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Femfit Sync: Workout Application with Menstrual Tracker

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Abstract

The integration of digital technology into health and fitness has revealed a key gap: the lack of synchronization between menstrual and workout tracking apps, causing fragmented insights and potential health risks. This research develops a mobile application that unifies menstrual tracking with workout planning to deliver personalized fitness experiences for women aged 18–45. Using an object-oriented approach and system prototype methodology, the Android-based app is designed and tested for functionality, usability, and adaptability across menstrual phases. It tailors exercise plans based on menstrual data, reducing fatigue and injury risks from misaligned routines. Initial testing within the UTHM community shows improved user satisfaction, better workout planning, and higher health awareness. The study concludes that integrating physiological data into fitness platforms provides a more holistic, user-centered experience. Future enhancements will explore real-time synchronization via wearable devices to further automate and enrich user interaction.

1. Introduction

In recent years, technology has enhanced health and fitness through mobile applications that support physical and mental well-being. Fitness applications help users set goals and track progress, while menstrual tracking applications monitor cycles and symptoms. However, these systems often function separately, limiting a holistic health approach. Integrating both can provide women with personalized workout plans that align with hormonal and energy level changes throughout the menstrual cycle [1]. Most current applications lack synchronization between fitness routines and menstrual data, requiring manual input and reducing effectiveness. A unified platform would improve usability, accuracy, and overall health insights [2].

The lack of integration between menstrual tracking and fitness applications leads to a fragmented user experience, often requiring manual data transfer that results in errors or missed logs. This disconnection prevents personalized insights, causing women to perform unsuitable workouts during certain cycle phases, which can increase the risk of fatigue, injury, or reduced performance [3]. Without visualizing correlations between cycle phases and fitness outcomes, users miss valuable insights for self-optimization. A unified system is needed to create personalized, cycle-aware workout plans that improve safety, effectiveness, and user experience.

This project aims to design a workout mobile application that syncs with a menstrual tracker using an object-oriented approach, develop it with Android technology for a seamless user experience, and evaluate its functionality and usability through comprehensive functional testing.

The mobile application targets female students and staff as end-users to log cycles, symptoms, and workouts through six key modules: Profile Management, Cycle and Symptoms Tracking, Workout Tracking, Personalized Recommendations, Analytics, and Notifications. These modules support personalized engagement

with minimal manual input and have been verified for accuracy and relevance by a gynecologist from Dr. Ana Clinic.

The project delivers a user-friendly mobile app that synchronizes menstrual data with workout planning to enhance exercise personalization based on real-time physiological changes. This integration reduces manual input, helps users understand their body's responses across cycle phases, and supports informed decision-making to prevent burnout and injury. Designed with input from healthcare professionals, the app aims to improve health tracking, boost user satisfaction, and promote a holistic approach to fitness and menstrual wellness [3] [4].

This project is significant for its ability to personalize fitness plans based on hormonal and physiological changes, adjusting workout type and intensity according to menstrual phases to promote safety and performance while reducing injury risks [4]. By integrating menstrual and activity data, the app helps users identify wellness patterns, improve health outcomes, and foster awareness and open conversations around menstrual health.

2. Related Work

This section will discuss the technology used, followed by research on the existing related system, and will conclude with a comparative analysis highlighting how the proposed system addresses the limitations of current applications.

2.1 Technology Used

FemFit Sync uses Flutter and Android for mobile development, chosen for their cross-platform capabilities and broad device compatibility. Supabase manages authentication and real-time data synchronization. TensorFlow Lite supports offline AI predictions using models trained in Python. Machine learning techniques used include neural networks for phase prediction, a Random Forest Regressor for cycle length forecasting, and decision trees for rule-based workout recommendations. Models were developed in Jupyter and Colab, then deployed using Render to enable cloud-based API inference.

2.2 Existing Related System

The Nike Training Club offers personalized workout plans but lacks menstrual cycle tracking, limiting its usefulness for users needing routines aligned with hormonal changes [5]. Flo Period Tracker excels in reproductive health and symptom monitoring but does not include workout planning, forcing users to manage fitness data separately [6]. Wild AI combines fitness with menstrual tracking and provides phase-specific recommendations, yet it primarily targets athletes and restricts key features to paid subscribers [7].

2.3 Comparison between The Reviewed System and The Proposed System

Table 1 highlights that FemFit Sync is the only application providing full integration of menstrual and workout data, diverse routines, personalized insights, and accessible features without requiring payment.

Table 1 *Comparison between the reviewed system and the proposed system*

Features	Nike Training Club [5]	Flo Period Tracker [6]	Wild AI [7]	FemFit Sync
User Profile Management	√	√	√	√
Workout Logging and Tracking	√	X	√	√
Menstrual Cycle Tracking	X	√	√	√
Diverse Workout Options	√	X	X	√
Personalized Workout Recommendations	X	X	√ (Paid)	√
Analytics and Insights Module	√	√	√ (Paid)	√
Integration of Menstrual and Fitness Data	X	X	√	√

Existing systems offer strong individual features, but none provide complete integration of menstrual and fitness tracking. FemFit Sync addresses this gap using machine learning, mobile-first design, and medical verification to deliver an inclusive, intelligent, and user-friendly experience.

3. Methodology and System Analysis

This section outlines the approach used to develop the FemFit Sync application and details the analytical and modeling components that guide its functionality.

3.1 Methodology

FemFit Sync was developed using the prototyping model, which applies user feedback through iterative Planning, Analysis, Design, Implementation, and Testing. This approach ensures early issue detection and user-focused refinement [8]. Table 2 summarizes the outputs of each phase.

Table 2 *Output of the phases in prototyping methodology*

Phase	Task	Output
Planning	Determine project background	Project proposal
	Determine objectives, scope, and goals	Gantt chart
	Schedule timeline and tasks	
Analysis	Conduct interviews	Software Requirement Specification (SRS)
	Verify the requirement	Use case diagram
	Document the requirement	Use case specification
		Sequence diagram
		Class diagram
Design	Design architecture	User interfaces
	Design system database	System database
	Design system interfaces	
Implementation	Develop prototype	First prototype
	Evaluate prototype	Feedback and suggestions
	Gather user feedback	Second prototype
	Improve prototype based on feedback	Final prototype
	Deliver the final system Test developed system	Final system
	Fix bugs and error	Test cases
	Document results	Test report

3.2 System Analysis

System analysis involved the detailed modeling of functional requirements using object-oriented techniques. Unified Modeling Language (UML) diagrams were employed to visualize user interactions, workflows, and data relationships. These diagrams include the use case diagram, use case specifications, activity diagrams (Appendix A), sequence diagrams (Appendix B), and class diagrams.

3.2.1 Use Case Diagram

The use case diagram, Figure 1, depicts the interactions between system actors and the system functionalities. It serves as a high-level representation of the system's functional scope [9].

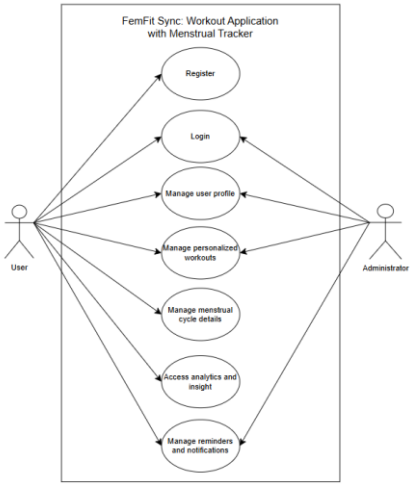

Fig 1 *Use case diagram for FemFit Sync*

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3.2.2 Class Diagram

The class diagram, Figure 2 illustrates the static structure of the application, showing system classes like User, WorkoutLog, MenstrualLog, and their relationships. It defines attributes and methods for each class, aiding in code development and database design. The diagram supports maintainability and extensibility through clear modeling of associations and data flows [10].

