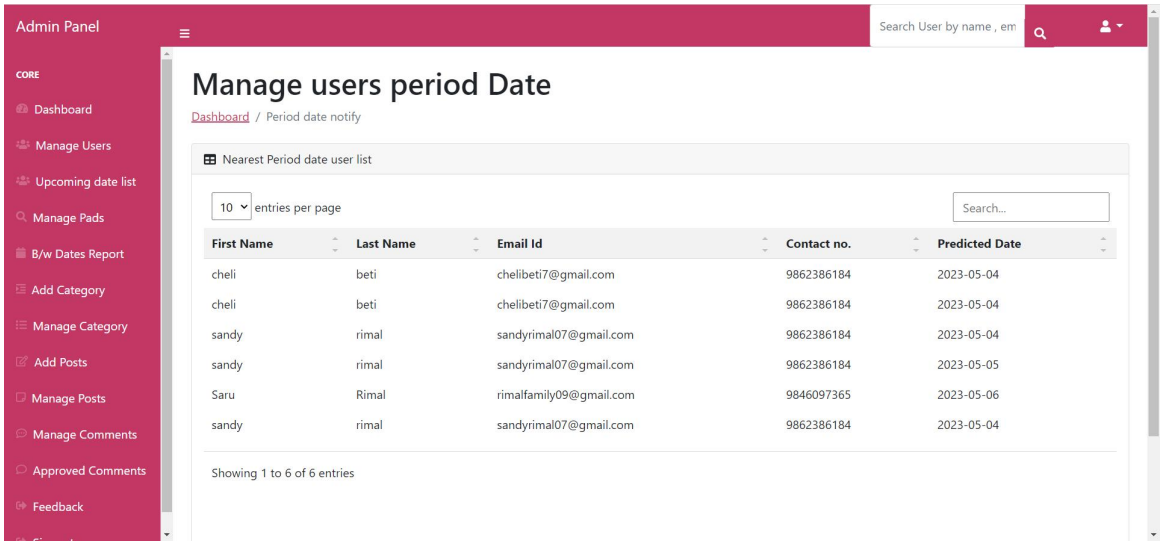


**Figure 23: Upcoming dates**

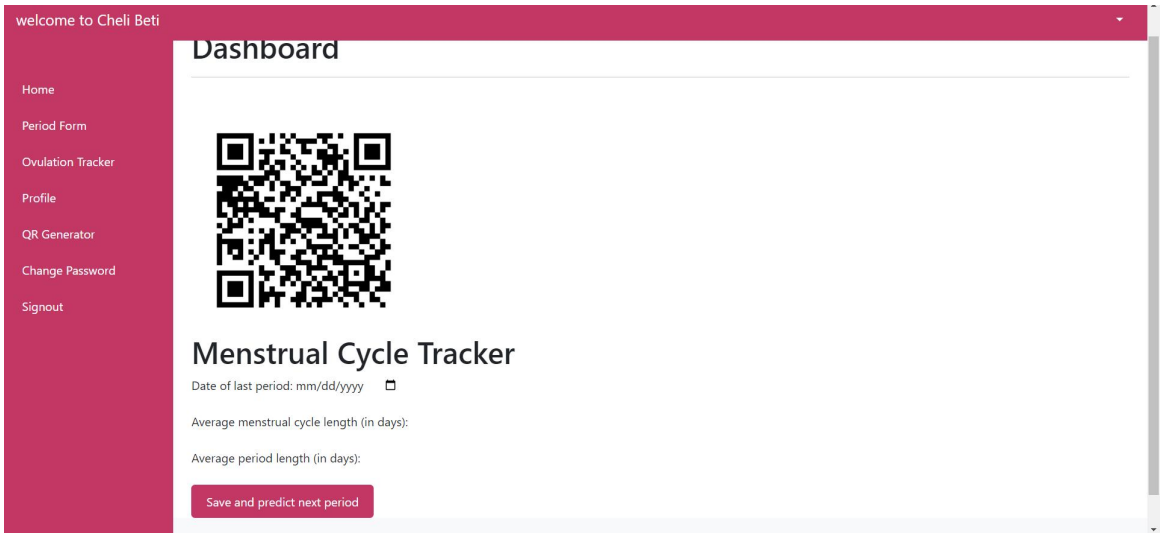


**Figure 24: Home**