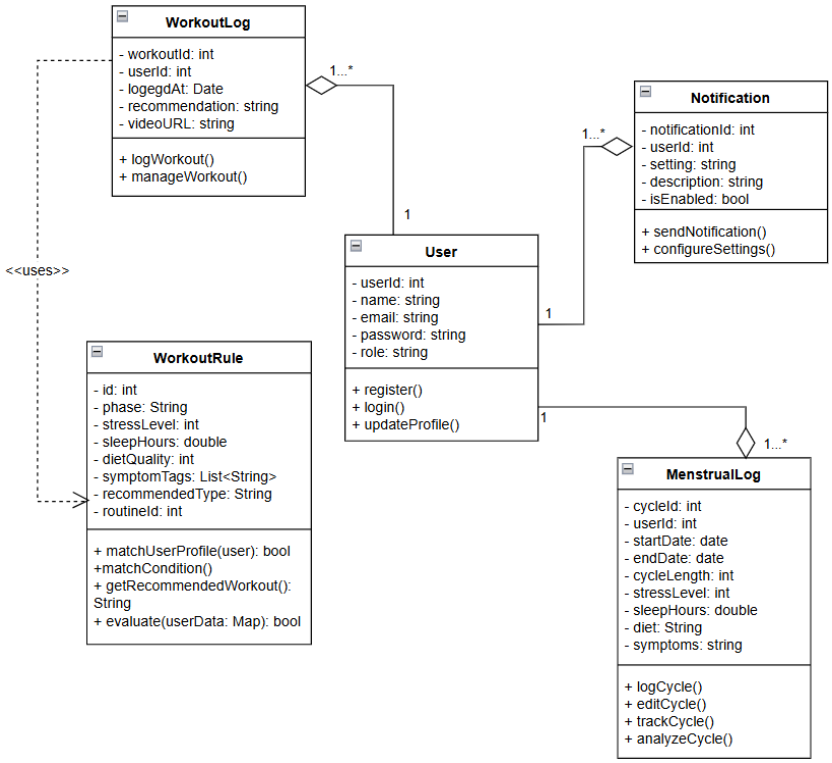

Fig 2 *Class diagram for FemFit Sync*

3.3 Requirement Traceability

A Requirement Traceability Matrix (RTM) was used to map functional requirements to their respective test cases and implementation modules. This ensures comprehensive coverage during development and facilitates systematic validation. Table 3 provides the detailed RTM, linking each requirement to its implementation outcome [11].

Table 3 *RTM for FemFit Sync*

ID	Description
REQ_100	**Register**
REQ_101	The system must be able to display registration page.
REQ_102	The user must be able to enter their name, email, password into the system.
REQ_103	The system must be able to validate the username, email and password.
REQ_104	The system must be able to display error if the user enter invalid username, email, and password.
REQ_105	The system must be able to register an account for new user.
REQ_200	**Login**
REQ_201	The system must be able to display login page.
REQ_202	The user must be able to enter their email or password into the system.
REQ_203	The system must be able to validate the email and password.

Table 3 *(cont)*

REQ_204	The system must be able to display error if the user enter invalid email, and password.
REQ_300	**User Profile Management**
REQ_301	The system must allow users to navigate to the profile management section of the application.
REQ_302	The system must display the current profile information for the user.
REQ_303	The user must be able to update their profile fields (e.g., name, email, password).
REQ_304	The system must allow the user to submit changes to their profile.
REQ_305	The system must validate the input data provided by the user.
REQ_306	The system must update the user's profile in the database if the data is valid.
REQ_307	The system must display a success message confirming the profile update.
REQ_308	The system must allow administrators to navigate to the user management section of the application.
REQ_309	The system must display a list of users for the administrator.
REQ_310	The administrator must be able to select a user to manage their profile.
REQ_311	The system must display the selected user's profile information to the administrator.
REQ_312	The administrator must be able to view or delete the user's profile information.
REQ_313	The system must confirm the deletion action when the administrator chooses to delete a user profile.
REQ_314	The system must remove the user profile from the database upon confirmation of deletion.
REQ_315	The system must display a success message confirming the deletion of the user profile.
REQ_316	The user must be able to cancel the update process and return to the previous screen.
REQ_317	The system must display an error message if the user submits invalid data.
REQ_318	The user must be prompted to correct any input data validation issues.
REQ_400	**Manage Workout and Activity**
REQ_401	The system must allow users to navigate to the workout logging section of the application.
REQ_402	The user must be able to log the details of the workout session.
REQ_403	The system must display a success message confirming the workout log.
REQ_404	The system must allow administrators to navigate to the workout management section of the application.
REQ_405	The system must display the current list of workout types to the administrator.
REQ_406	The administrator must be able to create, view, update, or delete workout types.
REQ_407	The system must validate the input data when the administrator creates or updates a workout type.
REQ_408	The system must update the workout types in the database if the data is valid.
REQ_409	The system must display a success message confirming the creation, update, or deletion of the workout type.
REQ_500	**Manage Menstrual Cycle Details**
REQ_501	The system must allow users to navigate to the menstrual cycle management section of the application.
REQ_502	The system must display the current menstrual cycle details (if any) to the user.
REQ_503	The user must be able to input or update their menstrual cycle information.

Table 3 *(cont)*

REQ_504	The user must be able to submit their menstrual cycle details.

REQ_505	The system must validate the input data provided by the user.
REQ_506	The system must save the menstrual cycle details in the database if the data is valid.
REQ_507	The system must analyze the cycle phases based on the input data.
REQ_508	The system must display the updated menstrual cycle details to the user.
REQ_509	The user must be able to cancel the input or update process and return to the previous screen.
REQ_510	The system must display an error message if the user submits invalid data.
REQ_511	The user must be prompted to correct any input data validation issues.
REQ_600	**Access Analytics and Insights**
REQ_601	The system must allow users to navigate to the analytics and insights section of the application.
REQ_602	The system must retrieve the user's menstrual cycle details from the database.
REQ_603	The system must retrieve the user's performance data from the database.
REQ_604	The system must analyze the performance data in relation to the user's cycle phases.
REQ_605	The system must generate insights based on the analysis of performance data and cycle phases.
REQ_606	The system must display the insights to the user, including visual representations.
REQ_607	The system must display an error message if no performance data is found for the user.
REQ_608	The system must display an error message if no menstrual cycle details are found for the user.
REQ_609	The user must be prompted to enter their performance data if none is found.
REQ_610	The user must be prompted to enter their menstrual cycle details if none are found.
REQ_700	**Manage Reminders and Notifications**
REQ_701	The user must receive notifications on their device (e.g., mobile app, email).
REQ_702	The system must allow administrators to navigate to the notification management section of the application.
REQ_703	The system must display the current notification settings for users.
REQ_704	The administrator must be able to configure notification settings (e.g., time before workout to send notifications).
REQ_705	The administrator must be able to manage user notification preferences (e.g., opt-in/opt-out).
REQ_706	The administrator must be able to schedule notifications for specific users or groups.
REQ_707	The administrator must be able to submit changes to notification settings.
REQ_708	The system must validate the input data for notification settings.
REQ_709	The system must update the notification settings in the database if the data is valid.
REQ_710	The system must display a success message confirming the changes to notification settings.

3.4 Interface Design

Interface design focused on ensuring usability and accessibility for both user and admin interfaces. The mobile interface includes screens for registration, login, profile updates, cycle logging, workout selection, and analytics. The admin interface supports user management, workout rule settings, and notification configuration. Detailed interface designs are provided in Appendix C, showcasing intuitive layouts, error handling, and user guidance features [12].

4. Results and Discussion

This section presents the implementation of FemFit Sync modules and discusses the effectiveness of each function in achieving project goals.

4.1 Implementation of Register Module

The registration module allows users to input personal information and menstrual cycle parameters. Integrated with Supabase authentication and database insertion, it ensures secure account creation and accurate cycle initialization. Figure 3 illustrates the user interface of the registration module, showcasing its layout and functionality.

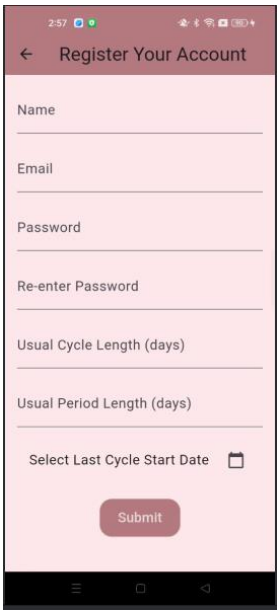

Fig 3 *Register interface*

4.2 Implementation of Login Module

Separate login interfaces for users and admins verify credentials and direct users to their respective dashboards. The module uses Supabase Auth for secure and efficient login handling. Figures 4 and 5 illustrate the user and admin login interfaces, respectively.

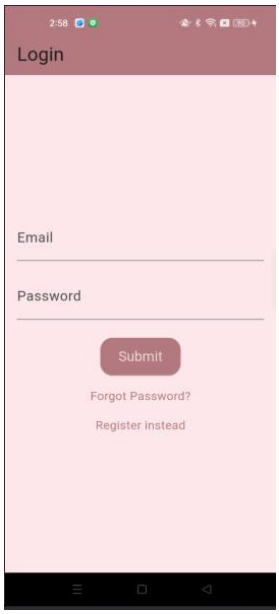

Fig 4 *User login interface*

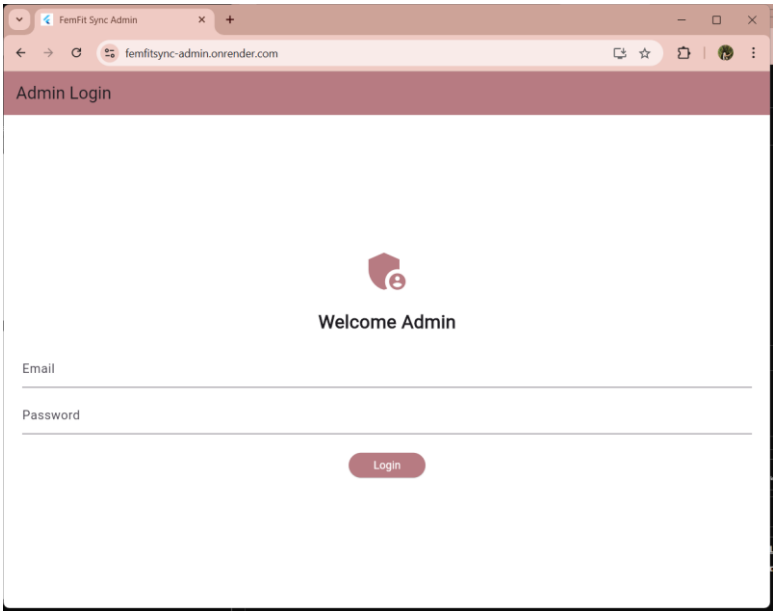

Fig 5 *Admin login interface*

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4.3 Implementation of Manage User Profile Module

Users can edit their profiles, including cycle data and notification preferences. Admins have access to manage user accounts, including editing and deletion. This ensures dynamic user control and administrative oversight. Figures 6 and 7 illustrate the user management profile interface and the admin management profile interface, respectively.

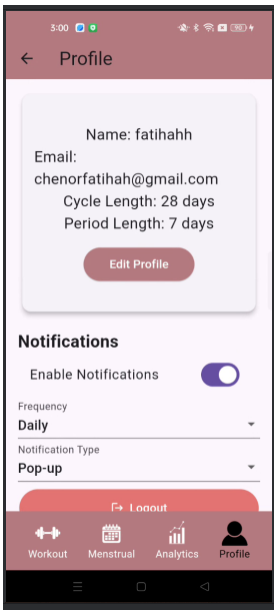


Fig 6 *User manage profile interface*

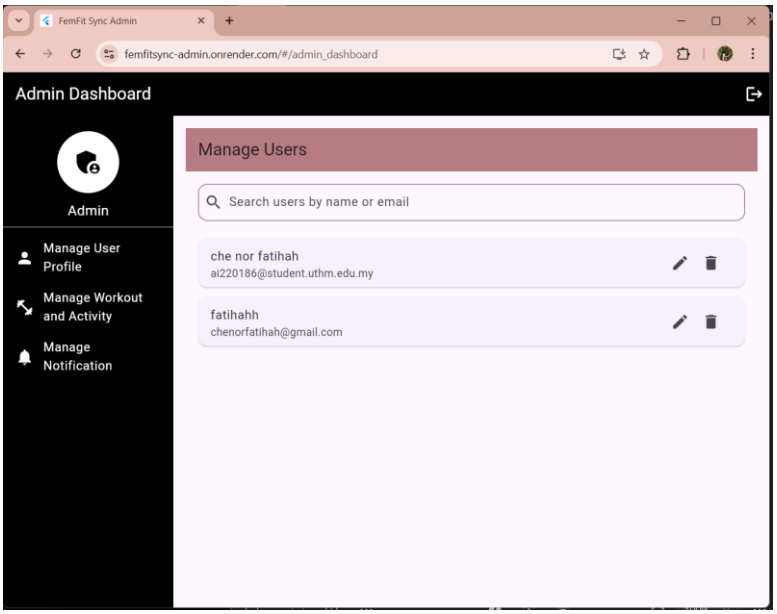


Fig 7 *Admin manage profile code segment*

4.4 Implementation of Manage Personalized Workouts Module

This module generates tailored workout suggestions based on menstrual phase and lifestyle factors using a decision tree. Users receive routine recommendations with video links, and admins manage the workout rules dynamically. Figures 8 and 9 illustrate the user management interface for personalized workouts and the admin management interface for personalized workouts, respectively.