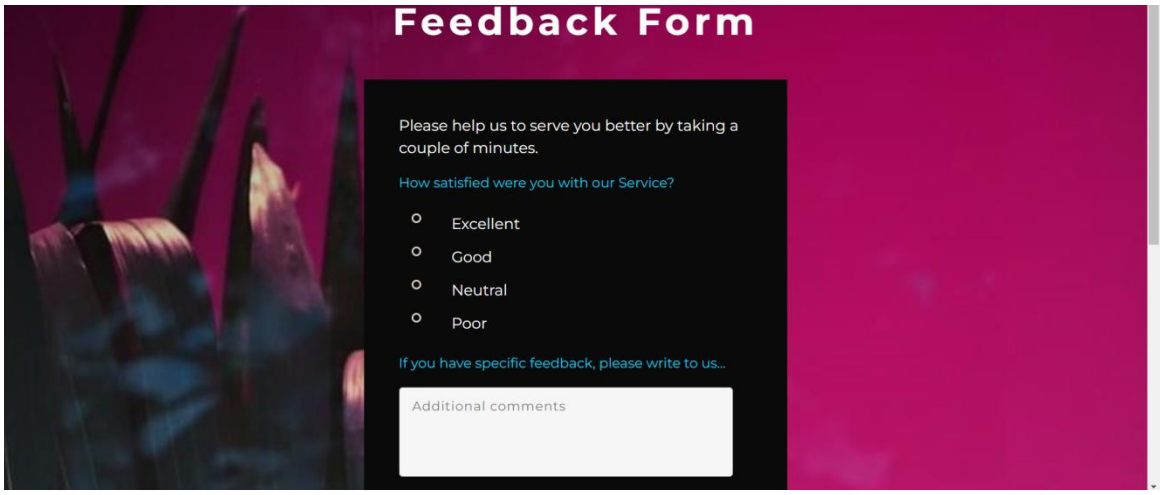


**Figure 25: Feedback Form**

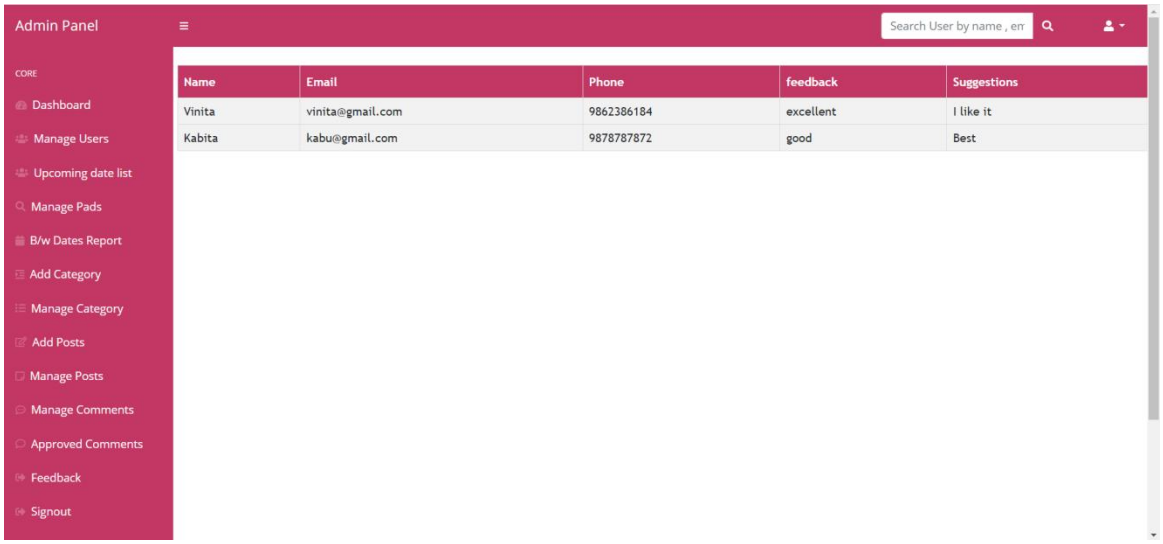


**Figure 26: Feedback**


**Figure 27: Add Category**

0