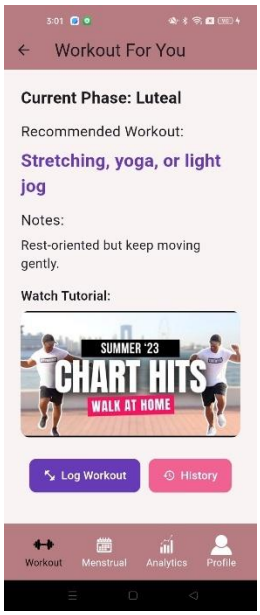


Fig 8 *User manage personalized workouts interface*

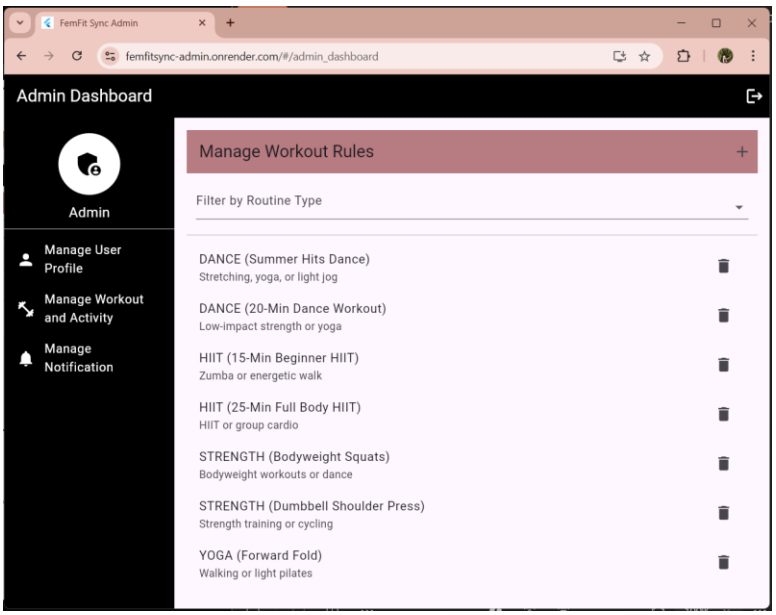
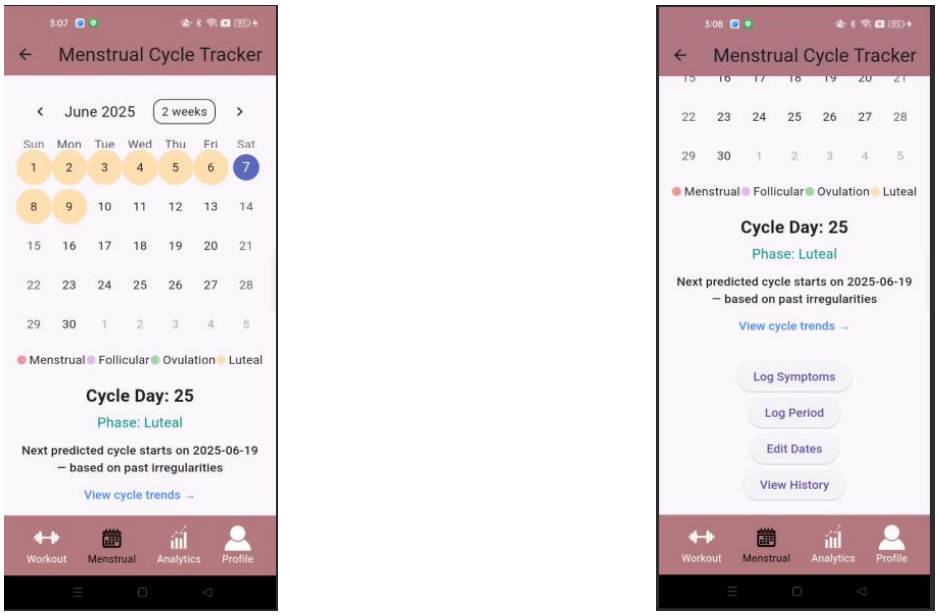


Fig 9: *Admin manage personalized workouts interface*

4.5 Implementation of Manage Menstrual Cycle Details Module

Users log their cycle start dates and symptoms. The system uses TFLite and Render API to predict the current phase and estimate the next cycle date. Visualized calendar feedback helps users track changes over time. Figures 10 (a) and (b) illustrate the interface for managing menstrual cycle details, showcasing how users can input and visualize their cycle information.

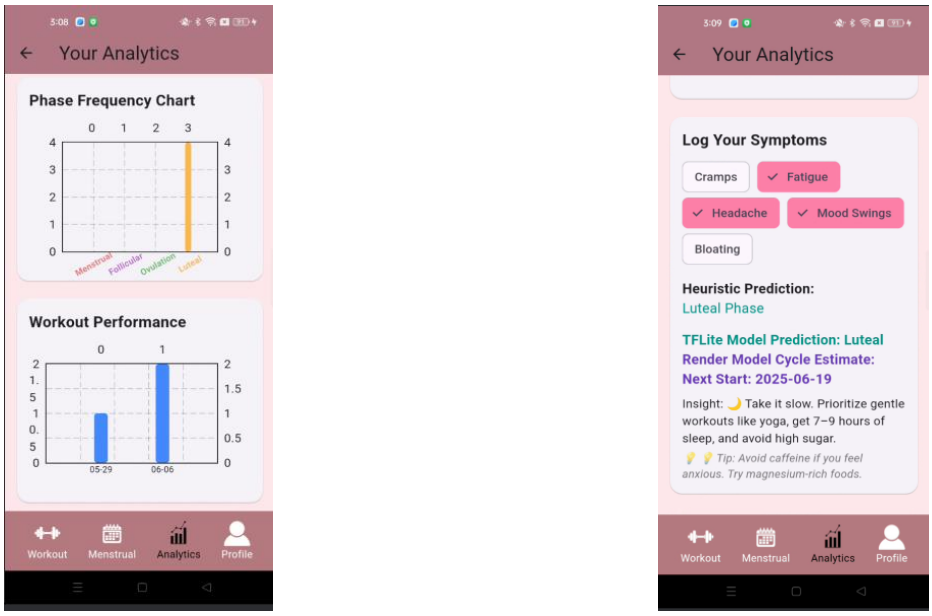


(a) **(b)**

Fig 10 *(a) (b) Manage Menstrual Cycle Details Interface*

4.6 Implementation of Access Analytic and Insights

Users access health trends through charts and predictions generated from machine learning models. The interface combines local and cloud-based predictions to visualize correlations between menstrual cycles and workout performance. Figures 11 (a) and (b) depict the Access Analytics and Insights interface, illustrating the presentation of these data visualizations.



(a) **(b)**

Fig 11 *(a) (b) Access Analytics and Insights Interface*

4.7 Implementation of Manage Reminders and Notifications Module

The system sends scheduled notifications based on upcoming cycles or missed workouts. Admins can customize and manage global reminders, ensuring users stay informed and consistent in their routines. Figures 12 and 13 illustrate the user management interface for reminders and notifications, as well as the admin management interface for reminders and notifications, respectively.

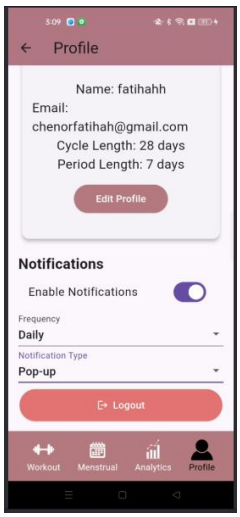


Fig 12 *User manage reminders and notifications interface*

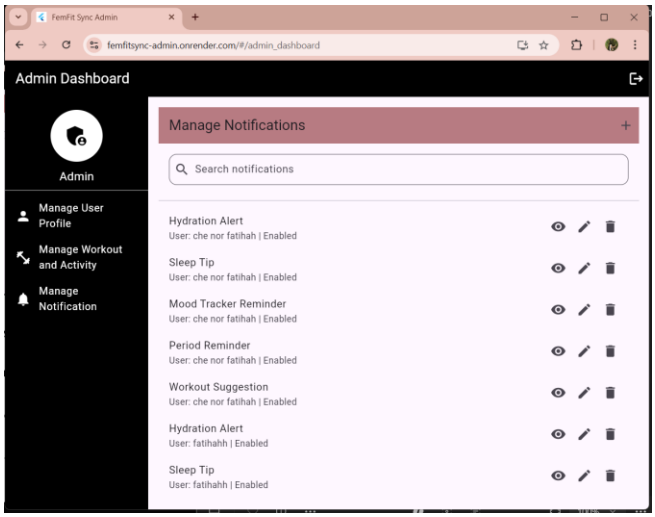


Fig 13 *Admin manage reminders and notifications interface*

4.8 Functionality Testing

All modules were tested against their functional requirements. The results Table 4 and Table 5 show 100% pass rate, confirming that the system meets all specified features and performance benchmarks.

Table 4 *List of test cases*

Test Case ID	Requirement ID	Description	Status
TC_100	**REQ_100**	**Register**	
TC_100_01	REQ_101	The system must display the registration page.	PASS
TC_100_02	REQ_102	The user must be able to enter their name, email, password into the system.	PASS
TC_100_03	REQ_103	The system must validate the username, email and password.	PASS
TC_100_04	REQ_104	The system must display error for invalid username, email, or password.	PASS
TC_100_05	REQ_105	The system must register a new user account.	PASS
TC_200	**REQ_200**	**Login**	
TC_200_01	REQ_201	The system must display the login page.	PASS
TC_200_02	REQ_202	The user must be able to enter email and password.	PASS
TC_200_03	REQ_203	The system must validate email and password.	PASS

Table 4 *(cont)*

TC_200_04	REQ_204	The system must display error for invalid credentials.	PASS
TC_300	**REQ_300**	**User Profile Management**	
TC_300_01	REQ_301	The system must allow users to navigate to the profile management.	PASS
TC_300_02	REQ_302	The system must display the user's current profile information.	PASS
TC_300_03	REQ_303	The user must be able to update profile fields.	PASS
TC_300_04	REQ_304	The system must allow submission of updated profile.	PASS
TC_300_05	REQ_305	The system must validate the updated profile data.	PASS
TC_300_06	REQ_306	The system must save the valid profile data to the database.	PASS
TC_300_07	REQ_307	The system must show success message after updating profile.	PASS
TC_300_08	REQ_308	The admin must be able to view all users in the system.	PASS
TC_300_09	REQ_309	The admin must be able to manage individual user profiles.	PASS
TC_300_10	REQ_310	The system must show the selected user's profile details.	PASS
TC_300_11	REQ_311	The admin must be able to delete a user profile with confirmation.	PASS
TC_300_12	REQ_312	The system must remove the user profile after confirmation.	PASS
TC_300_13	REQ_313	The system must show success message after profile deletion.	PASS
TC_300_14	REQ_314	The user must be able to cancel the update and return.	PASS
TC_300_15	REQ_315	The system must display error for invalid profile update input.	PASS
TC_300_16	REQ_316	The user must be prompted to correct profile input errors.	PASS
TC_400	**REQ_400**	**Manage Personalized Workouts**	
TC_400_01	REQ_401	The system must allow access to workout logging.	PASS
TC_400_02	REQ_402	The user must be able to log workout session details.	PASS
TC_400_03	REQ_403	The system must show success message after logging.	PASS
TC_400_04	REQ_404	The admin must be able to view and manage workout types.	PASS
TC_400_05	REQ_405	The system must validate workout data input.	PASS
TC_400_06	REQ_406	The system must update workout types in database.	PASS
TC_400_07	REQ_407	The system must show success after workout update.	PASS
TC_500	**REQ_500**	**Manage Menstrual Cycle Details**	
TC_500_01	REQ_501	The system must provide menstrual cycle management section.	PASS
TC_500_02	REQ_502	The system must show menstrual cycle details to user.	PASS
TC_500_03	REQ_503	The user must be able to input or update menstrual cycle data.	PASS
TC_500_04	REQ_504	The user must be able to submit menstrual details.	PASS
TC_500_05	REQ_505	The system must validate menstrual data input.	PASS
TC_500_06	REQ_506	The system must store valid menstrual data in database.	PASS
TC_500_07	REQ_507	The system must analyze menstrual cycle phases.	PASS
TC_500_08	REQ_508	The system must update and display cycle phase info.	PASS
TC_500_09	REQ_509	The user must be able to cancel and return to previous screen.	PASS
TC_500_10	REQ_510	The system must display errors for invalid cycle data.	PASS
TC_500_11	REQ_511	The user must be prompted to correct cycle input errors.	PASS
TC_600	**REQ_600**	**Access Analytics and Insights**	
TC_600_01	REQ_601	The user must be able to access analytics and insights.	PASS
TC_600_02	REQ_602	The system must fetch menstrual cycle data from database.	PASS
TC_600_03	REQ_603	The system must fetch user workout performance data.	PASS
TC_600_04	REQ_604	The system must analyze cycle and performance data.	PASS
TC_600_05	REQ_605	The system must generate insights based on analysis.	PASS
TC_600_06	REQ_606	The system must show insights and visual summaries.	PASS
TC_600_07	REQ_607	The system must show error if no workout data exists.	PASS
TC_600_08	REQ_608	The system must show error if no cycle data exists.	PASS
TC_600_09	REQ_609	The user must be prompted to input performance data if missing.	PASS
TC_600_10	REQ_610	The user must be prompted to input menstrual data if missing.	PASS
TC_700	**REQ_700**	**Manage Reminders and Notifications**	
TC_700_01	REQ_701	The user must receive device notifications.	PASS

Table 4 *(cont)*

TC_700_02	REQ_702	The admin must access notification management.	PASS
TC_700_03	REQ_703	The system must show user notification settings.	PASS
TC_700_04	REQ_704	The admin must configure notification timing.	PASS
TC_700_05	REQ_705	The admin must manage notification preferences.	PASS
TC_700_06	REQ_706	The admin must schedule notifications for users.	PASS
TC_700_07	REQ_707	The admin must submit notification changes.	PASS
TC_700_08	REQ_708	The system must validate notification settings.	PASS
TC_700_09	REQ_709	The system must update valid notification settings.	PASS
TC_700_10	REQ_710	The system must confirm changes to notification settings.	PASS
TC_700_11	REQ_711	The system must show success after notification changes.	PASS

Table 5 *Summary of test cases*

Test Case ID	Total Test Cases	Passed	Failed
TC_100	5	5	0
TC_200	4	4	0
TC_300	16	18	0
TC_400	7	9	0
TC_500	11	11	0
TC_600	10	10	0
TC_700	11	10	0
Total	**67**	**67**	**0**

5. Conclusion

FemFit Sync successfully integrates menstrual health tracking with fitness planning, addressing the limitations of existing applications. It delivers AI-based cycle predictions and workout personalization within a cross-platform environment. The prototyping model enabled iterative development with consistent user feedback. Testing confirmed functional completeness, and the application's interface and modular structure support scalability. Future enhancements may include wearable device integration, secure admin authentication, and larger datasets for more precise machine learning predictions.