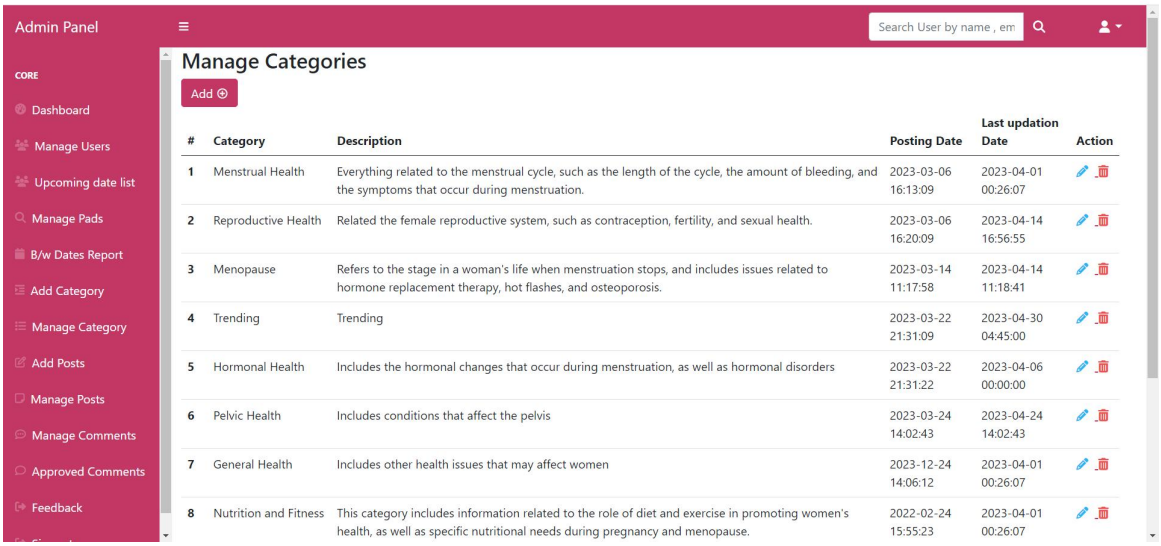


**Figure 28: Manage category**

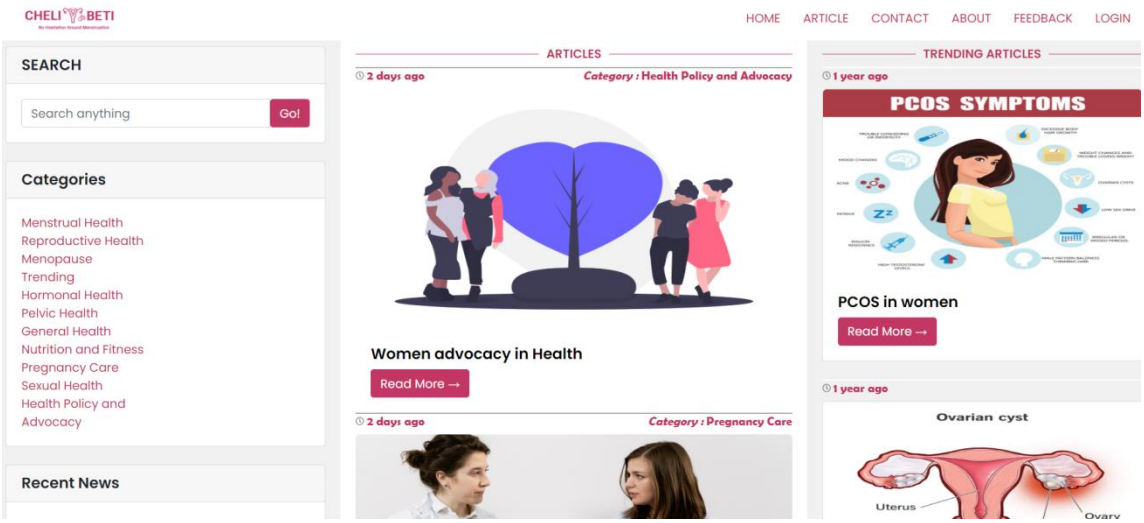


**Figure 29: Articles**