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Conflict of Interest

Authors declare that there is no conflict of interests regarding the publication of the paper.

Author Contribution

This journal requires that all authors take public responsibility for the content of the work submitted for review. The contributions of all authors must be described in the following manner:

The authors confirm contribution to the paper as follows: ***study conception and design:*** *Che Nor Fatihah Sairee Jasmi, Suhaila Mohd. Yasin;* ***data collection:*** *Che Nor Fatihah Sairee Jasmi;* ***analysis and interpretation of results:*** *Che Nor Fatihah Sairee Jasmi, Suhaila Mohd. Yasin and approved the final version of the manuscript.*

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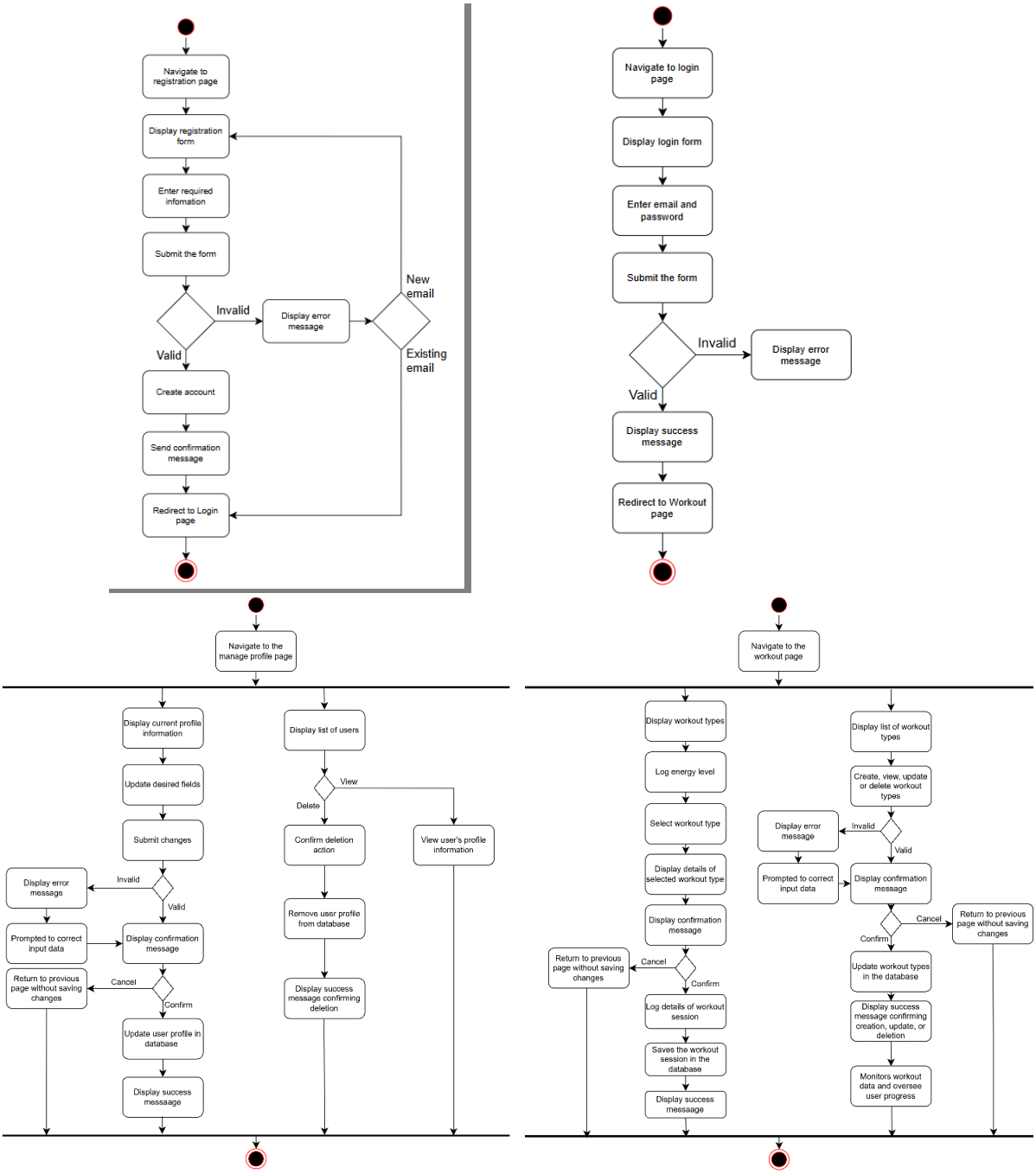
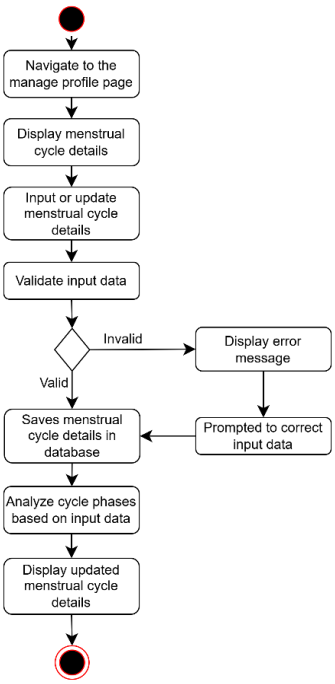
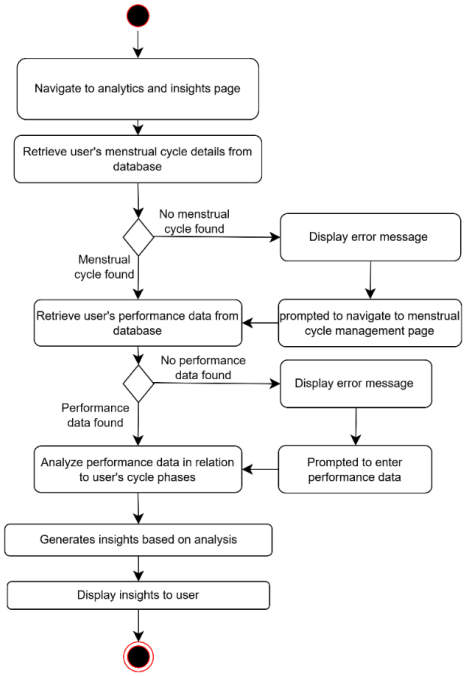
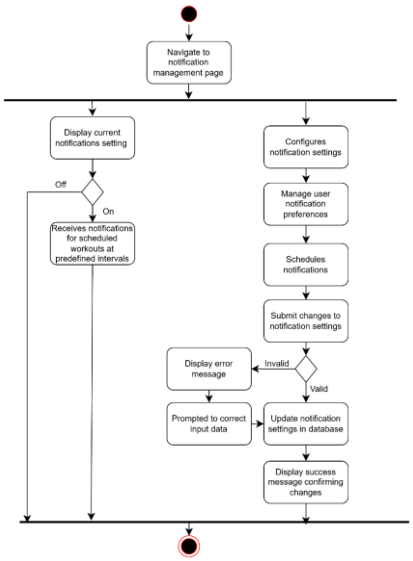
Appendix A: Activity Diagram




Navigate to the manage profile page
Display menstrual cycle details
Input or update menstrual cycle details
Validate input data
Invalid
Display error message
Valid
Saves menstrual cycle details in database
Prompted to correct input data
Analyze cycle phases based on input data
Display updated menstrual cycle details


Navigate to analytics and insights page
Retrieve user's menstrual cycle details from database
No menstrual cycle found
Display error message
Menstrual cycle found
Retrieve user's performance data from database
prompted to navigate to menstrual cycle management page
No performance data found
Display error message
Performance data found
Analyze performance data in relation to user's cycle phases
Prompted to enter performance data
Generates insights based on analysis
Display insights to user


Navigate to notification management page
Display current notifications setting
Off
On
Receives notifications for scheduled workouts at predefined intervals
Configures notification settings
Manage user notification preferences
Schedules notifications
Submit changes to notification settings
Display error message
Invalid
Valid
Prompted to correct input data
Update notification settings in database
Display success message confirming changes

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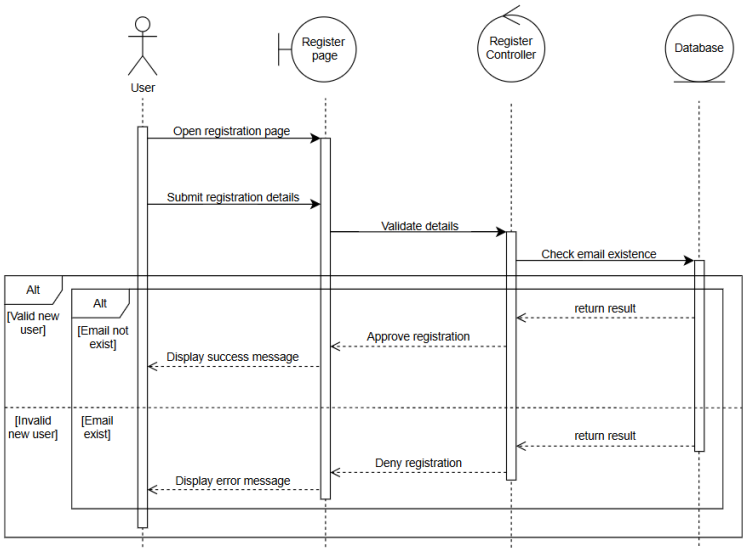
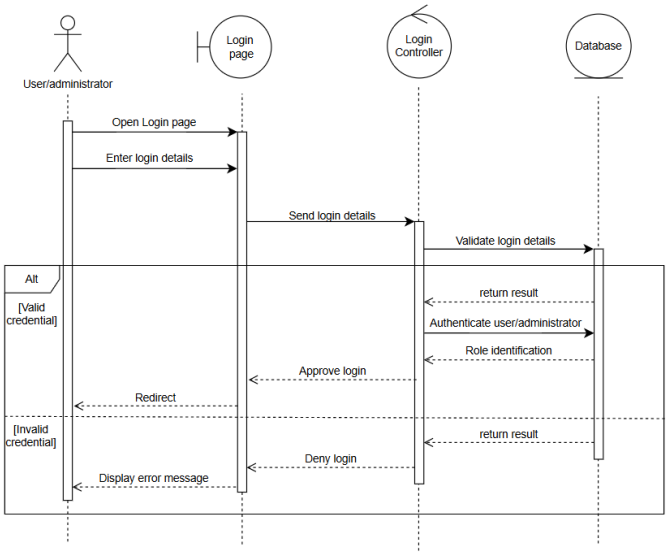
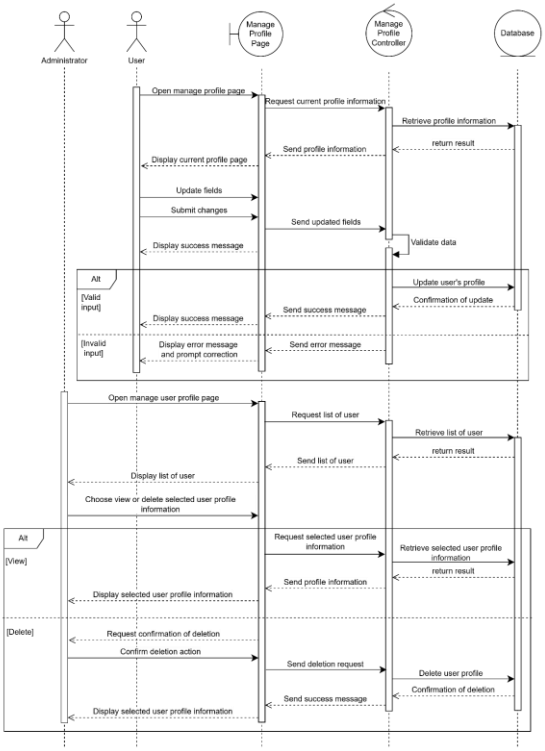
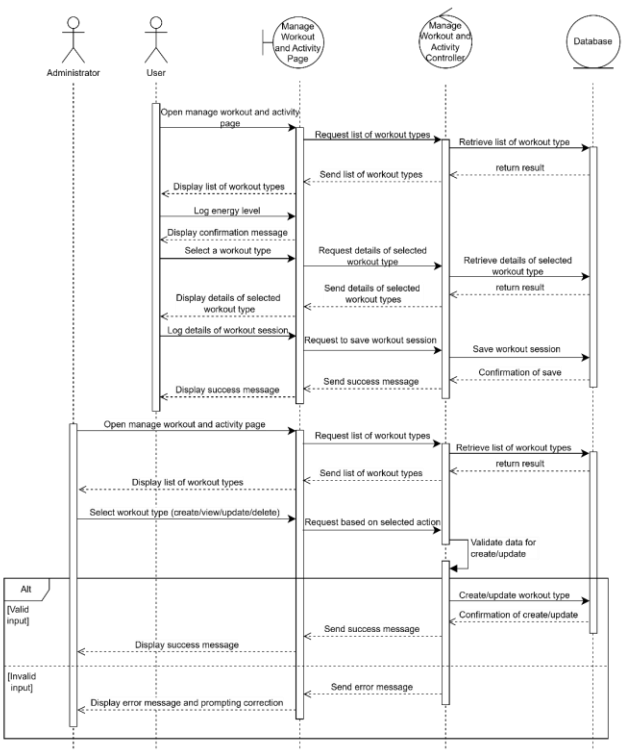
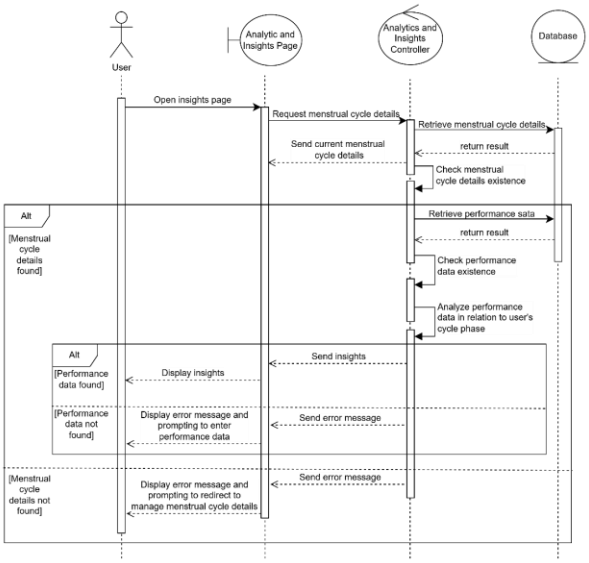
Appendix B: Sequence Diagram






Administrator
User
Manage Profile Page
Manage Profile Controller
Database
Open manage profile page
Request current profile information
Retrieve profile information
return result
Send profile information
Display current profile page
Update fields
Submit changes
Send updated fields
Validate data
Display success message
Alt
[Valid input]
Update user's profile
Confirmation of update
Send success message
Display success message
[Invalid input]
Display error message and prompt correction
Send error message
Open manage user profile page
Request list of user
Retrieve list of user
return result
Send list of user
Display list of user
Choose view or delete selected user profile information
Alt
[View]
Request selected user profile information
Retrieve selected user profile information
return result
Send profile information
Display selected user profile information
[Delete]
Request confirmation of deletion
Confirm deletion action
Send deletion request
Delete user profile
Confirmation of deletion
Send success message
Display selected user profile information


Administrator
User
Manage Workout and Activity Page
Manage Workout and Activity Controller
Database
Open manage workout and activity page
Request list of workout types
Retrieve list of workout type
return result
Send list of workout types
Display list of workout types
Log energy level
Display confirmation message
Select a workout type
Request details of selected workout type
Retrieve details of selected workout type
return result
Send details of selected workout types
Display details of selected workout type
Log details of workout session
Request to save workout session
Save workout session
Confirmation of save
Send success message
Display success message
Open manage workout and activity page
Request list of workout types
Retrieve list of workout types
return result
Send list of workout types
Display list of workout types
Select workout type (create/view/update/delete)
Request based on selected action
Validate data for create/update
Alt
[Valid input]
Create/update workout type
Confirmation of create/update
Send success message
Display success message
[Invalid input]
Send error message
Display error message and prompting correction


User
Analytic and Insights Page
Analytics and Insights Controller
Database
Open insights page
Request menstrual cycle details
Retrieve menstrual cycle details
return result
Send current menstrual cycle details
Check menstrual cycle details existence
Alt
[Menstrual cycle details found]
Retrieve performance sata
return result
Check performance data existence
Analyze performance data in relation to user's cycle phase
Alt
[Performance data found]
Send insights
Display insights
[Performance data not found]
Send error message
Display error message and prompting to enter performance data
[Menstrual cycle details not found]
Send error message
Display error message and prompting to redirect to manage menstrual cycle details

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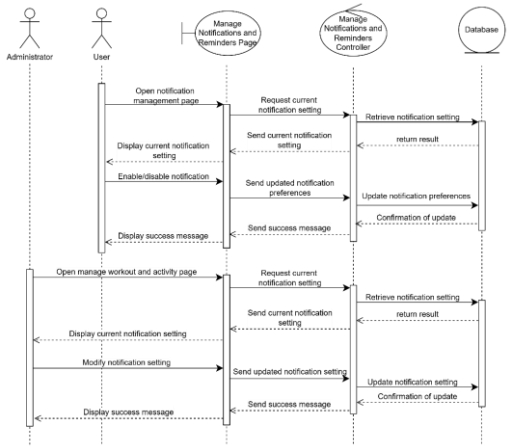
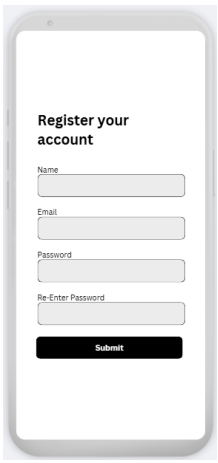
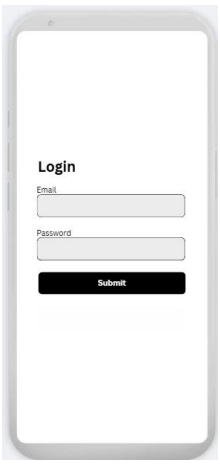
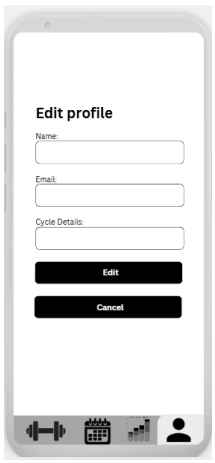
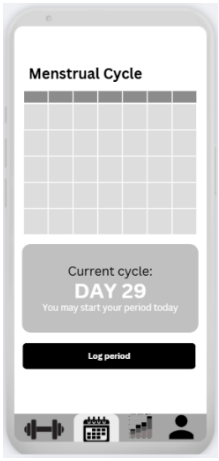


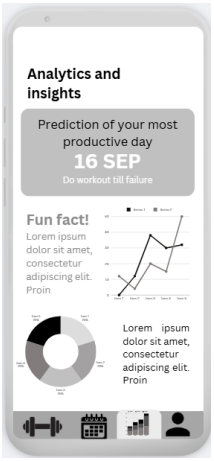
Appendix C: Interface Design

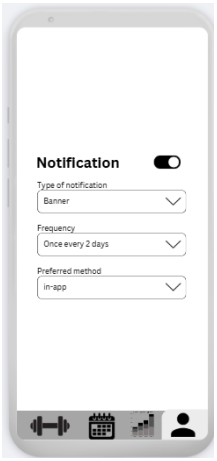


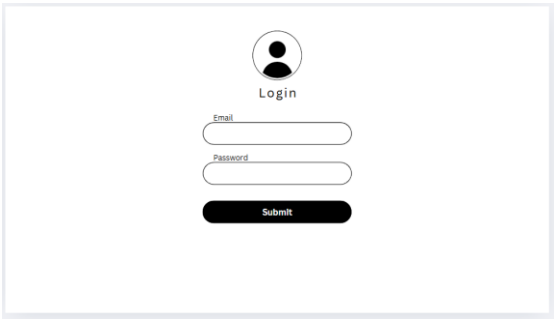


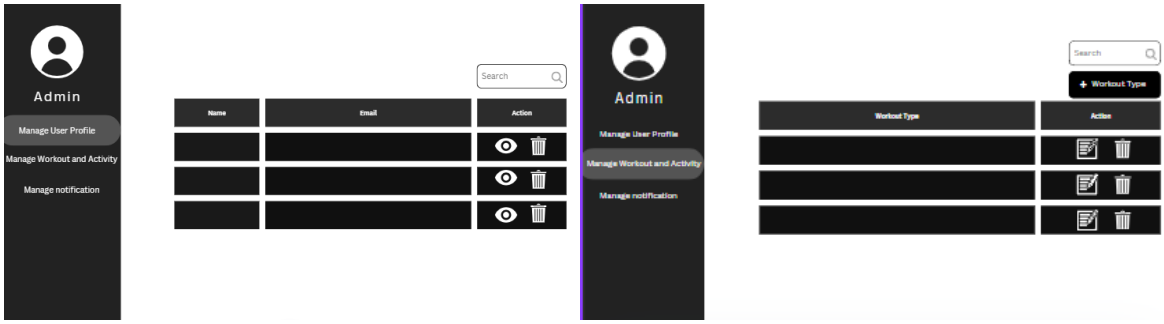











Admin
Manage User Profile
Manage Workout and Activity
Manage notification
Search
Name
Email
Action
Admin
Manage User Profile
Manage Workout and Activity
Manage notification
Search
+ Workout Type
Workout Type
Action


Admin
Manage User Profile
Manage Workout and Activity
Manage notification
Notification settings
Action